

```
1 *****
2 *****
3 ***
4 ***
5 ***
6 *****
7 *****
8
9 Linker version:
10
11 SEGGER RISC-V Linker 4.6.0 compiled Jan 6 2021 03:52:28
12 Copyright (c) 2017-2020 SEGGER Microcontroller GmbH www.segger.com
13
14 Command line:
15
16 --defsym=__STACKSIZE__=1024
17 --defsym=__HEAPSIZE__=64
18 --full-section-headers
19 --merge-sections
20 --merge-strings
21 -e_start
22 -mcpu=rv32ima
23 --no-outline
24 --no-relax
25 --no-springboard
26 --no-tail-merge
27 --tp-model=auto
28 --defsym=__SEGGER_RTL_vfprintf=__SEGGER_RTL_vfprintf_int_nwp
29 --defsym=__SEGGER_RTL_vfscanf=__SEGGER_RTL_vfscanf_int
30 --defsym=getchar=getchar_semihost
31 --defsym=putchar=putchar_semihost
32 --defsym=gets=gets_semihost
33 --defsym=puts=puts_semihost
34 --defsym=printf=printf_semihost_formatted
35 --defsym=scanf=scanf_semihost
36 --defsym=vprintf=vprintf_semihost
37 --defsym=vscanf=vscanf_semihost
38 --silent
39 --list-all-undefineds
40 --gc-sections
41
42 -TD:/Work/02_Lyrasemi/01_Project/01_Firmware/01_Git/01_STD/10_risk-v_test/fpga_riscv_dcore_1/core_lib/setup/SEGGER_Flash_RV32.icf
43 --map-text
44 --map-file=Output/Release/C0/fpga_riscv_gp001_c0.map
45 --map-full
46 --log-file
47 Output/Release/C0/fpga_riscv_gp001_c0.log
48 -o
49 Output/Release/C0/fpga_riscv_gp001_c0.elf
50 --emit-relocs
51 --start-group
52 Output/Release/Obj/fpga_riscv_gp001_c0/SEGGER_RV32_crt0.o
53 Output/Lib/fpga_riscv_dcore_gp001_lib.a
```

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51 Output/Release/Obj/fpga_riscv_gp001_c0/ap_lib.o
52 Output/Release/Obj/fpga_riscv_gp001_c0/main_c0.o
53 C:/Program Files/SEGGER/SEGGER Embedded Studio for RISC-V
54 5.34/segger-rtl/libs/libc_rv32ima_small.a
55 C:/Program Files/SEGGER/SEGGER Embedded Studio for RISC-V
56 5.34/lib/SEGGER_RV32_crtinit_rv32ima.o
57 --end-group
58 --no-outline
59 *****
60 *****
61 ***
62 ***
63 ***
64 ***
65 LINKER
66 SCRIPT
67 ***
68 ***
69 *****
70 *****
71 Linker script
72 'D:/Work/02_Lyrasemi/01_Project/01_Firmware/01_Git/01_STD/10_risk-v_test/fpga_r
73 iscv_dcore_1/core_lib/setup/SEGGER_Flash_RV32.icf':
74
75 /*****
76 *
77 * SEGGER Microcontroller GmbH
78 * The Embedded Experts
79 *
80 * *****
81 *
82 * (c) 2014 - 2021 SEGGER Microcontroller GmbH
83 *
84 * www.segger.com Support: support@segger.com
85 *
86 * *****
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106 * LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
107 * (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
108 * USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH

```

```

99      * DAMAGE.
100     *
101     *****
102     ----- END-OF-HEADER -----
103
104     File      : SEGGER_Flash_RISCV.icf
105     Purpose   : Generic linker script for application placement in Flash,
106                 for use with the SEGGER Linker.
107     */
108
109     define memory with size = 4G;
110
111     //
112     // Combined regions per memory type
113     //
114
115     define region ROM = [from 0x20000 size 2k];
116     define region ROM2 = [from 0x20800 size 2k];
117     //define region ROM = [from 0x01002000 size 4k];
118     //define region ROM2 = [from 0x1003000 size 2k];
119     //define region FLASH = [from 0x01000020 size 4k]; // header 0x56 0x34
120     define region FLASH = [from 0x00 size 4k]; // header 0x34 0x12
121     define region RAM = [from 0x8000 size 2k];
122
123
124
125     ////*****
126     //define region FLASH = [from 0x00000000 size 4k]; // ok with
127     soc_top0414-1-0x00ff0000_is_16k-ram.jic. Bin header should be 0x34 0x12
128     //define region ROM = [from 0x2000 size 2k]; // ok with
129     soc_top0414-1-0x00ff0000_is_16k-ram.jic
130     //define region ROM2 = [from 0x2800 size 2k]; // ok with
131     soc_top0414-1-0x00ff0000_is_16k-ram.jic
132     //define region RAM = [from 0x8000 size 2k];
133     ////*****
134
135     //
136     // Block definitions
137     //
138     define block vectors { section .vectors
139     }; // Vector table section
140     define block vectors_ram { section .vectors_ram
141     }; // Vector table section
142     define block ctors { section .ctors, section
143     .ctors.*, block with alphabetical order { init_array } };
144     define block dtors { section .dtors, section
145     .dtors.*, block with reverse alphabetical order { fini_array } };
146     define block tbss { section .tbss, section
147     .tbss.* };
148     define block tdata { section .tdata, section
149     .tdata.* };
150     define block tls { block tbss, block tdata };
151     define block tdata_load { copy of block tdata };
152     define block heap with size = __HEAPSIZE__, alignment = 8, /* fill =0x00,
153     */ readwrite access { };
154     define block stack with size = __STACKSIZE__, alignment = 8, /* fill =0xCD,

```

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146  */ readwrite access { };
147  //
148  // Explicit initialization settings for sections
149  // Packing options for initialize by copy: packing=auto/lzss/zpak/packbits
150  //
151  do not initialize          { section .non_init, section
    .non_init.*, section *.non_init, section *.non_init.* };
152  do not initialize          { section .no_init, section
    .no_init.*, section *.no_init, section *.no_init.* }; // Legacy
    sections, kept for backwards compatibility
153  do not initialize          { section .noinit, section
    .noinit.*, section *.noinit, section *.noinit.* }; // Legacy
    sections, used by some SDKs/HALS
154  initialize by copy with packing=auto { block vectors_ram };
155  initialize by copy with packing=auto { section .data, section
    .data.*, section *.data, section *.data.* }; // Static data
    sections
156  initialize by copy with packing=auto { section .sdata, section
    .sdata.* };
157  initialize by copy with packing=auto { section .fast, section
    .fast.* }; // "RAM Code"
    sections
158  initialize by symbol __SEGGER_init_heap { block heap
    }; // Init the heap if there is one
159  initialize by symbol __SEGGER_init_ctors { block ctors
    }; // Call constructors for global
    objects which need to be constructed before reaching main (if any). Make
    sure this is done after setting up heap.
160
161  place in ROM              { symbol app_uart_put, symbol
    uart_printf, symbol __SEGGER_RTL_vfprintf_int_nwp, symbol
    __SEGGER_RTL_hex_lc, symbol __SEGGER_RTL_hex_uc,
162  symbol __SEGGER_RTL_putc,
    symbol vsnprintf, symbol
    __SEGGER_RTL_vfprintf};
163
164
165  /*
166  initialize by copy          { symbol app_uart_put, symbol
    uart_printf, symbol __SEGGER_RTL_vfprintf_int_nwp, symbol
    __SEGGER_RTL_hex_lc, symbol __SEGGER_RTL_hex_uc,
167  symbol __SEGGER_RTL_putc,
    symbol vsnprintf,
    __SEGGER_RTL_vfprintf};
168  */
169
170
171  place in ROM2            { section
    .rodata.libc.__SEGGER_RTL_vfprintf_int_nwp, section
    .rodata.libc.__SEGGER_RTL_hex_uc,
172  section
    .rodata.libc.__SEGGER_RTL_hex_l
    c};
173
174  /*
175  initialize by copy          { section

```



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205         .srodata.*,
           section
           .segger.*,
                                     //
206         Auto-generated initialization
           block
           ctors,
                                     //
207         Constructors block
           block dtors
           };
                                     // Destructors block
208         place in FLASH           { block tdata_load
};                                     // Thread-local-storage load image
209
210
211         define section .APP_END           {udata8 0x55, udata8 0x5A, ,
           udata8 0xA5, udata8 0xAA};
212         place in FLASH           {last section .APP_END };
213         keep                       {section .APP_END};
214
215
216         //
217         // Explicit placement in RAMn
218         //
219         //place in RAM1           { section .RAM1, section
           .RAM1.* };
220         //
221         // RAM Placement
222         //
223         place at start of RAM       { block vectors_ram };
224         place in RAM               { section .non_init, section
           .non_init.*, // No initialization section
           section .no_init, section
           .no_init.*, // No initialization section,
           for backwards compatibility
           section .noinit, section
           .noinit.*, // No initialization section,
           used by some SDKs/HALS
           block tls
           };
                                     //
225                                     Thread-local-storage block
226                                     { section .fast, section
           .fast.*, // "ramfunc" section
           section .data, section
           .data.*, // Initialized data section
           section .sdata, section
           .sdata.*,
           section .bss, section
           .bss.*, // Static data section
           section .sbss, section .sbss.*
           };
227
228
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234     place in RAM                               { block heap
      };                                           // Heap reserved block
235     place at end of RAM                       { block stack
      };                                           // Stack reserved block at the end

```

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236
237
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```

```

241     *****
242     *****

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242     ***
          ***
243     ***                PLACEMENT
SUMMARY                ***
244     ***
          ***

```

```

245     *****
246     *****

```

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247     place at 0x00008800:

```

Symbol or [section] name	Type	Address	Size	Align	Object File
[.bss.block.stack]	None	0x00008400	1 024	8	[Linker created]

```

252     "<#3> at line 95, col 45": place in [0x00020000 to 0x000207ff] with auto order:

```

Symbol or [section] name	Type	Address	Size	Align	Object File
__SEGGER_RTL_vfprintf_int_nwp	Code	0x00020000	1 384	4	__SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)
__SEGGER_RTL_putc	Code	0x00020568	160	4	prinops.o (libc_rv32ima_small.a)
uart_printf	Code	0x00020608	88	4	segger_print.o (fpga_riscv_dcore_gp001_lib.a)
vsnprintf	Code	0x00020660	60	4	prinops.o (libc_rv32ima_small.a)
app_uart_put	Code	0x0002069C	32	4	segger_print.o (fpga_riscv_dcore_gp001_lib.a)

```

263     "<#4> at line 105, col 45": place in [0x00020800 to 0x00020fff] with auto order:

```

Symbol or [section] name	Type	Address	Size	Align	Object File
__SEGGER_RTL_hex_uc	Cnst	0x00020800	16	4	__SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a)
__SEGGER_RTL_hex_uc	Cnst	0x00020810	16	4	__SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)
__SEGGER_RTL_hex_uc	Cnst	0x00020820	16	4	

	__SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a)		
271	__SEGGER_RTL_hex_uc Cnst 0x00020830	16	4
	__SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a)		
272	__SEGGER_RTL_hex_uc Cnst 0x00020840	16	4
	__SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a)		
273	__SEGGER_RTL_hex_uc Cnst 0x00020850	16	4
	__SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a)		
274	__SEGGER_RTL_hex_uc Cnst 0x00020860	16	4
	__SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a)		
275	__SEGGER_RTL_hex_uc Cnst 0x00020870	16	4
	__SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a)		
276	__SEGGER_RTL_hex_uc Cnst 0x00020880	16	4
	__SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a)		
277	__SEGGER_RTL_hex_uc Cnst 0x00020890	16	4
	__SEGGER_RTL_vfprintf_short_float_long_long.o (libc_rv32ima_small.a)		
278	__SEGGER_RTL_hex_uc Cnst 0x000208A0	16	4
	__SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a)		
279	__SEGGER_RTL_hex_uc Cnst 0x000208B0	16	4
	__SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)		
280	__SEGGER_RTL_hex_uc Cnst 0x000208C0	16	4
	__SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)		
281	__SEGGER_RTL_hex_uc Cnst 0x000208D0	16	4
	__SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)		
282	__SEGGER_RTL_hex_uc Cnst 0x000208E0	16	4
	__SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)		
283	__SEGGER_RTL_hex_uc Cnst 0x000208F0	16	4
	__SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a)		
284	__SEGGER_RTL_hex_uc Cnst 0x00020900	16	4
	__SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)		
285	__SEGGER_RTL_hex_uc Cnst 0x00020910	16	4
	__SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a)		
286	__SEGGER_RTL_hex_uc Cnst 0x00020920	16	4
	__SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a)		
287	__SEGGER_RTL_hex_uc Cnst 0x00020930	16	4
	__SEGGER_RTL_vfprintf_short_float_long_long_wchar.o (libc_rv32ima_small.a)		
288	__SEGGER_RTL_hex_lc Cnst 0x00020940	16	4
	__SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a)		
289	__SEGGER_RTL_hex_lc Cnst 0x00020950	16	4
	__SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)		
290	__SEGGER_RTL_hex_lc Cnst 0x00020960	16	4
	__SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a)		
291	__SEGGER_RTL_hex_lc Cnst 0x00020970	16	4
	__SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a)		
292	__SEGGER_RTL_hex_lc Cnst 0x00020980	16	4
	__SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a)		
293	__SEGGER_RTL_hex_lc Cnst 0x00020990	16	4
	__SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a)		
294	__SEGGER_RTL_hex_lc Cnst 0x000209A0	16	4
	__SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a)		
295	__SEGGER_RTL_hex_lc Cnst 0x000209B0	16	4
	__SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a)		
296	__SEGGER_RTL_hex_lc Cnst 0x000209C0	16	4
	__SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a)		
297	__SEGGER_RTL_hex_lc Cnst 0x000209D0	16	4
	__SEGGER_RTL_vfprintf_short_float_long_long.o (libc_rv32ima_small.a)		
298	__SEGGER_RTL_hex_lc Cnst 0x000209E0	16	4
	__SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a)		


```

299  __SEGGER_RTL_hex_lc          Cnst  0x000209F0          16    4
    __SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)
300  __SEGGER_RTL_hex_lc          Cnst  0x00020A00          16    4
    __SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)
301  __SEGGER_RTL_hex_lc          Cnst  0x00020A10          16    4
    __SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)
302  __SEGGER_RTL_hex_lc          Cnst  0x00020A20          16    4
    __SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)
303  __SEGGER_RTL_hex_lc          Cnst  0x00020A30          16    4
    __SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a)
304  __SEGGER_RTL_hex_lc          Cnst  0x00020A40          16    4
    __SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)
305  __SEGGER_RTL_hex_lc          Cnst  0x00020A50          16    4
    __SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a)
306  __SEGGER_RTL_hex_lc          Cnst  0x00020A60          16    4
    __SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a)
307  __SEGGER_RTL_hex_lc          Cnst  0x00020A70          16    4
    __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o (libc_rv32ima_small.a)

```

```

308
309 "<#6> at line 133, col 45": place in [0x00000000 to 0x00000fff] with maximum
packing:

```

```

310
311 Symbol or [section] name      Type      Address          Size  Align  Object File
312 -----
313 _start                        Code      0x00000000      116   4
SEGGER_RV32_crt0.o
314 main                          Code      0x00000074      128   4  main_c0.o
315 trap_entry                    Code      0x000000F4      164   4
SEGGER_RV32_crtinit_rv32ima.o
316 handle_trap                  Code      0x00000198        4     4
SEGGER_RV32_crtinit_rv32ima.o
317 _init                         Code      0x0000019C        4     4
SEGGER_RV32_crtinit_rv32ima.o
318 [.rodata.merged.str1.1]      Cnst      0x000001A0        17    1  [ Linker
created ]
319 [.rodata.merged.str1.1]      Cnst      0x000001B1        32    1  [ Linker
created ]
320 [.rodata.block.tdata.copy]
321                               Cnst      0x000001D1        1     1  [ Linker
created ]
322 __SEGGER_init_heap           Code      0x000001D8        32    4
SEGGER_RV32_crtinit_rv32ima.o
323 __SEGGER_init_table__        Cnst      0x000001F8         8     4  [ Linker
created ]

```

```

324
325 "<#8> at line 146, col 45": place in [0x00000000 to 0x00000fff] with auto
order:

```

```

326
327 Symbol or [section] name      Type      Address          Size  Align  Object File
328 -----
329 [.APP_END]                    Cnst      0x000001D1        4     1  [ Linker
created ]

```

```

330
331 "<#11> at line 162, col 45": place in [0x00008000 to 0x000087ff] with auto
order:

```

Symbol or [section] name	Type	Address	Size	Align	Object File
[.bss.block.heap]	None	0x00008000	64	8	[Linker created]
[.bss.block.stack]	None	0x00008400	1 024	8	[Linker created]

337
338 "<#12> at line 168, col 45": place in [0x00008000 to 0x000087ff] with auto order:

Symbol or [section] name	Type	Address	Size	Align	Object File
[.bss.block.heap]	None	0x00008000	64	8	[Linker created]

343
344
345 *****

346 ***

347 *** MODULE
SUMMARY ***
348 ***

349 *****

350
351 Memory use by input file:

Object File	RW Data	ZI Data	RX Code	R0 Data
SEGGER_RV32_crt0.o	116			
SEGGER_RV32_crtinit_rv32ima.o	204			
main_c0.o	128			
Subtotal (3 objects)				
	448			
fpga_riscv_dcore_gp001_lib.a				
	120			
libc_rv32ima_small.a			1 604	
	640			
Subtotal (2 archives)				
			1 724	
	640			

```

-----
366 Linker created (shared data, fills, blocks):
    61                1 088
367 =====
    =====
368 Grand total:                2 172
    701                1 088
369 =====
    =====

```

```

370
371 Detailed memory use by individual object file:
372

```

Object File	RW Data	ZI Data	RX Code	RO Data
SEgger_RV32 crt0.o	116			
segger_print.o (fpga_riscv_dcore_gp001_lib.a)	120			
main_c0.o	128			
prinops.o (libc_rv32ima_small.a)	220			
__SEgger_RTL_vfprintf_int.o (libc_rv32ima_small.a)				
32				
__SEgger_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)			1 384	
382			32	
383				
384				
32				
385				
386				
32				
387				
388				
32				
389				
390				
32				
391				
392				
32				
393				
394				
32				
395				
396				
32				
397				
398				
32				
399				
400				

```

32
401  __SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)
402
32
403  __SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)
404
32
405  __SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)
406
32
407  __SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)
408
32
409  __SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a)
410
32
411  __SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)
412
32
413  __SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a)
414
32
415  __SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a)
416
32
417  __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o (libc_rv32ima_small.a)
418
32
419  SEGGER_RV32_crtinit_rv32ima.o
204
420  -----
-----
421  Subtotal (25 files)                2 172
701                1 088
422  -----
-----
423  Linker created (shared data, fills, blocks):
61                1 088
424  =====
=====
425  Total:                            2 172
701                1 088
426  =====
=====
427
428  Detailed memory use by linker:
429
430  Description                        RX Code    RO Data
RW Data    ZI Data
431  -----
-----
432  Initialization table
8
433  Memory for block
'heap'
434  Memory for block
'stack'

```

```

435 Merged string data
436 49
437 User-defined section
438 4
439 -----
440 Subtotal (linker created):
441 61 1 088
442 -----
443 Objects
444 448
445 Archives 1 724
446 640
447 =====
448 =====
449 Total: 2 172
450 701 1 088
451 =====
452 =====

```

```

445 *****
446 *****
447 *****
448 ***
449 ***
450 ***
451 ***
452 *****
453 *****

```

452 Module SEGGER_RV32_crt0.o:

455 Symbol or [section] name	Code	R0 Data
RW Data ZI Data		
456 -----	-----	-----
457 _start		
458 116		
459 =====	=====	=====
460 =====	=====	=====
461 Total:		
462 116		
463 =====	=====	=====
464 =====	=====	=====

461 Module SEGGER_RV32_crtinit_rv32ima.o:

464 Symbol or [section] name	Code	R0 Data
RW Data ZI Data		
465 -----	-----	-----
466 trap_entry		
467 164		
468 __SEGGER_init_heap		

```

32
468 handle_trap
4        4
469 _init
4        4
470 =====
471 Total:
204
472 =====

```

```

473
474 Module __SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a):
475

```

Symbol or [section] name	Code	R0 Data
RW Data ZI Data		
-----	-----	-----

__SEGGER_RTL_hex_lc		
16		
__SEGGER_RTL_hex_uc		
16		
=====	=====	=====
=====		
Total:		
32		
=====	=====	=====
=====		

```

483
484 Module __SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a):
485

```

Symbol or [section] name	Code	R0 Data
RW Data ZI Data		
-----	-----	-----

__SEGGER_RTL_hex_lc		
16		
__SEGGER_RTL_hex_uc		
16		
=====	=====	=====
=====		
Total:		
32		
=====	=====	=====
=====		

```

493
494 Module __SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a):
495

```

Symbol or [section] name	Code	R0 Data
RW Data ZI Data		
-----	-----	-----

__SEGGER_RTL_hex_lc		
16		
__SEGGER_RTL_hex_uc		
16		
=====	=====	=====

```

501      Total:
502      32
503      =====
504      Module __SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a):
505
506      Symbol or [section] name          Code      R0 Data
507      RW Data      ZI Data
508      -----
509      __SEGGER_RTL_hex_lc
510      16
511      __SEGGER_RTL_hex_uc
512      16
513      =====
514      Total:
515      32
516      =====
517
518      Module __SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a):
519
520      Symbol or [section] name          Code      R0 Data
521      RW Data      ZI Data
522      -----
523      __SEGGER_RTL_hex_lc
524      16
525      __SEGGER_RTL_hex_uc
526      16
527      =====
528      Total:
529      32
530      =====
531
532      Module __SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a):
533
534      Symbol or [section] name          Code      R0 Data
535      RW Data      ZI Data
536      -----
537      __SEGGER_RTL_vfprintf_int_nwp
538      384      1
539      __SEGGER_RTL_hex_lc
540      16
541      __SEGGER_RTL_hex_uc
542      16
543      =====
544      Total:
545      32      1 384
546      =====

```

```

534
535 Module __SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a):
536
537 Symbol or [section] name          Code      R0 Data
538 RW Data      ZI Data
539 -----
540
539 __SEGGER_RTL_hex_lc
540 16
540 __SEGGER_RTL_hex_uc
541 16
541 =====
542 =====
542 Total:
543 32
543 =====
544 =====

```

```

544
545 Module __SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a):
546
547 Symbol or [section] name          Code      R0 Data
548 RW Data      ZI Data
549 -----
550
549 __SEGGER_RTL_hex_lc
550 16
550 __SEGGER_RTL_hex_uc
551 16
551 =====
552 =====
552 Total:
553 32
553 =====
554 =====

```

```

554
555 Module __SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a):
556
557 Symbol or [section] name          Code      R0 Data
558 RW Data      ZI Data
559 -----
560
559 __SEGGER_RTL_hex_lc
560 16
560 __SEGGER_RTL_hex_uc
561 16
561 =====
562 =====
562 Total:
563 32
563 =====
564 =====

```

```

564
565 Module __SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a):
566
567 Symbol or [section] name          Code      R0 Data
568 RW Data      ZI Data

```



```

568 -----
569 __SEGGER_RTL_hex_lc
16
570 __SEGGER_RTL_hex_uc
16
571 =====
572 Total:
32
573 =====

```

```

574
575 Module __SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a):
576
577 Symbol or [section] name          Code    R0 Data
RW Data    ZI Data
578 -----
579 __SEGGER_RTL_hex_lc
16
580 __SEGGER_RTL_hex_uc
16
581 =====
582 Total:
32
583 =====

```

```

584
585 Module __SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a):
586
587 Symbol or [section] name          Code    R0 Data
RW Data    ZI Data
588 -----
589 __SEGGER_RTL_hex_lc
16
590 __SEGGER_RTL_hex_uc
16
591 =====
592 Total:
32
593 =====

```

```

594
595 Module __SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a):
596
597 Symbol or [section] name          Code    R0 Data
RW Data    ZI Data
598 -----
599 __SEGGER_RTL_hex_lc
16
600 __SEGGER_RTL_hex_uc
16

```

```

601 =====
602 Total:
603 32
604 =====

```

```

604
605 Module __SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a):
606

```

Symbol or [section] name	Code	R0 Data
RW Data ZI Data		
-----	-----	-----
__SEGGER_RTL_hex_lc		
16		
__SEGGER_RTL_hex_uc		
16		
=====	=====	=====
-----	-----	-----
Total:		
32		
=====	=====	=====
-----	-----	-----

```

614
615 Module __SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a):
616

```

Symbol or [section] name	Code	R0 Data
RW Data ZI Data		
-----	-----	-----
__SEGGER_RTL_hex_lc		
16		
__SEGGER_RTL_hex_uc		
16		
=====	=====	=====
-----	-----	-----
Total:		
32		
=====	=====	=====
-----	-----	-----

```

624
625 Module __SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a):
626

```

Symbol or [section] name	Code	R0 Data
RW Data ZI Data		
-----	-----	-----
__SEGGER_RTL_hex_lc		
16		
__SEGGER_RTL_hex_uc		
16		
=====	=====	=====
-----	-----	-----
Total:		
32		
=====	=====	=====
-----	-----	-----

```

634
635 Module __SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a):
636
637 Symbol or [section] name          Code      R0 Data
RW Data      ZI Data
638 -----
639 __SEGGER_RTL_hex_lc
16
640 __SEGGER_RTL_hex_uc
16
641 =====
=====
642 Total:
32
643 =====
=====

```

```

644
645 Module __SEGGER_RTL_vfprintf_short_float_long_long.o (libc_rv32ima_small.a):
646
647 Symbol or [section] name          Code      R0 Data
RW Data      ZI Data
648 -----
649 __SEGGER_RTL_hex_lc
16
650 __SEGGER_RTL_hex_uc
16
651 =====
=====
652 Total:
32
653 =====
=====

```

```

654
655 Module __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o
(libc_rv32ima_small.a):
656
657 Symbol or [section] name          Code      R0 Data
RW Data      ZI Data
658 -----
659 __SEGGER_RTL_hex_lc
16
660 __SEGGER_RTL_hex_uc
16
661 =====
=====
662 Total:
32
663 =====
=====

```

```

664
665 Module __SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a):
666
667 Symbol or [section] name          Code      R0 Data
RW Data      ZI Data

```

```

668 -----
669 __SEGGER_RTL_hex_lc
670 16
671 __SEGGER_RTL_hex_uc
672 16
673 =====
674 Total:
675 32
676 =====
677
678 Module main_c0.o:
679
680 Symbol or [section] name          Code      R0 Data
681 RW Data      ZI Data
682 -----
683
684 main
685 128
686 =====
687 Total:
688 128
689 =====
690
691 Module prinops.o (libc_rv32ima_small.a):
692
693 Symbol or [section] name          Code      R0 Data
694 RW Data      ZI Data
695 -----
696
697 __SEGGER_RTL_putc
698 160
699 vsnprintf
700 60
701 =====
702 Total:
703 220
704 =====
705
706 Module segger_print.o (fpga_riscv_dcore_gp001_lib.a):
707
708 Symbol or [section] name          Code      R0 Data
709 RW Data      ZI Data
710 -----
711
712 uart_printf
713 88
714 app_uart_put
715 32
716 =====

```

```

701 Total:
    120
702 =====
    =====

```

```

703
704 All modules:
705

```

```

706                                     Code   RO Data   RW
707                                     Data   ZI Data
708 Grand total:                         2 172
709 =====
    =====

```

```

710
711
712 *****
    *****

```

```

713 ***
    ***
714 ***                               SECTION
    ***                               ***
715 ***
    ***

```

```

716 *****
    *****

```

```

717
718 Sections by address:
719

```

Range	Symbol or [section] Name	Size	Al	Init	Ac
Object File					
-----	-----	-----	--	----	--
00000000-00000073	_start	116	4	Code	RX
SEGGGER_RV32_crt0.o					
00000074-000000f3	main	128	4	Code	RX
main_c0.o					
000000f4-00000197	trap_entry	164	4	Code	RX
SEGGGER_RV32_crtinit_rv32ima.o					
00000198-0000019b	handle_trap	4	4	Code	RX
SEGGGER_RV32_crtinit_rv32ima.o					
0000019c-0000019f	_init	4	4	Code	RX
SEGGGER_RV32_crtinit_rv32ima.o					
000001a0-000001b0	[.rodata.merged.str1.1]	17	1	Cnst	RO [
Linker created]					
000001b1-000001d0	[.rodata.merged.str1.1]	32	1	Cnst	RO [
Linker created]					
000001d1-000001d4	[.APP_END]	4	1	Cnst	RO [
Linker created]					
000001d5-000001d7	(UNUSED .=.+3)	3	-	----	- -
000001d8-000001f7	__SEGGGER_init_heap	32	4	Code	RX
SEGGGER_RV32_crtinit_rv32ima.o					
000001f8-000001ff	__SEGGGER_init_table__	8	4	Cnst	RO [
Linker created]					
00000200-00007fff	(UNUSED .=.+32256)	32 256	-	----	- -
00008000-0000803f	[.bss.block.heap]	64	8	None	ZI [

```

Linker created ]
735 00008040-000083ff ( UNUSED .=.+960 )          960 - ---- - -
736 00008400-000087ff [ .bss.block.stack]      1 024 8 None ZI [
Linker created ]
737 00020000-00020567 __SEGGER_RTL_vfprintf_int_nwp
738                                     1 384 4 Code RX
                                     __SEGGER_RTL_vfprintf_int_
                                     nwp.o
                                     (libc_rv32ima_small.a)
739 00020568-00020607 __SEGGER_RTL_putc
prinops.o (libc_rv32ima_small.a)          160 4 Code RX
740 00020608-0002065f uart_printf
segger_print.o (fpga_riscv_dcore_gp001_lib.a) 88 4 Code RX
741 00020660-0002069b vsnprintf
prinops.o (libc_rv32ima_small.a)          60 4 Code RX
742 0002069c-000206bb app_uart_put
segger_print.o (fpga_riscv_dcore_gp001_lib.a) 32 4 Code RX
743 000206bc-000207ff ( UNUSED .=.+324 )      324 - ---- - -
744 00020800-0002080f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a) 16 4 Cnst RO
745 00020810-0002081f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a) 16 4 Cnst RO
746 00020820-0002082f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a) 16 4 Cnst RO
747 00020830-0002083f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a) 16 4 Cnst RO
748 00020840-0002084f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a) 16 4 Cnst RO
749 00020850-0002085f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a) 16 4 Cnst RO
750 00020860-0002086f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a) 16 4 Cnst RO
751 00020870-0002087f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a) 16 4 Cnst RO
752 00020880-0002088f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a) 16 4 Cnst RO
753 00020890-0002089f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_short_float_long_long.o (libc_rv32ima_small.a) 16 4 Cnst RO
754 000208a0-000208af __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a) 16 4 Cnst RO
755 000208b0-000208bf __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a) 16 4 Cnst RO
756 000208c0-000208cf __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a) 16 4 Cnst RO
757 000208d0-000208df __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a) 16 4 Cnst RO
758 000208e0-000208ef __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a) 16 4 Cnst RO
759 000208f0-000208ff __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a) 16 4 Cnst RO
760 00020900-0002090f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a) 16 4 Cnst RO
761 00020910-0002091f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a) 16 4 Cnst RO
762 00020920-0002092f __SEGGER_RTL_hex_uc
__SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a) 16 4 Cnst RO
763 00020930-0002093f __SEGGER_RTL_hex_uc      16 4 Cnst RO

```

```

764  __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o (libc_rv32ima_small.a)
00020940-0002094f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a)
765  00020950-0002095f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)
766  00020960-0002096f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a)
767  00020970-0002097f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a)
768  00020980-0002098f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a)
769  00020990-0002099f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a)
770  000209a0-000209af  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a)
771  000209b0-000209bf  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a)
772  000209c0-000209cf  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a)
773  000209d0-000209df  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_short_float_long_long.o (libc_rv32ima_small.a)
774  000209e0-000209ef  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a)
775  000209f0-000209ff  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)
776  00020a00-00020a0f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)
777  00020a10-00020a1f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)
778  00020a20-00020a2f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)
779  00020a30-00020a3f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a)
780  00020a40-00020a4f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)
781  00020a50-00020a5f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a)
782  00020a60-00020a6f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a)
783  00020a70-00020a7f  __SEGGER_RTL_hex_lc          16  4  Cnst  RO
__SEGGER_RTL_vfprintf_short_float_long_long_wchar.o (libc_rv32ima_small.a)

```

```

784
785
786  *****
*****

```

```

787  ***

```

```

***

```

```

788  ***                               UNUSED MEMORY

```

```

SUMMARY

```

```

***

```

```

789  ***

```

```

***

```

```

790  *****
*****

```

```

791
792  Detail:

```

```

793
794  Range                               Size Reason

```

```

795 -----
796 000001d5-000001d7      3  Unused memory between sections '.APP_END'
and '.segger.init.__SEGGER_init_heap'
797 00000200-00007fff     32 256 Unused memory between sections
'.segger.init.table' and '.bss.block.heap'
798 00008040-000083ff     960 Unused memory between sections
'.bss.block.heap' and '.bss.block.stack'
799 000206bc-000207ff     324 Unused memory between sections
'.text.app_uart_put' and '.rodata.libc.__SEGGER_RTL_hex_uc'

```

```

800
801
802 *****
*****

```

```

803 ***
***
804 ***          INITIALIZATION
TABLE          ***
805 ***
***

```

```

806 *****
*****

```

```

807
808 Summary:
809

```

Description	Size
-----	-----
Initialization table	8 bytes
Source image	0 bytes
Destination image	0 bytes
=====	=====
Saving	-8 bytes
=====	=====

```

818
819
820 *****
*****

```

```

821 ***
***
822 ***          SYMBOL
LIST          ***
823 ***
***

```

```

824 *****
*****

```

```

825
826 Function symbols by name and then by address:
827

```

Symbol name	Address	Size	Align	Type	Bd	Object
-----	-----	-----	-----	-----	---	---
File						
-----	-----	-----	-----	-----	---	---
__SEGGER_RTL_putc	0x00020568	160	4	Code	Gb	prinops.o (libc_rv32ima_small.a)
__SEGGER_RTL_vfprintf	0x00020000	1 384	4	Code	Gb	__SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)
__SEGGER_RTL_vfprintf_int_nwp						

833	0x00020000	1 384	4	Code	Gb	
	__SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)					
834	__SEGGER_init_done	0x00000048		4	Code	Gb
	SEGGER_RV32_crt0.o					
835	__SEGGER_init_heap	0x000001D8	32	4	Code	Wk
	SEGGER_RV32_crtinit_rv32ima.o					
836	_init	0x0000019C	[4]	4	Code	Wk
	SEGGER_RV32_crtinit_rv32ima.o					
837	_start	0x00000000	116	4	Code	Gb
	SEGGER_RV32_crt0.o					
838	app_uart_put	0x0002069C	32	4	Code	Gb
	segger_print.o (fpga_riscv_dcore_gp001_lib.a)					
839	exit	0x00000058	4	4	Code	Gb
	SEGGER_RV32_crt0.o					
840	handle_trap	0x00000198	[4]	4	Code	Wk
	SEGGER_RV32_crtinit_rv32ima.o					
841	main	0x00000074	128	4	Code	Gb
842	start	0x00000048		4	Code	Gb
	SEGGER_RV32_crt0.o					
843	trap_entry	0x000000F4	[164]	4	Code	Wk
	SEGGER_RV32_crtinit_rv32ima.o					
844	uart_printf	0x00020608	88	4	Code	Gb
	segger_print.o (fpga_riscv_dcore_gp001_lib.a)					
845	vsnprintf	0x00020660	60	4	Code	Gb
	prinops.o (libc_rv32ima_small.a)					

846
847 Function symbols by address and then by name:

848	Address	Symbol name	Size	Align	Type	Bd	Object
849	File						
850	-----	-----	-----	-----	-----	--	
851	0x00000000	_start	116	4	Code	Gb	
	SEGGER_RV32_crt0.o						
852	0x00000048	__SEGGER_init_done		4	Code	Gb	
	SEGGER_RV32_crt0.o						
853	0x00000048	start		4	Code	Gb	
	SEGGER_RV32_crt0.o						
854	0x00000058	exit	4	4	Code	Gb	
	SEGGER_RV32_crt0.o						
855	0x00000074	main	128	4	Code	Gb	main_c0.o
856	0x000000F4	trap_entry	[164]	4	Code	Wk	
	SEGGER_RV32_crtinit_rv32ima.o						
857	0x00000198	handle_trap	[4]	4	Code	Wk	
	SEGGER_RV32_crtinit_rv32ima.o						
858	0x0000019C	_init	[4]	4	Code	Wk	
	SEGGER_RV32_crtinit_rv32ima.o						
859	0x000001D8	__SEGGER_init_heap	32	4	Code	Wk	
	SEGGER_RV32_crtinit_rv32ima.o						
860	0x00020000	__SEGGER_RTL_vfprintf	1 384	4	Code	Gb	
	__SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)						
861	0x00020000	__SEGGER_RTL_vfprintf_int_nwp	1 384	4	Code	Gb	
862							__SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)
863	0x00020568	__SEGGER_RTL_putc	160	4	Code	Gb	

```

864 prinops.o (libc_rv32ima_small.a)          88      4 Code Gb
      0x00020608  uart_printf
      segger_print.o (fpga_riscv_dcore_gp001_lib.a)
865 0x00020660  vsnprintf          60      4 Code Gb
      prinops.o (libc_rv32ima_small.a)
866 0x0002069C  app_uart_put       32      4 Code Gb
      segger_print.o (fpga_riscv_dcore_gp001_lib.a)

```

867

868 Read-only data symbols by name and then by address:

869

870	Symbol name	Address	Access	Size	Align	Type
	Bd Object File					
871	-----	-----	-----	-----	-----	-----
872	__SEGGER_RTL_hex_lc	0x00020940		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a)					
873	__SEGGER_RTL_hex_lc	0x00020950		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)					
874	__SEGGER_RTL_hex_lc	0x00020960		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a)					
875	__SEGGER_RTL_hex_lc	0x00020970		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a)					
876	__SEGGER_RTL_hex_lc	0x00020980		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a)					
877	__SEGGER_RTL_hex_lc	0x00020990		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a)					
878	__SEGGER_RTL_hex_lc	0x000209A0		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a)					
879	__SEGGER_RTL_hex_lc	0x000209B0		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a)					
880	__SEGGER_RTL_hex_lc	0x000209C0		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a)					
881	__SEGGER_RTL_hex_lc	0x000209D0		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_short_float_long_long.o (libc_rv32ima_small.a)					
882	__SEGGER_RTL_hex_lc	0x000209E0		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a)					
883	__SEGGER_RTL_hex_lc	0x000209F0		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)					
884	__SEGGER_RTL_hex_lc	0x00020A00		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)					
885	__SEGGER_RTL_hex_lc	0x00020A10		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)					
886	__SEGGER_RTL_hex_lc	0x00020A20		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)					
887	__SEGGER_RTL_hex_lc	0x00020A30		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a)					
888	__SEGGER_RTL_hex_lc	0x00020A40		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)					
889	__SEGGER_RTL_hex_lc	0x00020A50		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a)					
890	__SEGGER_RTL_hex_lc	0x00020A60		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a)					
891	__SEGGER_RTL_hex_lc	0x00020A70		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o (libc_rv32ima_small.a)					
892	__SEGGER_RTL_hex_uc	0x00020800		16	4	Cnst
	Lc __SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a)					

```

893  __SEGGER_RTL_hex_uc          0x00020810          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)
894  __SEGGER_RTL_hex_uc          0x00020820          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a)
895  __SEGGER_RTL_hex_uc          0x00020830          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a)
896  __SEGGER_RTL_hex_uc          0x00020840          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a)
897  __SEGGER_RTL_hex_uc          0x00020850          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a)
898  __SEGGER_RTL_hex_uc          0x00020860          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a)
899  __SEGGER_RTL_hex_uc          0x00020870          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a)
900  __SEGGER_RTL_hex_uc          0x00020880          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a)
901  __SEGGER_RTL_hex_uc          0x00020890          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_short_float_long_long.o (libc_rv32ima_small.a)
902  __SEGGER_RTL_hex_uc          0x000208A0          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a)
903  __SEGGER_RTL_hex_uc          0x000208B0          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)
904  __SEGGER_RTL_hex_uc          0x000208C0          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)
905  __SEGGER_RTL_hex_uc          0x000208D0          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)
906  __SEGGER_RTL_hex_uc          0x000208E0          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)
907  __SEGGER_RTL_hex_uc          0x000208F0          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a)
908  __SEGGER_RTL_hex_uc          0x00020900          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)
909  __SEGGER_RTL_hex_uc          0x00020910          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a)
910  __SEGGER_RTL_hex_uc          0x00020920          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a)
911  __SEGGER_RTL_hex_uc          0x00020930          16      4  Cnst
    Lc __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o
    (libc_rv32ima_small.a)
912  __SEGGER_init_table__        0x000001F8          [8]      4  Cnst
    Lc [ Linker created ]

```

```

913
914 Read-only data symbols by address and then by name:
915

```

Address	Access	Symbol name	Size	Align	Type
Bd	Object	File			
-----	-----	-----	-----	-----	-----
0x000001F8		__SEGGER_init_table__	[8]	4	Cnst
Lc	[Linker created]				
0x00020800		__SEGGER_RTL_hex_uc	16	4	Cnst
Lc	__SEGGER_RTL_vfprintf_int.o	(libc_rv32ima_small.a)			
0x00020810		__SEGGER_RTL_hex_uc	16	4	Cnst
Lc	__SEGGER_RTL_vfprintf_int_nwp.o	(libc_rv32ima_small.a)			
0x00020820		__SEGGER_RTL_hex_uc	16	4	Cnst
Lc	__SEGGER_RTL_vfprintf_long.o	(libc_rv32ima_small.a)			
0x00020830		__SEGGER_RTL_hex_uc	16	4	Cnst

923	Lc __SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a)	0x00020840	__SEGGER_RTL_hex_uc	16	4	Cnst
924	Lc __SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a)	0x00020850	__SEGGER_RTL_hex_uc	16	4	Cnst
925	Lc __SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a)	0x00020860	__SEGGER_RTL_hex_uc	16	4	Cnst
926	Lc __SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a)	0x00020870	__SEGGER_RTL_hex_uc	16	4	Cnst
927	Lc __SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a)	0x00020880	__SEGGER_RTL_hex_uc	16	4	Cnst
928	Lc __SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a)	0x00020890	__SEGGER_RTL_hex_uc	16	4	Cnst
929	Lc __SEGGER_RTL_vfprintf_short_float_long_long.o (libc_rv32ima_small.a)	0x000208A0	__SEGGER_RTL_hex_uc	16	4	Cnst
930	Lc __SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a)	0x000208B0	__SEGGER_RTL_hex_uc	16	4	Cnst
931	Lc __SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)	0x000208C0	__SEGGER_RTL_hex_uc	16	4	Cnst
932	Lc __SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)	0x000208D0	__SEGGER_RTL_hex_uc	16	4	Cnst
933	Lc __SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)	0x000208E0	__SEGGER_RTL_hex_uc	16	4	Cnst
934	Lc __SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)	0x000208F0	__SEGGER_RTL_hex_uc	16	4	Cnst
935	Lc __SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a)	0x00020900	__SEGGER_RTL_hex_uc	16	4	Cnst
936	Lc __SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)	0x00020910	__SEGGER_RTL_hex_uc	16	4	Cnst
937	Lc __SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a)	0x00020920	__SEGGER_RTL_hex_uc	16	4	Cnst
938	Lc __SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a)	0x00020930	__SEGGER_RTL_hex_uc	16	4	Cnst
939	Lc __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o (libc_rv32ima_small.a)	0x00020940	__SEGGER_RTL_hex_lc	16	4	Cnst
940	Lc __SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a)	0x00020950	__SEGGER_RTL_hex_lc	16	4	Cnst
941	Lc __SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)	0x00020960	__SEGGER_RTL_hex_lc	16	4	Cnst
942	Lc __SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a)	0x00020970	__SEGGER_RTL_hex_lc	16	4	Cnst
943	Lc __SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a)	0x00020980	__SEGGER_RTL_hex_lc	16	4	Cnst
944	Lc __SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a)	0x00020990	__SEGGER_RTL_hex_lc	16	4	Cnst
945	Lc __SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a)	0x000209A0	__SEGGER_RTL_hex_lc	16	4	Cnst
946	Lc __SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a)	0x000209B0	__SEGGER_RTL_hex_lc	16	4	Cnst
947	Lc __SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a)	0x000209C0	__SEGGER_RTL_hex_lc	16	4	Cnst
948	Lc __SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a)	0x000209D0	__SEGGER_RTL_hex_lc	16	4	Cnst
949	Lc __SEGGER_RTL_vfprintf_short_float_long_long.o (libc_rv32ima_small.a)	0x000209E0	__SEGGER_RTL_hex_lc	16	4	Cnst
950	Lc __SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a)	0x000209F0	__SEGGER_RTL_hex_lc	16	4	Cnst

```

951 Lc __SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)
0x00020A00 __SEGGER_RTL_hex_lc 16 4 Cnst
952 Lc __SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)
0x00020A10 __SEGGER_RTL_hex_lc 16 4 Cnst
953 Lc __SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)
0x00020A20 __SEGGER_RTL_hex_lc 16 4 Cnst
954 Lc __SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)
0x00020A30 __SEGGER_RTL_hex_lc 16 4 Cnst
955 Lc __SEGGER_RTL_vfprintf_long_long_nwp_wchar.o (libc_rv32ima_small.a)
0x00020A40 __SEGGER_RTL_hex_lc 16 4 Cnst
956 Lc __SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)
0x00020A50 __SEGGER_RTL_hex_lc 16 4 Cnst
957 Lc __SEGGER_RTL_vfprintf_float_long_long_wchar.o (libc_rv32ima_small.a)
0x00020A60 __SEGGER_RTL_hex_lc 16 4 Cnst
958 Lc __SEGGER_RTL_vfprintf_short_float_long_wchar.o (libc_rv32ima_small.a)
0x00020A70 __SEGGER_RTL_hex_lc 16 4 Cnst
Lc __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o
(libc_rv32ima_small.a)

```

959

960 Untyped symbols by name and then by address:

961

962	Symbol name	Value	Access	Size	Align	Type
962	Bd Object File					
963	-----	-----	-----	-----	-----	-----
964	__FLASH_segment_end__	0x00001000				----
965	Gb [Linker created]					
965	__FLASH_segment_size__	0x00001000				----
966	Gb [Linker created]					
966	__FLASH_segment_start__	0x00000000				----
967	Gb [Linker created]					
967	__FLASH_segment_used_end__	0x00000200				----
968	Gb [Linker created]					
969	__FLASH_segment_used_size__	0x00000200				----
970	Gb [Linker created]					
971	__FLASH_segment_used_start__	0x00000000				----
972	Gb [Linker created]					
973	__HEAPSIZE__	0x00000040				----
974	Gb [Linker created]					
974	__RAM_segment_end__	0x00008800				----
975	Gb [Linker created]					
975	__RAM_segment_size__	0x00000800				----
976	Gb [Linker created]					
976	__RAM_segment_start__	0x00008000				----
977	Gb [Linker created]					
977	__RAM_segment_used_end__	0x00008800				----
978	Gb [Linker created]					
978	__RAM_segment_used_size__	0x00000800				----
979	Gb [Linker created]					
979	__RAM_segment_used_start__	0x00008000				----
980	Gb [Linker created]					
981	__ROM2_segment_end__	0x00021000				----
	Gb [Linker created]					

```

982  __ROM2_segment_size__      0x00000800      ----
    Gb [ Linker created ]
983  __ROM2_segment_start__    0x00020800      ----
    Gb [ Linker created ]
984  __ROM2_segment_used_end__  0x00020A80      ----
    Gb [ Linker created ]
985  __ROM2_segment_used_size__
986  0x00000280      ----
    Gb [ Linker created ]
987  __ROM2_segment_used_start__
988  0x00020800      ----
    Gb [ Linker created ]
989  __ROM_segment_end__       0x00020800      ----
    Gb [ Linker created ]
990  __ROM_segment_size__      0x00000800      ----
    Gb [ Linker created ]
991  __ROM_segment_start__     0x00020000      ----
    Gb [ Linker created ]
992  __ROM_segment_used_end__  0x000206BC      ----
    Gb [ Linker created ]
993  __ROM_segment_used_size__  0x000006BC      ----
    Gb [ Linker created ]
994  __ROM_segment_used_start__
995  0x00020000      ----
    Gb [ Linker created ]
996  __STACKSIZE__             0x00000400      ----
    Gb [ Linker created ]
997  __global_pointer$         0xFFFFFFFF      ----
    Gb [ Linker created ]
998  __heap_end__               0x00008040      ----
    Gb [ Linker created ]
999  __heap_start__            0x00008000      ----
    Gb [ Linker created ]
1000 __stack_end__              0x00008800      ----
    Gb [ Linker created ]
1001 __thread_pointer$         0xFFFFFFFF      ----
    Gb [ Linker created ]

```

1002 Untyped symbols by address and then by name:

```

1003
1004
1005      Value      Access  Symbol name      Size  Align  Type
1006      Bd  Object File
1007  -----  -----  -----  -----  -----  -----
1008  0x00000000      ___FLASH_segment_start__
1009  Gb [ Linker created ]
1010  0x00000000      ___FLASH_segment_used_start__
1011  Gb [ Linker created ]
1012  0x00000040      ___HEAPSIZE__
1013  Gb [ Linker created ]
1014  0x00000200      ___FLASH_segment_used_end__
1015  Gb [ Linker created ]
1016  0x00000200      ___FLASH_segment_used_size__
1017  Gb [ Linker created ]

```

```

1015      0x00000280      __ROM2_segment_used_size__
1016
Gb [ Linker created ]
1017      0x00000400      __STACKSIZE__
Gb [ Linker created ]
1018      0x000006BC      __ROM_segment_used_size__
Gb [ Linker created ]
1019      0x00000800      __RAM_segment_size__
Gb [ Linker created ]
1020      0x00000800      __RAM_segment_used_size__
Gb [ Linker created ]
1021      0x00000800      __ROM2_segment_size__
Gb [ Linker created ]
1022      0x00000800      __ROM_segment_size__
Gb [ Linker created ]
1023      0x00001000      __FLASH_segment_end__
Gb [ Linker created ]
1024      0x00001000      __FLASH_segment_size__
Gb [ Linker created ]
1025      0x00008000      __RAM_segment_start__
Gb [ Linker created ]
1026      0x00008000      __RAM_segment_used_start__
1027
Gb [ Linker created ]
1028      0x00008000      __heap_start__
Gb [ Linker created ]
1029      0x00008040      __heap_end__
Gb [ Linker created ]
1030      0x00008800      __RAM_segment_end__
Gb [ Linker created ]
1031      0x00008800      __RAM_segment_used_end__
Gb [ Linker created ]
1032      0x00008800      __stack_end__
Gb [ Linker created ]
1033      0x00020000      __ROM_segment_start__
Gb [ Linker created ]
1034      0x00020000      __ROM_segment_used_start__
1035
Gb [ Linker created ]
1036      0x000206BC      __ROM_segment_used_end__
Gb [ Linker created ]
1037      0x00020800      __ROM2_segment_start__
Gb [ Linker created ]
1038      0x00020800      __ROM2_segment_used_start__
1039
Gb [ Linker created ]
1040      0x00020800      __ROM_segment_end__
Gb [ Linker created ]
1041      0x00020A80      __ROM2_segment_used_end__
Gb [ Linker created ]
1042      0x00021000      __ROM2_segment_end__
Gb [ Linker created ]
1043      0xFFFFFFFF      __global_pointer$
Gb [ Linker created ]
1044      0xFFFFFFFF      __thread_pointer$
Gb [ Linker created ]
1045

```

```

1046
1047 *****
1048 ***
          ***
1049 ***                               STACK
SIZES                               ***
1050 ***
          ***
1051 *****
1052 *****
1053 Functions by stack size:
1054
1055     Function name                    Stack  Object File
1056     -----
1057
1058 Functions without stack size information:
1059
1060     _start
1061     __SEGGER_init_done
1062     start
1063     exit
1064     app_uart_put
1065     uart_printf
1066     main
1067     __SEGGER_RTL_putc
1068     vsnprintf
1069     __SEGGER_RTL_vfprintf_int_nwp
1070     __SEGGER_init_heap
1071     trap_entry
1072     handle_trap
1073     _init
1074     __SEGGER_RTL_vfprintf
1075
1076
1077 *****
1078 ***
          ***
1079 ***                               UNUSED
INPUTS                               ***
1080 ***
          ***
1081 *****
1082 *****
1083 Unused object files:
1084
1085     ap_lib.o
1086
1087
1088 *****
1089 ***
          ***
1090 ***                               ABSOLUTE

```


LISTING

```

1091 ***
      ***
1092 *****
      *****
1093
1094 ;=====
      =====
1095 ; .init._start
1096 ;=====
      =====
1097 ; Module:      SEGGER_RV32_crt0.o
1098 ; Attributes:  read-only, executable (SHF_EXECINSTR), allocatable
      (SHF_ALLOC), %progbits
1099 ; Size:        116 (0x74) bytes
1100 ; Align:       4 bytes
1101 ;
1102 ; Uses:
1103 ;   0x000001F8  __SEGGER_init_table__
1104 ;   0x0000019C  _init ()
1105 ;   0x00000074  main ()
1106 ;   0x000000F4  trap_entry ()
1107 ;   0x00000000  __FLASH_segment_start__
1108 ;
1109 ; Used by:
1110 ;   0x000001F8  __SEGGER_init_table__
1111
1112 _start:
1113 0x00000000 000001B7    LI          gp, 0                ; 0xFFFFFFFF =
      __global_pointer$
1114 0x00000004 FFF18193    ADDI         gp, gp, -1
1115 0x00000008 00000237    LI          tp, 0                ; 0xFFFFFFFF =
      __thread_pointer$
1116 0x0000000C FFF20213    ADDI         tp, tp, -1
1117 0x00000010 00008117    AUIPC       sp, 8                ; 0x00008800 =
      __stack_end__
1118 0x00000014 7F010113    ADDI         sp, sp, 0x07F0
1119 0x00000018 00000517    AUIPC       a0, 0                ; 0x000000F4 =
      trap_entry
1120 0x0000001C 0DC50513    ADDI         a0, a0, 220
1121 0x00000020 30551073    CSRW        mtvec, a0
1122 0x00000024 34201073    CSRW        mcause, zero
1123 0x00000028 00000097    AUIPC       ra, 0                ; 0x0000019C =
      _init
1124 0x0000002C 174080E7    JALR        0x0174(ra)
1125 0x00000030 00000417    AUIPC       s0, 0                ; 0x000001F8 =
      __SEGGER_init_table__
1126 0x00000034 1C840413    ADDI         s0, s0, 0x01C8
1127
1128 .L1:
1129 0x00000038 00042503    LW          a0, 0(s0)
1130 0x0000003C 00440413    ADDI         s0, s0, 4
1131 0x00000040 000500E7    JALR        a0
1132 0x00000044 FF5FF06F    J           .L1                ; 0x00000038
1133
1134 start:
1135 0x00000048 00000097    AUIPC       ra, 0                ; 0x00000074 =

```

```

main
1136 0x0000004C 02C080E7 JALR 44(ra)
1137 0x00000050 00000317 AUIPC t1, 0 ; 0x00000058 =
exit
1138 0x00000054 00830067 JR 8(t1)
1139
1140 exit:
1141 0x00000058 0000006F J exit ; 0x00000058
1142 0x0000005C 00000513 LI a0, 0
1143 0x00000060 00000593 LI a1, 0
1144 0x00000064 00000097 AUIPC ra, 0 ; 0x00000074 =
main
1145 0x00000068 010080E7 JALR 16(ra)
1146 0x0000006C 00000317 AUIPC t1, 0 ; 0x00000058 =
exit
1147 0x00000070 FEC30067 JR -20(t1)
1148
1149
1150 ;=====
=====
1151 ; .text.main
1152 ;=====
=====
1153 ; Module: main_c0.o
1154 ; Attributes: read-only, executable (SHF_EXECINSTR), allocatable
(SHF_ALLOC), %progbits
1155 ; Size: 128 (0x80) bytes
1156 ; Align: 4 bytes
1157 ;
1158 ; Uses:
1159 ; 0x000001B1 [.rodata.merged.str1.1]
1160 ; 0x000001A0 [.rodata.merged.str1.1]
1161 ; 0x00020608 uart_printf ()
1162 ;
1163 ; Used by:
1164 ; 0x00000000 _start ()
1165
1166 main:
1167 0x00000074 FF010113 ADDI sp, sp, -16
1168 0x00000078 00112623 SW ra, 12(sp)
1169 0x0000007C 000427B7 LI a5, 0x042000
1170 0x00000080 00A00713 LI a4, 10
1171 0x00000084 00E78223 SB a4, 4(a5)
1172 0x00000088 06E00713 LI a4, 110
1173 0x0000008C 00E78223 SB a4, 4(a5)
1174 0x00000090 06F00713 LI a4, 111
1175 0x00000094 00E78223 SB a4, 4(a5)
1176 0x00000098 03100713 LI a4, 49
1177 0x0000009C 00E78223 SB a4, 4(a5)
1178 0x000000A0 03200713 LI a4, 50
1179 0x000000A4 00E78223 SB a4, 4(a5)
1180 0x000000A8 03300713 LI a4, 51
1181 0x000000AC 00E78223 SB a4, 4(a5)
1182 0x000000B0 02600713 LI a4, 38
1183 0x000000B4 00E78223 SB a4, 4(a5)
1184 0x000000B8 0247C583 LBU a1, 36(a5)
1185 0x000000BC 00000537 LI a0, 0 ; 0x000001B1 =

```

```

.rodata.merged.str1.1
1186 0x000000C0 1B150513 ADDI a0, a0, 0x01B1
1187 0x000000C4 00020097 AUIPC ra, 32 ; 0x00020608 =
uart_printf
1188 0x000000C8 544080E7 JALR 0x0544(ra)
1189 0x000000CC 00000537 LI a0, 0 ; 0x000001CF =
.rodata.merged.str1.1+30
1190 0x000000D0 1CF50513 ADDI a0, a0, 0x01CF
1191 0x000000D4 00020097 AUIPC ra, 32 ; 0x00020608 =
uart_printf
1192 0x000000D8 534080E7 JALR 0x0534(ra)
1193 0x000000DC 05700593 LI a1, 87
1194 0x000000E0 00000537 LI a0, 0 ; 0x000001A0 =
.rodata.merged.str1.1
1195 0x000000E4 1A050513 ADDI a0, a0, 0x01A0
1196 0x000000E8 00020097 AUIPC ra, 32 ; 0x00020608 =
uart_printf
1197 0x000000EC 520080E7 JALR 0x0520(ra)
1198
1199 .L1:
1200 0x000000F0 0000006F J .L1 ; 0x000000F0
1201
1202
1203 ;=====
=====
1204 ; .text.trap_entry
1205 ;=====
=====
1206 ; Module: SEGGER_RV32_crtinit_rv32ima.o
1207 ; Attributes: read-only, executable (SHF_EXECINSTR), allocatable
(SHF_ALLOC), %progbits
1208 ; Size: 164 (0xa4) bytes
1209 ; Align: 4 bytes
1210 ;
1211 ; Uses:
1212 ; 0x00000198 handle_trap ()
1213 ;
1214 ; Used by:
1215 ; 0x00000000 _start ()
1216
1217 trap_entry:
1218 0x000000F4 FC010113 ADDI sp, sp, -64
1219 0x000000F8 00112023 SW ra, 0(sp)
1220 0x000000FC 00512223 SW t0, 4(sp)
1221 0x00000100 00612423 SW t1, 8(sp)
1222 0x00000104 00712623 SW t2, 12(sp)
1223 0x00000108 00A12823 SW a0, 16(sp)
1224 0x0000010C 00B12A23 SW a1, 20(sp)
1225 0x00000110 00C12C23 SW a2, 24(sp)
1226 0x00000114 00D12E23 SW a3, 28(sp)
1227 0x00000118 02E12023 SW a4, 32(sp)
1228 0x0000011C 02F12223 SW a5, 36(sp)
1229 0x00000120 03012423 SW a6, 40(sp)
1230 0x00000124 03112623 SW a7, 44(sp)
1231 0x00000128 03C12823 SW t3, 48(sp)
1232 0x0000012C 03D12A23 SW t4, 52(sp)
1233 0x00000130 03E12C23 SW t5, 56(sp)

```

```

1234      0x00000134  03F12E23      SW          t6, 60(sp)
1235      0x00000138  34202573      CSRR        a0, mcause
1236      0x0000013C  341025F3      CSRR        a1, mepc
1237      0x00000140  00000337      LI          t1, 0                      ; 0x00000198 =
      handle_trap
1238      0x00000144  19830313      ADDI        t1, t1, 0x0198
1239      0x00000148  000300E7      JALR        t1
1240      0x0000014C  34151073      CSRW        mepc, a0
1241      0x00000150  00012083      LW          ra, 0(sp)
1242      0x00000154  00412283      LW          t0, 4(sp)
1243      0x00000158  00812303      LW          t1, 8(sp)
1244      0x0000015C  00C12383      LW          t2, 12(sp)
1245      0x00000160  01012503      LW          a0, 16(sp)
1246      0x00000164  01412583      LW          a1, 20(sp)
1247      0x00000168  01812603      LW          a2, 24(sp)
1248      0x0000016C  01C12683      LW          a3, 28(sp)
1249      0x00000170  02012703      LW          a4, 32(sp)
1250      0x00000174  02412783      LW          a5, 36(sp)
1251      0x00000178  02812803      LW          a6, 40(sp)
1252      0x0000017C  02C12883      LW          a7, 44(sp)
1253      0x00000180  03012E03      LW          t3, 48(sp)
1254      0x00000184  03412E83      LW          t4, 52(sp)
1255      0x00000188  03812F03      LW          t5, 56(sp)
1256      0x0000018C  03C12F83      LW          t6, 60(sp)
1257      0x00000190  04010113      ADDI        sp, sp, 64
1258      0x00000194  30200073      MRET
1259
1260
1261      ;=====
      =====
1262      ; .text.handle_trap
1263      ;=====
      =====
1264      ; Module:      SEGGER_RV32_crtinit_rv32ima.o
1265      ; Attributes: read-only, executable (SHF_EXECINSTR), allocatable
      (SHF_ALLOC), %progbits
1266      ; Size:        4 bytes
1267      ; Align:       4 bytes
1268      ;
1269      ; Used by:
1270      ;   0x00000F4  trap_entry ()
1271
1272      handle_trap:
1273      0x00000198  0000006F      J          handle_trap                      ; 0x00000198
1274
1275
1276      ;=====
      =====
1277      ; .text._init
1278      ;=====
      =====
1279      ; Module:      SEGGER_RV32_crtinit_rv32ima.o
1280      ; Attributes: read-only, executable (SHF_EXECINSTR), allocatable
      (SHF_ALLOC), %progbits
1281      ; Size:        4 bytes
1282      ; Align:       4 bytes
1283      ;

```

```

1284 ; Used by:
1285 ; 0x00000000 _start ()
1286
1287 _init:
1288 0x0000019C 00008067 RET
1289
1290
1291 ;=====
=====
1292 ; .rodata.merged.str1.1
1293 ;=====
=====
1294 ; Module: [ Linker created ]
1295 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), strings
(SHF_STRINGS), mergeable (SHF_MERGE) element size 0 bytes, %progbits
1296 ; Size: 17 (0x11) bytes
1297 ; Align: 1 bytes
1298 ;
1299 ; Used by:
1300 ; 0x00000074 main ()
1301
1302 0x000001A0 48 DC8 0x48 ; 'H'
1303 0x000001A1 65 DC8 0x65 ; 'e'
1304 0x000001A2 6C DC8 0x6C ; 'l'
1305 0x000001A3 6C DC8 0x6C ; 'l'
1306 0x000001A4 6F DC8 0x6F ; 'o'
1307 0x000001A5 20 DC8 0x20 ; ' '
1308 0x000001A6 43 DC8 0x43 ; 'C'
1309 0x000001A7 4F DC8 0x4F ; 'O'
1310 0x000001A8 52 DC8 0x52 ; 'R'
1311 0x000001A9 45 DC8 0x45 ; 'E'
1312 0x000001AA 30 DC8 0x30 ; '0'
1313 0x000001AB 21 DC8 0x21 ; '!'
1314 0x000001AC 20 DC8 0x20 ; ' '
1315 0x000001AD 25 DC8 0x25 ; '%'
1316 0x000001AE 64 DC8 0x64 ; 'd'
1317 0x000001AF 0A DC8 0x0A ; '\n'
1318 0x000001B0 00 DC8 0x00 ; '\0'
1319
1320
1321 ;=====
=====
1322 ; .rodata.merged.str1.1
1323 ;=====
=====
1324 ; Module: [ Linker created ]
1325 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), strings
(SHF_STRINGS), mergeable (SHF_MERGE) element size 0 bytes, %progbits
1326 ; Size: 32 (0x20) bytes
1327 ; Align: 1 bytes
1328 ;
1329 ; Used by:
1330 ; 0x00000074 main ()
1331
1332 0x000001B1 43 DC8 0x43 ; 'C'
1333 0x000001B2 48 DC8 0x48 ; 'H'
1334 0x000001B3 4B DC8 0x4B ; 'K'

```

```

1335      0x000001B4  5F          DC8          0x5F          ; '_'
1336      0x000001B5  55          DC8          0x55          ; 'U'
1337      0x000001B6  41          DC8          0x41          ; 'A'
1338      0x000001B7  52          DC8          0x52          ; 'R'
1339      0x000001B8  54          DC8          0x54          ; 'T'
1340      0x000001B9  30          DC8          0x30          ; '0'
1341      0x000001BA  5F          DC8          0x5F          ; '_'
1342      0x000001BB  4F          DC8          0x4F          ; 'O'
1343      0x000001BC  43          DC8          0x43          ; 'C'
1344      0x000001BD  43          DC8          0x43          ; 'C'
1345      0x000001BE  55          DC8          0x55          ; 'U'
1346      0x000001BF  50          DC8          0x50          ; 'P'
1347      0x000001C0  59          DC8          0x59          ; 'Y'
1348      0x000001C1  5F          DC8          0x5F          ; '_'
1349      0x000001C2  42          DC8          0x42          ; 'B'
1350      0x000001C3  59          DC8          0x59          ; 'Y'
1351      0x000001C4  28          DC8          0x28          ; '('
1352      0x000001C5  42          DC8          0x42          ; 'B'
1353      0x000001C6  49          DC8          0x49          ; 'I'
1354      0x000001C7  54          DC8          0x54          ; 'T'
1355      0x000001C8  5F          DC8          0x5F          ; '_'
1356      0x000001C9  30          DC8          0x30          ; '0'
1357      0x000001CA  30          DC8          0x30          ; '0'
1358      0x000001CB  29          DC8          0x29          ; ')'
1359      0x000001CC  3D          DC8          0x3D          ; '='
1360      0x000001CD  25          DC8          0x25          ; '%'
1361      0x000001CE  78          DC8          0x78          ; 'x'
1362      0x000001CF  0A          DC8          0x0A          ; '\n'
1363      0x000001D0  00          DC8          0x00          ; '\0'
1364
1365
1366      ;=====
=====
1367      ; .APP_END
1368      ;=====
=====
1369      ; Module:      [ Linker created ]
1370      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
1371      ; Size:       4 bytes
1372      ; Align:      1 bytes
1373
1374      0x000001D1  55          DC8          0x55          ; 'U'
1375      0x000001D2  5A          DC8          0x5A          ; 'Z'
1376      0x000001D3  A5          DC8          0xA5          ; '\xA5'
1377      0x000001D4  AA          DC8          0xAA          ; '\xAA'
1378
1379
1380      ;=====
=====
1381      ; .segger.init.__SEGGER_init_heap
1382      ;=====
=====
1383      ; Module:      SEGGER_RV32_crtinit_rv32ima.o
1384      ; Attributes: read-only, executable (SHF_EXECINSTR), allocatable
(SHF_ALLOC), %progbits
1385      ; Size:       32 (0x20) bytes
1386      ; Align:      4 bytes

```

```

1387 ;
1388 ; Uses:
1389 ;   0x00000000 __FLASH_segment_start__
1390 ;
1391 ; Used by:
1392 ;   0x000001F8 __SEGGER_init_table__
1393
1394 __SEGGER_init_heap:
1395 0x000001D8 00008517 AUIPC a0, 8
1396 0x000001DC E2850513 ADDI a0, a0, -0x01D8
1397 0x000001E0 00008597 AUIPC a1, 8
1398 0x000001E4 E6058593 ADDI a1, a1, -0x01A0
1399 0x000001E8 40A585B3 SUB a1, a1, a0
1400 0x000001EC 00A52023 SW a0, 0(a0)
1401 0x000001F0 00052223 SW zero, 4(a0)
1402 0x000001F4 00008067 RET
1403
1404
1405 ;=====
=====
1406 ; .segger.init.table
1407 ;=====
=====
1408 ; Module: [ Linker created ]
1409 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
1410 ; Size: 8 bytes
1411 ; Align: 4 bytes
1412 ;
1413 ; Uses:
1414 ;   0x00000000 _start ()
1415 ;   0x000001D8 __SEGGER_init_heap ()
1416 ;
1417 ; Used by:
1418 ;   0x00000000 _start ()
1419
1420 0x000001F8 000001D8 DC32 __SEGGER_init_heap
1421 0x000001FC 00000048 DC32 start
1422
1423
1424 ;=====
=====
1425 ; .bss.block.heap
1426 ;=====
=====
1427 ; Module: [ Linker created ]
1428 ; Attributes: writable, non-executable, allocatable (SHF_ALLOC), %nobits
1429 ; Size: 64 (0x40) bytes
1430 ; Align: 8 bytes
1431
1432 0x00008000 00... DZ8 64
1433
1434
1435 ;=====
=====
1436 ; .bss.block.stack
1437 ;=====
=====

```

```

1438 ; Module:      [ Linker created ]
1439 ; Attributes:  writable, non-executable, allocatable (SHF_ALLOC), %nobits
1440 ; Size:       1024 (0x400) bytes
1441 ; Align:      8 bytes
1442
1443     0x00008400  00...      DZ8      1024
1444
1445
1446 ;=====
=====
1447 ; .text.libc.__SEGGER_RTL_vfprintf_int_nwp
1448 ;=====
=====
1449 ; Module:      __SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)
1450 ; Attributes:  read-only, executable (SHF_EXECINSTR), allocatable
(SHF_ALLOC), %progbits
1451 ; Size:       1384 (0x568) bytes
1452 ; Align:      4 bytes
1453 ;
1454 ; Uses:
1455 ;     0x00020950  __SEGGER_RTL_hex_lc
1456 ;     0x00020810  __SEGGER_RTL_hex_uc
1457 ;     0x00020568  __SEGGER_RTL_putc ()
1458 ;
1459 ; Used by:
1460 ;     0x00020660  vsnprintf ()
1461
1462 __SEGGER_RTL_vfprintf:
1463     0x00020000  FD010113      ADDI      sp, sp, -48
1464     0x00020004  02812423      SW       s0, 40(sp)
1465     0x00020008  03212023      SW       s2, 32(sp)
1466     0x0002000C  01312E23      SW       s3, 28(sp)
1467     0x00020010  01412C23      SW       s4, 24(sp)
1468     0x00020014  01512A23      SW       s5, 20(sp)
1469     0x00020018  02112623      SW       ra, 44(sp)
1470     0x0002001C  02912223      SW       s1, 36(sp)
1471     0x00020020  01612823      SW       s6, 16(sp)
1472     0x00020024  00021A37      LI       s4, 0x021000      ; 0x00020950 =
.rodata.libc.__SEGGER_RTL_hex_lc
1473     0x00020028  00021AB7      LI       s5, 0x021000      ; 0x00020810 =
.rodata.libc.__SEGGER_RTL_hex_uc
1474     0x0002002C  00050913      MV       s2, a0
1475     0x00020030  00058993      MV       s3, a1
1476     0x00020034  00060413      MV       s0, a2
1477     0x00020038  00052023      SW       zero, 0(a0)
1478     0x0002003C  950A0A13      ADDI     s4, s4, -0x06B0
1479     0x00020040  810A8A93      ADDI     s5, s5, -0x07F0
1480
1481 .L1:
1482     0x00020044  0009C583      LBU     a1, 0(s3)
1483     0x00020048  00198493      ADDI     s1, s3, 1
1484     0x0002004C  04059663      BNEZ    a1, .L4      ; 0x00020098
1485     0x00020050  00C92783      LW       a5, 12(s2)
1486     0x00020054  00078C63      BEQZ    a5, .L2      ; 0x0002006C
1487     0x00020058  00092703      LW       a4, 0(s2)
1488     0x0002005C  00492683      LW       a3, 4(s2)
1489     0x00020060  00D77663      BGEU    a4, a3, .L2      ; 0x0002006C

```


1490	0x00020064	00E787B3	ADD	a5, a5, a4	
1491	0x00020068	00078023	SB	zero, 0(a5)	
1492					
1493	.L2:				
1494	0x0002006C	00092503	LW	a0, 0(s2)	
1495					
1496	.L3:				
1497	0x00020070	02C12083	LW	ra, 44(sp)	
1498	0x00020074	02812403	LW	s0, 40(sp)	
1499	0x00020078	02412483	LW	s1, 36(sp)	
1500	0x0002007C	02012903	LW	s2, 32(sp)	
1501	0x00020080	01C12983	LW	s3, 28(sp)	
1502	0x00020084	01812A03	LW	s4, 24(sp)	
1503	0x00020088	01412A83	LW	s5, 20(sp)	
1504	0x0002008C	01012B03	LW	s6, 16(sp)	
1505	0x00020090	03010113	ADDI	sp, sp, 48	
1506	0x00020094	00008067	RET		
1507					
1508	.L4:				
1509	0x00020098	02500793	LI	a5, 37	
1510	0x0002009C	00F58C63	BEQ	a1, a5, .L5	; 0x000200B4
1511	0x000200A0	00090513	MV	a0, s2	
1512	0x000200A4	00000097	AUIPC	ra, 0	; 0x00020568 =
	__SEGGER_RTL_putc				
1513	0x000200A8	4C4080E7	JALR	0x04C4(ra)	
1514	0x000200AC	00048993	MV	s3, s1	
1515	0x000200B0	F95FF06F	J	.L1	; 0x00020044
1516					
1517	.L5:				
1518	0x000200B4	00000713	LI	a4, 0	
1519	0x000200B8	02700693	LI	a3, 39	
1520	0x000200BC	00008637	LI	a2, 0x8000	
1521	0x000200C0	02B00593	LI	a1, 43	
1522	0x000200C4	05E00513	LI	a0, 94	
1523	0x000200C8	00001837	LI	a6, 0x1000	
1524	0x000200CC	02000893	LI	a7, 32	
1525	0x000200D0	02300313	LI	t1, 35	
1526	0x000200D4	01C0006F	J	.L9	; 0x000200F0
1527					
1528	.L6:				
1529	0x000200D8	08B78863	BEQ	a5, a1, .L15	; 0x00020168
1530	0x000200DC	02A79663	BNE	a5, a0, .L10	; 0x00020108
1531	0x000200E0	01076733	OR	a4, a4, a6	
1532	0x000200E4	0080006F	J	.L8	; 0x000200EC
1533					
1534	.L7:				
1535	0x000200E8	04076713	ORI	a4, a4, 64	
1536					
1537	.L8:				
1538	0x000200EC	00098493	MV	s1, s3	
1539					
1540	.L9:				
1541	0x000200F0	00148993	ADDI	s3, s1, 1	
1542	0x000200F4	FFF9C783	LBU	a5, -1(s3)	
1543	0x000200F8	06D78463	BEQ	a5, a3, .L14	; 0x00020160
1544	0x000200FC	FCF6EEE3	BLTU	a3, a5, .L6	; 0x000200D8
1545	0x00020100	FF1784E3	BEQ	a5, a7, .L7	; 0x000200E8

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1546      0x00020104  04678A63      BEQ          a5, t1, .L13          ; 0x00020158
1547
1548  .L10:
1549      0x00020108  07400693      LI           a3, 116
1550      0x0002010C  00D78663      BEQ          a5, a3, .L11          ; 0x00020118
1551      0x00020110  07A00693      LI           a3, 122
1552      0x00020114  04D79E63      BNE          a5, a3, .L16          ; 0x00020170
1553
1554  .L11:
1555      0x00020118  0009C783      LBU          a5, 0(s3)
1556      0x0002011C  00248993      ADDI         s3, s1, 2
1557
1558  .L12:
1559      0x00020120  06900693      LI           a3, 105
1560      0x00020124  08D78463      BEQ          a5, a3, .L19          ; 0x000201AC
1561      0x00020128  08F6EA63      BLTU         a3, a5, .L21          ; 0x000201BC
1562      0x0002012C  05800693      LI           a3, 88
1563      0x00020130  18D78E63      BEQ          a5, a3, .L34          ; 0x000202CC
1564      0x00020134  06F6E463      BLTU         a3, a5, .L18          ; 0x0002019C
1565      0x00020138  3C078C63      BEQZ         a5, .L63              ; 0x00020510
1566      0x0002013C  02500713      LI           a4, 37
1567      0x00020140  F0E792E3      BNE          a5, a4, .L1          ; 0x00020044
1568      0x00020144  02500593      LI           a1, 37
1569      0x00020148  00090513      MV           a0, s2
1570      0x0002014C  00000097      AUIPC        ra, 0              ; 0x00020568 =
      __SEGGER_RTL_putc
1571      0x00020150  41C080E7      JALR         0x041C(ra)
1572      0x00020154  EF1FF06F      J            .L1              ; 0x00020044
1573
1574  .L13:
1575      0x00020158  08076713      ORI          a4, a4, 128
1576      0x0002015C  F91FF06F      J            .L8              ; 0x000200EC
1577
1578  .L14:
1579      0x00020160  00C76733      OR           a4, a4, a2
1580      0x00020164  F89FF06F      J            .L8              ; 0x000200EC
1581
1582  .L15:
1583      0x00020168  02076713      ORI          a4, a4, 32
1584      0x0002016C  F81FF06F      J            .L8              ; 0x000200EC
1585
1586  .L16:
1587      0x00020170  06800693      LI           a3, 104
1588      0x00020174  FAD796E3      BNE          a5, a3, .L12          ; 0x00020120
1589      0x00020178  0009C783      LBU          a5, 0(s3)
1590      0x0002017C  00D79A63      BNE          a5, a3, .L17          ; 0x00020190
1591      0x00020180  0019C783      LBU          a5, 1(s3)
1592      0x00020184  00876713      ORI          a4, a4, 8
1593      0x00020188  00298993      ADDI         s3, s3, 2
1594      0x0002018C  F95FF06F      J            .L12              ; 0x00020120
1595
1596  .L17:
1597      0x00020190  00248993      ADDI         s3, s1, 2
1598      0x00020194  00476713      ORI          a4, a4, 4
1599      0x00020198  F89FF06F      J            .L12              ; 0x00020120
1600
1601  .L18:

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1602	0x0002019C	06300693	LI	a3, 99	
1603	0x000201A0	08D78463	BEQ	a5, a3, .L24	; 0x00020228
1604	0x000201A4	06400693	LI	a3, 100	
1605	0x000201A8	E8D79EE3	BNE	a5, a3, .L1	; 0x00020044
1606					
1607	.L19:				
1608	0x000201AC	000046B7	LI	a3, 0x4000	
1609	0x000201B0	00D76733	OR	a4, a4, a3	
1610					
1611	.L20:				
1612	0x000201B4	00000493	LI	s1, 0	
1613	0x000201B8	1380006F	J	.L36	; 0x000202F0
1614					
1615	.L21:				
1616	0x000201BC	07000693	LI	a3, 112	
1617	0x000201C0	0AD78463	BEQ	a5, a3, .L28	; 0x00020268
1618	0x000201C4	02F6E463	BLTU	a3, a5, .L22	; 0x000201EC
1619	0x000201C8	06E00693	LI	a3, 110	
1620	0x000201CC	06D78C63	BEQ	a5, a3, .L26	; 0x00020244
1621	0x000201D0	06F00693	LI	a3, 111	
1622	0x000201D4	E6D798E3	BNE	a5, a3, .L1	; 0x00020044
1623	0x000201D8	08077693	ANDI	a3, a4, 128	
1624	0x000201DC	00000493	LI	s1, 0	
1625	0x000201E0	10068863	BEQZ	a3, .L36	; 0x000202F0
1626	0x000201E4	03000493	LI	s1, 48	
1627	0x000201E8	1080006F	J	.L36	; 0x000202F0
1628					
1629	.L22:				
1630	0x000201EC	07500693	LI	a3, 117	
1631	0x000201F0	FCD782E3	BEQ	a5, a3, .L20	; 0x000201B4
1632	0x000201F4	07800693	LI	a3, 120	
1633	0x000201F8	0CD78E63	BEQ	a5, a3, .L35	; 0x000202D4
1634	0x000201FC	07300713	LI	a4, 115	
1635	0x00020200	E4E792E3	BNE	a5, a4, .L1	; 0x00020044
1636	0x00020204	00440493	ADDI	s1, s0, 4	
1637	0x00020208	00042403	LW	s0, 0(s0)	
1638					
1639	.L23:				
1640	0x0002020C	00140413	ADDI	s0, s0, 1	
1641	0x00020210	FFF44583	LBU	a1, -1(s0)	
1642	0x00020214	02058463	BEQZ	a1, .L25	; 0x0002023C
1643	0x00020218	00090513	MV	a0, s2	
1644	0x0002021C	00000097	AUIPC	ra, 0	; 0x00020568 =
	__SEGGER_RTL_putc				
1645	0x00020220	34C080E7	JALR	0x034C(ra)	
1646	0x00020224	FE9FF06F	J	.L23	; 0x0002020C
1647					
1648	.L24:				
1649	0x00020228	00044583	LBU	a1, 0(s0)	
1650	0x0002022C	00090513	MV	a0, s2	
1651	0x00020230	00440493	ADDI	s1, s0, 4	
1652	0x00020234	00000097	AUIPC	ra, 0	; 0x00020568 =
	__SEGGER_RTL_putc				
1653	0x00020238	334080E7	JALR	0x0334(ra)	
1654					
1655	.L25:				
1656	0x0002023C	00048413	MV	s0, s1	

1657	0x00020240	E05FF06F	J	.L1		; 0x00020044
1658						
1659	.L26:					
1660	0x00020244	00877713	ANDI	a4, a4, 8		
1661	0x00020248	00042783	LW	a5, 0(s0)		
1662	0x0002024C	00092683	LW	a3, 0(s2)		
1663	0x00020250	00440413	ADDI	s0, s0, 4		
1664	0x00020254	00070663	BEQZ	a4, .L27		; 0x00020260
1665	0x00020258	00D78023	SB	a3, 0(a5)		
1666	0x0002025C	DE9FF06F	J	.L1		; 0x00020044
1667						
1668	.L27:					
1669	0x00020260	00D7A023	SW	a3, 0(a5)		
1670	0x00020264	DE1FF06F	J	.L1		; 0x00020044
1671						
1672	.L28:					
1673	0x00020268	08077793	ANDI	a5, a4, 128		
1674	0x0002026C	00440B13	ADDI	s6, s0, 4		
1675	0x00020270	00042683	LW	a3, 0(s0)		
1676	0x00020274	00000493	LI	s1, 0		
1677	0x00020278	00078463	BEQZ	a5, .L29		; 0x00020280
1678	0x0002027C	02300493	LI	s1, 35		
1679						
1680	.L29:					
1681	0x00020280	10076713	ORI	a4, a4, 0x0100		
1682						
1683	.L30:					
1684	0x00020284	00000413	LI	s0, 0		
1685	0x00020288	00069863	BNEZ	a3, .L31		; 0x00020298
1686	0x0002028C	03000793	LI	a5, 48		
1687	0x00020290	00F10223	SB	a5, 4(sp)		
1688	0x00020294	00100413	LI	s0, 1		
1689						
1690	.L31:					
1691	0x00020298	000027B7	LI	a5, 0x2000		
1692	0x0002029C	00F77733	AND	a4, a4, a5		
1693						
1694	.L32:					
1695	0x000202A0	10068263	BEQZ	a3, .L44		; 0x000203A4
1696	0x000202A4	00F6F793	ANDI	a5, a3, 15		
1697	0x000202A8	18070263	BEQZ	a4, .L50		; 0x0002042C
1698	0x000202AC	00FA87B3	ADD	a5, s5, a5		
1699						
1700	.L33:					
1701	0x000202B0	0007C783	LBU	a5, 0(a5)		
1702	0x000202B4	00410613	ADDI	a2, sp, 4		
1703	0x000202B8	00860633	ADD	a2, a2, s0		
1704	0x000202BC	00F60023	SB	a5, 0(a2)		
1705	0x000202C0	00140413	ADDI	s0, s0, 1		
1706	0x000202C4	0046D693	SRLI	a3, a3, 4		
1707	0x000202C8	FD9FF06F	J	.L32		; 0x000202A0
1708						
1709	.L34:					
1710	0x000202CC	000026B7	LI	a3, 0x2000		
1711	0x000202D0	00D76733	OR	a4, a4, a3		
1712						
1713	.L35:					

1714	0x000202D4	08077693	ANDI	a3, a4, 128	
1715	0x000202D8	00000493	LI	s1, 0	
1716	0x000202DC	00068A63	BEQZ	a3, .L36	; 0x000202F0
1717	0x000202E0	07800693	LI	a3, 120	
1718	0x000202E4	000034B7	LI	s1, 0x3000	
1719	0x000202E8	06D78863	BEQ	a5, a3, .L40	; 0x00020358
1720	0x000202EC	05848493	ADDI	s1, s1, 88	
1721					
1722	.L36:				
1723	0x000202F0	01171693	SLLI	a3, a4, 17	
1724	0x000202F4	00477593	ANDI	a1, a4, 4	
1725	0x000202F8	00440B13	ADDI	s6, s0, 4	
1726	0x000202FC	0E06D063	BGEZ	a3, .L46	; 0x000203DC
1727	0x00020300	00042683	LW	a3, 0(s0)	
1728	0x00020304	04058E63	BEQZ	a1, .L41	; 0x00020360
1729	0x00020308	01069693	SLLI	a3, a3, 16	
1730	0x0002030C	4106D693	SRAI	a3, a3, 16	
1731					
1732	.L37:				
1733	0x00020310	0406DE63	BGEZ	a3, .L42	; 0x0002036C
1734	0x00020314	06F00613	LI	a2, 111	
1735	0x00020318	40D006B3	NEG	a3, a3	
1736	0x0002031C	10C78C63	BEQ	a5, a2, .L51	; 0x00020434
1737	0x00020320	0AF66063	BLTU	a2, a5, .L45	; 0x000203C0
1738	0x00020324	06400613	LI	a2, 100	
1739	0x00020328	14C78463	BEQ	a5, a2, .L54	; 0x00020470
1740	0x0002032C	06900613	LI	a2, 105	
1741	0x00020330	02D00493	LI	s1, 45	
1742	0x00020334	14C78063	BEQ	a5, a2, .L55	; 0x00020474
1743	0x00020338	05800613	LI	a2, 88	
1744					
1745	.L38:				
1746	0x0002033C	00000413	LI	s0, 0	
1747	0x00020340	F4C78CE3	BEQ	a5, a2, .L31	; 0x00020298
1748					
1749	.L39:				
1750	0x00020344	00048593	MV	a1, s1	
1751	0x00020348	00090513	MV	a0, s2	
1752	0x0002034C	00000097	AUIPC	ra, 0	; 0x00020568 =
	__SEGGER_RTL_putc				
1753	0x00020350	21C080E7	JALR	0x021C(ra)	
1754	0x00020354	18C0006F	J	.L60	; 0x000204E0
1755					
1756	.L40:				
1757	0x00020358	07848493	ADDI	s1, s1, 120	
1758	0x0002035C	F95FF06F	J	.L36	; 0x000202F0
1759					
1760	.L41:				
1761	0x00020360	00877613	ANDI	a2, a4, 8	
1762	0x00020364	FA0606E3	BEQZ	a2, .L37	; 0x00020310
1763	0x00020368	0FF6F693	ANDI	a3, a3, 255	
1764					
1765	.L42:				
1766	0x0002036C	02077613	ANDI	a2, a4, 32	
1767	0x00020370	1A061463	BNEZ	a2, .L64	; 0x00020518
1768	0x00020374	04077613	ANDI	a2, a4, 64	
1769	0x00020378	1C061863	BNEZ	a2, .L67	; 0x00020548

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1770
1771 .L43:
1772 0x0002037C 06F00613 LI a2, 111
1773 0x00020380 0AC78C63 BEQ a5, a2, .L52 ; 0x00020438
1774 0x00020384 08F66063 BLTU a2, a5, .L48 ; 0x00020404
1775 0x00020388 06400613 LI a2, 100
1776 0x0002038C 0EC78463 BEQ a5, a2, .L55 ; 0x00020474
1777 0x00020390 06900613 LI a2, 105
1778 0x00020394 0EC78063 BEQ a5, a2, .L55 ; 0x00020474
1779 0x00020398 05800613 LI a2, 88
1780 0x0002039C 00000413 LI s0, 0
1781 0x000203A0 EEC782E3 BEQ a5, a2, .L30 ; 0x00020284
1782
1783 .L44:
1784 0x000203A4 0FF00793 LI a5, 255
1785 0x000203A8 1297FA63 BGEU a5, s1, .L59 ; 0x000204DC
1786 0x000203AC 0084D593 SRLI a1, s1, 8
1787 0x000203B0 00090513 MV a0, s2
1788 0x000203B4 00000097 AUIPC ra, 0 ; 0x00020568 =
    __SEGGER_RTL_putc
1789 0x000203B8 1B4080E7 JALR 0x01B4(ra)
1790 0x000203BC F89FF06F J .L39 ; 0x00020344
1791
1792 .L45:
1793 0x000203C0 07500613 LI a2, 117
1794 0x000203C4 02D00493 LI s1, 45
1795 0x000203C8 0AC78663 BEQ a5, a2, .L55 ; 0x00020474
1796 0x000203CC 07800613 LI a2, 120
1797 0x000203D0 04C78A63 BEQ a5, a2, .L49 ; 0x00020424
1798 0x000203D4 07000613 LI a2, 112
1799 0x000203D8 F65FF06F J .L38 ; 0x0002033C
1800
1801 .L46:
1802 0x000203DC 00042603 LW a2, 0(s0)
1803 0x000203E0 00058863 BEQZ a1, .L47 ; 0x000203F0
1804 0x000203E4 01061693 SLLI a3, a2, 16
1805 0x000203E8 0106D693 SRLI a3, a3, 16
1806 0x000203EC F91FF06F J .L43 ; 0x0002037C
1807
1808 .L47:
1809 0x000203F0 00877593 ANDI a1, a4, 8
1810 0x000203F4 0FF67693 ANDI a3, a2, 255
1811 0x000203F8 F80592E3 BNEZ a1, .L43 ; 0x0002037C
1812 0x000203FC 00060693 MV a3, a2
1813 0x00020400 F7DFF06F J .L43 ; 0x0002037C
1814
1815 .L48:
1816 0x00020404 07500613 LI a2, 117
1817 0x00020408 06C78663 BEQ a5, a2, .L55 ; 0x00020474
1818 0x0002040C 07800613 LI a2, 120
1819 0x00020410 E6C78AE3 BEQ a5, a2, .L30 ; 0x00020284
1820 0x00020414 07000613 LI a2, 112
1821 0x00020418 00000413 LI s0, 0
1822 0x0002041C F8C794E3 BNE a5, a2, .L44 ; 0x000203A4
1823 0x00020420 E65FF06F J .L30 ; 0x00020284
1824
1825 .L49:

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1826	0x00020424	00000413	LI	s0, 0	
1827	0x00020428	E71FF06F	J	.L31	; 0x00020298
1828					
1829	.L50:				
1830	0x0002042C	00FA07B3	ADD	a5, s4, a5	
1831	0x00020430	E81FF06F	J	.L33	; 0x000202B0
1832					
1833	.L51:				
1834	0x00020434	02D00493	LI	s1, 45	
1835					
1836	.L52:				
1837	0x00020438	00000413	LI	s0, 0	
1838	0x0002043C	00069863	BNEZ	a3, .L53	; 0x0002044C
1839	0x00020440	03000793	LI	a5, 48	
1840	0x00020444	00F10223	SB	a5, 4(sp)	
1841	0x00020448	00100413	LI	s0, 1	
1842					
1843	.L53:				
1844	0x0002044C	F4068CE3	BEQZ	a3, .L44	; 0x000203A4
1845	0x00020450	00410793	ADDI	a5, sp, 4	
1846	0x00020454	00878733	ADD	a4, a5, s0	
1847	0x00020458	0076F793	ANDI	a5, a3, 7	
1848	0x0002045C	03078793	ADDI	a5, a5, 48	
1849	0x00020460	00F70023	SB	a5, 0(a4)	
1850	0x00020464	00140413	ADDI	s0, s0, 1	
1851	0x00020468	0036D693	SRLI	a3, a3, 3	
1852	0x0002046C	FE1FF06F	J	.L53	; 0x0002044C
1853					
1854	.L54:				
1855	0x00020470	02D00493	LI	s1, 45	
1856					
1857	.L55:				
1858	0x00020474	00000413	LI	s0, 0	
1859	0x00020478	00069863	BNEZ	a3, .L56	; 0x00020488
1860	0x0002047C	03000793	LI	a5, 48	
1861	0x00020480	00F10223	SB	a5, 4(sp)	
1862	0x00020484	00100413	LI	s0, 1	
1863					
1864	.L56:				
1865	0x00020488	000087B7	LI	a5, 0x8000	
1866	0x0002048C	00F77733	AND	a4, a4, a5	
1867	0x00020490	00300593	LI	a1, 3	
1868	0x00020494	02C00513	LI	a0, 44	
1869	0x00020498	00A00613	LI	a2, 10	
1870					
1871	.L57:				
1872	0x0002049C	F00684E3	BEQZ	a3, .L44	; 0x000203A4
1873	0x000204A0	00070E63	BEQZ	a4, .L58	; 0x000204BC
1874	0x000204A4	00347793	ANDI	a5, s0, 3	
1875	0x000204A8	00B79A63	BNE	a5, a1, .L58	; 0x000204BC
1876	0x000204AC	01010793	ADDI	a5, sp, 16	
1877	0x000204B0	008787B3	ADD	a5, a5, s0	
1878	0x000204B4	FEA78A23	SB	a0, -12(a5)	
1879	0x000204B8	00140413	ADDI	s0, s0, 1	
1880					
1881	.L58:				
1882	0x000204BC	01010793	ADDI	a5, sp, 16	

1883	0x000204C0	00878833	ADD	a6, a5, s0	
1884	0x000204C4	02C6F7B3	REMU	a5, a3, a2	
1885	0x000204C8	00140413	ADDI	s0, s0, 1	
1886	0x000204CC	03078793	ADDI	a5, a5, 48	
1887	0x000204D0	FEF80A23	SB	a5, -12(a6)	
1888	0x000204D4	02C6D6B3	DIVU	a3, a3, a2	
1889	0x000204D8	FC5FF06F	J	.L57	; 0x0002049C
1890					
1891	.L59:				
1892	0x000204DC	E60494E3	BNEZ	s1, .L39	; 0x00020344
1893					
1894	.L60:				
1895	0x000204E0	FFF00493	LI	s1, -1	
1896					
1897	.L61:				
1898	0x000204E4	FFF40413	ADDI	s0, s0, -1	
1899	0x000204E8	00941663	BNE	s0, s1, .L62	; 0x000204F4
1900	0x000204EC	000B0413	MV	s0, s6	
1901	0x000204F0	B55FF06F	J	.L1	; 0x00020044
1902					
1903	.L62:				
1904	0x000204F4	00410793	ADDI	a5, sp, 4	
1905	0x000204F8	008787B3	ADD	a5, a5, s0	
1906	0x000204FC	0007C583	LBU	a1, 0(a5)	
1907	0x00020500	00090513	MV	a0, s2	
1908	0x00020504	00000097	AUIPC	ra, 0	; 0x00020568 =
	__SEgger_RTL_putc				
1909	0x00020508	064080E7	JALR	100(ra)	
1910	0x0002050C	FD9FF06F	J	.L61	; 0x000204E4
1911					
1912	.L63:				
1913	0x00020510	FFF00513	LI	a0, -1	
1914	0x00020514	B5DFF06F	J	.L3	; 0x00020070
1915					
1916	.L64:				
1917	0x00020518	02B00493	LI	s1, 43	
1918					
1919	.L65:				
1920	0x0002051C	06F00613	LI	a2, 111	
1921	0x00020520	F0C78CE3	BEQ	a5, a2, .L52	; 0x00020438
1922	0x00020524	02F66663	BLTU	a2, a5, .L68	; 0x00020550
1923	0x00020528	06400613	LI	a2, 100	
1924	0x0002052C	F4C784E3	BEQ	a5, a2, .L55	; 0x00020474
1925	0x00020530	06900613	LI	a2, 105	
1926	0x00020534	F4C780E3	BEQ	a5, a2, .L55	; 0x00020474
1927	0x00020538	05800613	LI	a2, 88	
1928					
1929	.L66:				
1930	0x0002053C	00000413	LI	s0, 0	
1931	0x00020540	E0C792E3	BNE	a5, a2, .L39	; 0x00020344
1932	0x00020544	D41FF06F	J	.L30	; 0x00020284
1933					
1934	.L67:				
1935	0x00020548	02000493	LI	s1, 32	
1936	0x0002054C	FD1FF06F	J	.L65	; 0x0002051C
1937					
1938	.L68:				


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1939      0x00020550  07500613      LI      a2, 117
1940      0x00020554  F2C780E3      BEQ     a5, a2, .L55      ; 0x00020474
1941      0x00020558  07800613      LI      a2, 120
1942      0x0002055C  D2C784E3      BEQ     a5, a2, .L30      ; 0x00020284
1943      0x00020560  07000613      LI      a2, 112
1944      0x00020564  FD9FF06F      J       .L66      ; 0x0002053C
1945
1946
1947      ;=====
=====
1948      ; .text.libc.__SEGGER_RTL_putc
1949      ;=====
=====
1950      ; Module:      prinops.o (libc_rv32ima_small.a)
1951      ; Attributes: read-only, executable (SHF_EXECINSTR), allocatable
(SHF_ALLOC), %progbits
1952      ; Size:       160 (0xa0) bytes
1953      ; Align:     4 bytes
1954      ;
1955      ; Used by:
1956      ; 0x00020000  __SEGGER_RTL_vfprintf_int_nwp ()
1957
1958      __SEGGER_RTL_putc:
1959      0x00020568  FF010113      ADDI    sp, sp, -16
1960      0x0002056C  00812423      SW     s0, 8(sp)
1961      0x00020570  00050413      MV     s0, a0
1962      0x00020574  00C42703      LW     a4, 12(s0)
1963      0x00020578  00112623      SW     ra, 12(sp)
1964      0x0002057C  00058513      MV     a0, a1
1965      0x00020580  00042783      LW     a5, 0(s0)
1966      0x00020584  02070E63      BEQZ   a4, .L3      ; 0x000205C0
1967      0x00020588  00442683      LW     a3, 4(s0)
1968      0x0002058C  00178613      ADDI   a2, a5, 1
1969      0x00020590  00D61463      BNE    a2, a3, .L1      ; 0x00020598
1970      0x00020594  00000513      LI     a0, 0
1971
1972      .L1:
1973      0x00020598  00D7F663      BGEU   a5, a3, .L2      ; 0x000205A4
1974      0x0002059C  00F707B3      ADD    a5, a4, a5
1975      0x000205A0  00A78023      SB     a0, 0(a5)
1976
1977      .L2:
1978      0x000205A4  00042783      LW     a5, 0(s0)
1979      0x000205A8  00C12083      LW     ra, 12(sp)
1980      0x000205AC  00178793      ADDI   a5, a5, 1
1981      0x000205B0  00F42023      SW     a5, 0(s0)
1982      0x000205B4  00812403      LW     s0, 8(sp)
1983      0x000205B8  01010113      ADDI   sp, sp, 16
1984      0x000205BC  00008067      RET
1985
1986      .L3:
1987      0x000205C0  00842703      LW     a4, 8(s0)
1988      0x000205C4  02070463      BEQZ   a4, .L5      ; 0x000205EC
1989      0x000205C8  00442683      LW     a3, 4(s0)
1990      0x000205CC  00178613      ADDI   a2, a5, 1
1991      0x000205D0  00D61463      BNE    a2, a3, .L4      ; 0x000205D8
1992      0x000205D4  00000513      LI     a0, 0

```

```

1993
1994 .L4:
1995 0x000205D8 FCD7F6E3 BGEU a5, a3, .L2 ; 0x000205A4
1996 0x000205DC 00279793 SLLI a5, a5, 2
1997 0x000205E0 00F707B3 ADD a5, a4, a5
1998 0x000205E4 00A7A023 SW a0, 0(a5)
1999 0x000205E8 FBDF06F J .L2 ; 0x000205A4
2000
2001 .L5:
2002 0x000205EC 01042703 LW a4, 16(s0)
2003 0x000205F0 FA070AE3 BEQZ a4, .L2 ; 0x000205A4
2004 0x000205F4 00442683 LW a3, 4(s0)
2005 0x000205F8 FAD7F6E3 BGEU a5, a3, .L2 ; 0x000205A4
2006 0x000205FC 00040593 MV a1, s0
2007 0x00020600 000700E7 JALR a4
2008 0x00020604 FA1FF06F J .L2 ; 0x000205A4
2009
2010
2011 ;=====
=====
2012 ; .text. uart_printf
2013 ;=====
=====
2014 ; Module: segger_print.o (fpga_riscv_dcore_gp001_lib.a)
2015 ; Attributes: read-only, executable (SHF_EXECINSTR), allocatable
(SHF_ALLOC), %progbits
2016 ; Size: 88 (0x58) bytes
2017 ; Align: 4 bytes
2018 ;
2019 ; Uses:
2020 ; 0x0002069C app_uart_put ()
2021 ; 0x00020660 vsnprintf ()
2022 ;
2023 ; Used by:
2024 ; 0x00000074 main ()
2025
2026 uart_printf:
2027 0x00020608 F7010113 ADDI sp, sp, -144
2028 0x0002060C 06112623 SW ra, 108(sp)
2029 0x00020610 06B12A23 SW a1, 116(sp)
2030 0x00020614 06C12C23 SW a2, 120(sp)
2031 0x00020618 06D12E23 SW a3, 124(sp)
2032 0x0002061C 08E12023 SW a4, 128(sp)
2033 0x00020620 08F12223 SW a5, 132(sp)
2034 0x00020624 09012423 SW a6, 136(sp)
2035 0x00020628 09112623 SW a7, 140(sp)
2036 0x0002062C 07410693 ADDI a3, sp, 116
2037 0x00020630 00D12623 SW a3, 12(sp)
2038 0x00020634 00050613 MV a2, a0
2039 0x00020638 05000593 LI a1, 80
2040 0x0002063C 01010513 ADDI a0, sp, 16
2041 0x00020640 00000097 AUIPC ra, 0 ; 0x00020660 =
vsnprintf
2042 0x00020644 020080E7 JALR 32(ra)
2043 0x00020648 01010513 ADDI a0, sp, 16
2044 0x0002064C 00000097 AUIPC ra, 0 ; 0x0002069C =
app_uart_put

```

```

2045      0x00020650  050080E7      JALR      80(ra)
2046      0x00020654  06C12083      LW        ra, 108(sp)
2047      0x00020658  09010113      ADDI      sp, sp, 144
2048      0x0002065C  00008067      RET
2049
2050
2051      ;=====
=====
2052      ; .text.libc.vsnprintf
2053      ;=====
=====
2054      ; Module:      prinops.o (libc_rv32ima_small.a)
2055      ; Attributes: read-only, executable (SHF_EXECINSTR), allocatable
(SHF_ALLOC), %progbits
2056      ; Size:       60 (0x3c) bytes
2057      ; Align:      4 bytes
2058      ;
2059      ; Uses:
2060      ;   0x00020000  __SEGGER_RTL_vfprintf_int_nwp ()
2061      ;
2062      ; Used by:
2063      ;   0x00020608  uart_printf ()
2064
2065      vsnprintf:
2066      0x00020660  FD010113      ADDI      sp, sp, -48
2067      0x00020664  00060793      MV        a5, a2
2068      0x00020668  00A12C23      SW        a0, 24(sp)
2069      0x0002066C  00B12823      SW        a1, 16(sp)
2070      0x00020670  00C10513      ADDI      a0, sp, 12
2071      0x00020674  00068613      MV        a2, a3
2072      0x00020678  00078593      MV        a1, a5
2073      0x0002067C  02112623      SW        ra, 44(sp)
2074      0x00020680  00012A23      SW        zero, 20(sp)
2075      0x00020684  00012E23      SW        zero, 28(sp)
2076      0x00020688  00000097      AUIPC     ra, 0                                ; 0x00020000 =
__SEGGER_RTL_vfprintf
2077      0x0002068C  978080E7      JALR      -0x0688(ra)
2078      0x00020690  02C12083      LW        ra, 44(sp)
2079      0x00020694  03010113      ADDI      sp, sp, 48
2080      0x00020698  00008067      RET
2081
2082
2083      ;=====
=====
2084      ; .text.app_uart_put
2085      ;=====
=====
2086      ; Module:      segger_print.o (fpga_riscv_dcore_gp001_lib.a)
2087      ; Attributes: read-only, executable (SHF_EXECINSTR), allocatable
(SHF_ALLOC), %progbits
2088      ; Size:       32 (0x20) bytes
2089      ; Align:      4 bytes
2090      ;
2091      ; Used by:
2092      ;   0x00020608  uart_printf ()
2093
2094      app_uart_put:

```

```

2095      0x0002069C  00054783      LBU      a5, 0(a0)
2096      0x000206A0  00078C63      BEQZ     a5, .L2      ; 0x000206B8
2097      0x000206A4  00042737      LI       a4, 0x042000
2098
2099      .L1:
2100      0x000206A8  00F72223      SW       a5, 4(a4)
2101      0x000206AC  00150513      ADDI     a0, a0, 1
2102      0x000206B0  00054783      LBU     a5, 0(a0)
2103      0x000206B4  FE079AE3      BNEZ     a5, .L1      ; 0x000206A8
2104
2105      .L2:
2106      0x000206B8  00008067      RET
2107
2108
2109      ;=====
=====
2110      ; .rodata.libc.__SEGGER_RTL_hex_uc
2111      ;=====
=====
2112      ; Module:      __SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a)
2113      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2114      ; Size:        16 bytes
2115      ; Align:       4 bytes
2116
2117      __SEGGER_RTL_hex_uc:
2118      0x00020800  30      DC8      0x30      ; '0'
2119      0x00020801  31      DC8      0x31      ; '1'
2120      0x00020802  32      DC8      0x32      ; '2'
2121      0x00020803  33      DC8      0x33      ; '3'
2122      0x00020804  34      DC8      0x34      ; '4'
2123      0x00020805  35      DC8      0x35      ; '5'
2124      0x00020806  36      DC8      0x36      ; '6'
2125      0x00020807  37      DC8      0x37      ; '7'
2126      0x00020808  38      DC8      0x38      ; '8'
2127      0x00020809  39      DC8      0x39      ; '9'
2128      0x0002080A  41      DC8      0x41      ; 'A'
2129      0x0002080B  42      DC8      0x42      ; 'B'
2130      0x0002080C  43      DC8      0x43      ; 'C'
2131      0x0002080D  44      DC8      0x44      ; 'D'
2132      0x0002080E  45      DC8      0x45      ; 'E'
2133      0x0002080F  46      DC8      0x46      ; 'F'
2134
2135
2136      ;=====
=====
2137      ; .rodata.libc.__SEGGER_RTL_hex_uc
2138      ;=====
=====
2139      ; Module:      __SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)
2140      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2141      ; Size:        16 bytes
2142      ; Align:       4 bytes
2143      ;
2144      ; Used by:
2145      ; 0x00020000  __SEGGER_RTL_vfprintf_int_nwp ()
2146
2147      __SEGGER_RTL_hex_uc:

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```

2148      0x00020810  30          DC8          0x30          ; '0'
2149      0x00020811  31          DC8          0x31          ; '1'
2150      0x00020812  32          DC8          0x32          ; '2'
2151      0x00020813  33          DC8          0x33          ; '3'
2152      0x00020814  34          DC8          0x34          ; '4'
2153      0x00020815  35          DC8          0x35          ; '5'
2154      0x00020816  36          DC8          0x36          ; '6'
2155      0x00020817  37          DC8          0x37          ; '7'
2156      0x00020818  38          DC8          0x38          ; '8'
2157      0x00020819  39          DC8          0x39          ; '9'
2158      0x0002081A  41          DC8          0x41          ; 'A'
2159      0x0002081B  42          DC8          0x42          ; 'B'
2160      0x0002081C  43          DC8          0x43          ; 'C'
2161      0x0002081D  44          DC8          0x44          ; 'D'
2162      0x0002081E  45          DC8          0x45          ; 'E'
2163      0x0002081F  46          DC8          0x46          ; 'F'
2164
2165
2166      ;=====
      =====
2167      ; .rodata.libc.__SEGGER_RTL_hex_uc
2168      ;=====
      =====
2169      ; Module:      __SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a)
2170      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2171      ; Size:       16 bytes
2172      ; Align:     4 bytes
2173
2174      __SEGGER_RTL_hex_uc:
2175      0x00020820  30          DC8          0x30          ; '0'
2176      0x00020821  31          DC8          0x31          ; '1'
2177      0x00020822  32          DC8          0x32          ; '2'
2178      0x00020823  33          DC8          0x33          ; '3'
2179      0x00020824  34          DC8          0x34          ; '4'
2180      0x00020825  35          DC8          0x35          ; '5'
2181      0x00020826  36          DC8          0x36          ; '6'
2182      0x00020827  37          DC8          0x37          ; '7'
2183      0x00020828  38          DC8          0x38          ; '8'
2184      0x00020829  39          DC8          0x39          ; '9'
2185      0x0002082A  41          DC8          0x41          ; 'A'
2186      0x0002082B  42          DC8          0x42          ; 'B'
2187      0x0002082C  43          DC8          0x43          ; 'C'
2188      0x0002082D  44          DC8          0x44          ; 'D'
2189      0x0002082E  45          DC8          0x45          ; 'E'
2190      0x0002082F  46          DC8          0x46          ; 'F'
2191
2192
2193      ;=====
      =====
2194      ; .rodata.libc.__SEGGER_RTL_hex_uc
2195      ;=====
      =====
2196      ; Module:      __SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a)
2197      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2198      ; Size:       16 bytes
2199      ; Align:     4 bytes
2200

```

```

2201 __SEGGER_RTL_hex_uc:
2202 0x00020830 30 DC8 0x30 ; '0'
2203 0x00020831 31 DC8 0x31 ; '1'
2204 0x00020832 32 DC8 0x32 ; '2'
2205 0x00020833 33 DC8 0x33 ; '3'
2206 0x00020834 34 DC8 0x34 ; '4'
2207 0x00020835 35 DC8 0x35 ; '5'
2208 0x00020836 36 DC8 0x36 ; '6'
2209 0x00020837 37 DC8 0x37 ; '7'
2210 0x00020838 38 DC8 0x38 ; '8'
2211 0x00020839 39 DC8 0x39 ; '9'
2212 0x0002083A 41 DC8 0x41 ; 'A'
2213 0x0002083B 42 DC8 0x42 ; 'B'
2214 0x0002083C 43 DC8 0x43 ; 'C'
2215 0x0002083D 44 DC8 0x44 ; 'D'
2216 0x0002083E 45 DC8 0x45 ; 'E'
2217 0x0002083F 46 DC8 0x46 ; 'F'
2218
2219
2220 ;=====
=====
2221 ; .rodata.libc.__SEGGER_RTL_hex_uc
2222 ;=====
=====
2223 ; Module: __SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a)
2224 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2225 ; Size: 16 bytes
2226 ; Align: 4 bytes
2227
2228 __SEGGER_RTL_hex_uc:
2229 0x00020840 30 DC8 0x30 ; '0'
2230 0x00020841 31 DC8 0x31 ; '1'
2231 0x00020842 32 DC8 0x32 ; '2'
2232 0x00020843 33 DC8 0x33 ; '3'
2233 0x00020844 34 DC8 0x34 ; '4'
2234 0x00020845 35 DC8 0x35 ; '5'
2235 0x00020846 36 DC8 0x36 ; '6'
2236 0x00020847 37 DC8 0x37 ; '7'
2237 0x00020848 38 DC8 0x38 ; '8'
2238 0x00020849 39 DC8 0x39 ; '9'
2239 0x0002084A 41 DC8 0x41 ; 'A'
2240 0x0002084B 42 DC8 0x42 ; 'B'
2241 0x0002084C 43 DC8 0x43 ; 'C'
2242 0x0002084D 44 DC8 0x44 ; 'D'
2243 0x0002084E 45 DC8 0x45 ; 'E'
2244 0x0002084F 46 DC8 0x46 ; 'F'
2245
2246
2247 ;=====
=====
2248 ; .rodata.libc.__SEGGER_RTL_hex_uc
2249 ;=====
=====
2250 ; Module: __SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a)
2251 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2252 ; Size: 16 bytes
2253 ; Align: 4 bytes

```

```

2254
2255  __SEGGER_RTL_hex_uc:
2256  0x00020850  30          DC8          0x30          ; '0'
2257  0x00020851  31          DC8          0x31          ; '1'
2258  0x00020852  32          DC8          0x32          ; '2'
2259  0x00020853  33          DC8          0x33          ; '3'
2260  0x00020854  34          DC8          0x34          ; '4'
2261  0x00020855  35          DC8          0x35          ; '5'
2262  0x00020856  36          DC8          0x36          ; '6'
2263  0x00020857  37          DC8          0x37          ; '7'
2264  0x00020858  38          DC8          0x38          ; '8'
2265  0x00020859  39          DC8          0x39          ; '9'
2266  0x0002085A  41          DC8          0x41          ; 'A'
2267  0x0002085B  42          DC8          0x42          ; 'B'
2268  0x0002085C  43          DC8          0x43          ; 'C'
2269  0x0002085D  44          DC8          0x44          ; 'D'
2270  0x0002085E  45          DC8          0x45          ; 'E'
2271  0x0002085F  46          DC8          0x46          ; 'F'
2272
2273
2274  ;=====
=====
2275  ; .rodata.libc.__SEGGER_RTL_hex_uc
2276  ;=====
=====
2277  ; Module:      __SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a)
2278  ; Attributes:  read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2279  ; Size:       16 bytes
2280  ; Align:      4 bytes
2281
2282  __SEGGER_RTL_hex_uc:
2283  0x00020860  30          DC8          0x30          ; '0'
2284  0x00020861  31          DC8          0x31          ; '1'
2285  0x00020862  32          DC8          0x32          ; '2'
2286  0x00020863  33          DC8          0x33          ; '3'
2287  0x00020864  34          DC8          0x34          ; '4'
2288  0x00020865  35          DC8          0x35          ; '5'
2289  0x00020866  36          DC8          0x36          ; '6'
2290  0x00020867  37          DC8          0x37          ; '7'
2291  0x00020868  38          DC8          0x38          ; '8'
2292  0x00020869  39          DC8          0x39          ; '9'
2293  0x0002086A  41          DC8          0x41          ; 'A'
2294  0x0002086B  42          DC8          0x42          ; 'B'
2295  0x0002086C  43          DC8          0x43          ; 'C'
2296  0x0002086D  44          DC8          0x44          ; 'D'
2297  0x0002086E  45          DC8          0x45          ; 'E'
2298  0x0002086F  46          DC8          0x46          ; 'F'
2299
2300
2301  ;=====
=====
2302  ; .rodata.libc.__SEGGER_RTL_hex_uc
2303  ;=====
=====
2304  ; Module:      __SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a)
2305  ; Attributes:  read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2306  ; Size:       16 bytes

```

```

2307 ; Align:      4 bytes
2308
2309 __SEGGER_RTL_hex_uc:
2310 0x00020870 30      DC8      0x30      ; '0'
2311 0x00020871 31      DC8      0x31      ; '1'
2312 0x00020872 32      DC8      0x32      ; '2'
2313 0x00020873 33      DC8      0x33      ; '3'
2314 0x00020874 34      DC8      0x34      ; '4'
2315 0x00020875 35      DC8      0x35      ; '5'
2316 0x00020876 36      DC8      0x36      ; '6'
2317 0x00020877 37      DC8      0x37      ; '7'
2318 0x00020878 38      DC8      0x38      ; '8'
2319 0x00020879 39      DC8      0x39      ; '9'
2320 0x0002087A 41      DC8      0x41      ; 'A'
2321 0x0002087B 42      DC8      0x42      ; 'B'
2322 0x0002087C 43      DC8      0x43      ; 'C'
2323 0x0002087D 44      DC8      0x44      ; 'D'
2324 0x0002087E 45      DC8      0x45      ; 'E'
2325 0x0002087F 46      DC8      0x46      ; 'F'
2326
2327
2328 ;=====
=====
2329 ; .rodata.libc.__SEGGER_RTL_hex_uc
2330 ;=====
=====
2331 ; Module:      __SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a)
2332 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2333 ; Size:       16 bytes
2334 ; Align:      4 bytes
2335
2336 __SEGGER_RTL_hex_uc:
2337 0x00020880 30      DC8      0x30      ; '0'
2338 0x00020881 31      DC8      0x31      ; '1'
2339 0x00020882 32      DC8      0x32      ; '2'
2340 0x00020883 33      DC8      0x33      ; '3'
2341 0x00020884 34      DC8      0x34      ; '4'
2342 0x00020885 35      DC8      0x35      ; '5'
2343 0x00020886 36      DC8      0x36      ; '6'
2344 0x00020887 37      DC8      0x37      ; '7'
2345 0x00020888 38      DC8      0x38      ; '8'
2346 0x00020889 39      DC8      0x39      ; '9'
2347 0x0002088A 41      DC8      0x41      ; 'A'
2348 0x0002088B 42      DC8      0x42      ; 'B'
2349 0x0002088C 43      DC8      0x43      ; 'C'
2350 0x0002088D 44      DC8      0x44      ; 'D'
2351 0x0002088E 45      DC8      0x45      ; 'E'
2352 0x0002088F 46      DC8      0x46      ; 'F'
2353
2354
2355 ;=====
=====
2356 ; .rodata.libc.__SEGGER_RTL_hex_uc
2357 ;=====
=====
2358 ; Module:      __SEGGER_RTL_vfprintf_short_float_long_long.o
(libc_rv32ima_small.a)

```


2359 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2360 ; Size: 16 bytes
2361 ; Align: 4 bytes

2362
2363 __SEGGER_RTL_hex_uc:
2364 0x00020890 30 DC8 0x30 ; '0'
2365 0x00020891 31 DC8 0x31 ; '1'
2366 0x00020892 32 DC8 0x32 ; '2'
2367 0x00020893 33 DC8 0x33 ; '3'
2368 0x00020894 34 DC8 0x34 ; '4'
2369 0x00020895 35 DC8 0x35 ; '5'
2370 0x00020896 36 DC8 0x36 ; '6'
2371 0x00020897 37 DC8 0x37 ; '7'
2372 0x00020898 38 DC8 0x38 ; '8'
2373 0x00020899 39 DC8 0x39 ; '9'
2374 0x0002089A 41 DC8 0x41 ; 'A'
2375 0x0002089B 42 DC8 0x42 ; 'B'
2376 0x0002089C 43 DC8 0x43 ; 'C'
2377 0x0002089D 44 DC8 0x44 ; 'D'
2378 0x0002089E 45 DC8 0x45 ; 'E'
2379 0x0002089F 46 DC8 0x46 ; 'F'

2380
2381
2382 ;=====

2383 ; .rodata.libc.__SEGGER_RTL_hex_uc
2384 ;=====

2385 ; Module: __SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a)
2386 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2387 ; Size: 16 bytes
2388 ; Align: 4 bytes

2389
2390 __SEGGER_RTL_hex_uc:
2391 0x000208A0 30 DC8 0x30 ; '0'
2392 0x000208A1 31 DC8 0x31 ; '1'
2393 0x000208A2 32 DC8 0x32 ; '2'
2394 0x000208A3 33 DC8 0x33 ; '3'
2395 0x000208A4 34 DC8 0x34 ; '4'
2396 0x000208A5 35 DC8 0x35 ; '5'
2397 0x000208A6 36 DC8 0x36 ; '6'
2398 0x000208A7 37 DC8 0x37 ; '7'
2399 0x000208A8 38 DC8 0x38 ; '8'
2400 0x000208A9 39 DC8 0x39 ; '9'
2401 0x000208AA 41 DC8 0x41 ; 'A'
2402 0x000208AB 42 DC8 0x42 ; 'B'
2403 0x000208AC 43 DC8 0x43 ; 'C'
2404 0x000208AD 44 DC8 0x44 ; 'D'
2405 0x000208AE 45 DC8 0x45 ; 'E'
2406 0x000208AF 46 DC8 0x46 ; 'F'

2407
2408
2409 ;=====

2410 ; .rodata.libc.__SEGGER_RTL_hex_uc
2411 ;=====

```
2412 ; Module:      __SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)
2413 ; Attributes:  read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2414 ; Size:       16 bytes
2415 ; Align:      4 bytes
```

```
2416
2417 __SEGGER_RTL_hex_uc:
2418 0x000208B0 30          DC8          0x30          ; '0'
2419 0x000208B1 31          DC8          0x31          ; '1'
2420 0x000208B2 32          DC8          0x32          ; '2'
2421 0x000208B3 33          DC8          0x33          ; '3'
2422 0x000208B4 34          DC8          0x34          ; '4'
2423 0x000208B5 35          DC8          0x35          ; '5'
2424 0x000208B6 36          DC8          0x36          ; '6'
2425 0x000208B7 37          DC8          0x37          ; '7'
2426 0x000208B8 38          DC8          0x38          ; '8'
2427 0x000208B9 39          DC8          0x39          ; '9'
2428 0x000208BA 41          DC8          0x41          ; 'A'
2429 0x000208BB 42          DC8          0x42          ; 'B'
2430 0x000208BC 43          DC8          0x43          ; 'C'
2431 0x000208BD 44          DC8          0x44          ; 'D'
2432 0x000208BE 45          DC8          0x45          ; 'E'
2433 0x000208BF 46          DC8          0x46          ; 'F'
```

```
2434
2435
2436 ;=====
=====
```

```
2437 ; .rodata.libc.__SEGGER_RTL_hex_uc
```

```
2438 ;=====
=====
```

```
2439 ; Module:      __SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)
2440 ; Attributes:  read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2441 ; Size:       16 bytes
2442 ; Align:      4 bytes
```

```
2443
2444 __SEGGER_RTL_hex_uc:
2445 0x000208C0 30          DC8          0x30          ; '0'
2446 0x000208C1 31          DC8          0x31          ; '1'
2447 0x000208C2 32          DC8          0x32          ; '2'
2448 0x000208C3 33          DC8          0x33          ; '3'
2449 0x000208C4 34          DC8          0x34          ; '4'
2450 0x000208C5 35          DC8          0x35          ; '5'
2451 0x000208C6 36          DC8          0x36          ; '6'
2452 0x000208C7 37          DC8          0x37          ; '7'
2453 0x000208C8 38          DC8          0x38          ; '8'
2454 0x000208C9 39          DC8          0x39          ; '9'
2455 0x000208CA 41          DC8          0x41          ; 'A'
2456 0x000208CB 42          DC8          0x42          ; 'B'
2457 0x000208CC 43          DC8          0x43          ; 'C'
2458 0x000208CD 44          DC8          0x44          ; 'D'
2459 0x000208CE 45          DC8          0x45          ; 'E'
2460 0x000208CF 46          DC8          0x46          ; 'F'
```

```
2461
2462
2463 ;=====
=====
```

```
2464 ; .rodata.libc.__SEGGER_RTL_hex_uc
```

```
2465 ;=====
=====
```

```

=====
2466 ; Module:      __SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)
2467 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2468 ; Size:       16 bytes
2469 ; Align:      4 bytes
2470
2471 __SEGGER_RTL_hex_uc:
2472 0x000208D0 30          DC8          0x30          ; '0'
2473 0x000208D1 31          DC8          0x31          ; '1'
2474 0x000208D2 32          DC8          0x32          ; '2'
2475 0x000208D3 33          DC8          0x33          ; '3'
2476 0x000208D4 34          DC8          0x34          ; '4'
2477 0x000208D5 35          DC8          0x35          ; '5'
2478 0x000208D6 36          DC8          0x36          ; '6'
2479 0x000208D7 37          DC8          0x37          ; '7'
2480 0x000208D8 38          DC8          0x38          ; '8'
2481 0x000208D9 39          DC8          0x39          ; '9'
2482 0x000208DA 41          DC8          0x41          ; 'A'
2483 0x000208DB 42          DC8          0x42          ; 'B'
2484 0x000208DC 43          DC8          0x43          ; 'C'
2485 0x000208DD 44          DC8          0x44          ; 'D'
2486 0x000208DE 45          DC8          0x45          ; 'E'
2487 0x000208DF 46          DC8          0x46          ; 'F'
2488
2489
2490 ;=====
=====
2491 ; .rodata.libc.__SEGGER_RTL_hex_uc
2492 ;=====
=====
2493 ; Module:      __SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)
2494 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2495 ; Size:       16 bytes
2496 ; Align:      4 bytes
2497
2498 __SEGGER_RTL_hex_uc:
2499 0x000208E0 30          DC8          0x30          ; '0'
2500 0x000208E1 31          DC8          0x31          ; '1'
2501 0x000208E2 32          DC8          0x32          ; '2'
2502 0x000208E3 33          DC8          0x33          ; '3'
2503 0x000208E4 34          DC8          0x34          ; '4'
2504 0x000208E5 35          DC8          0x35          ; '5'
2505 0x000208E6 36          DC8          0x36          ; '6'
2506 0x000208E7 37          DC8          0x37          ; '7'
2507 0x000208E8 38          DC8          0x38          ; '8'
2508 0x000208E9 39          DC8          0x39          ; '9'
2509 0x000208EA 41          DC8          0x41          ; 'A'
2510 0x000208EB 42          DC8          0x42          ; 'B'
2511 0x000208EC 43          DC8          0x43          ; 'C'
2512 0x000208ED 44          DC8          0x44          ; 'D'
2513 0x000208EE 45          DC8          0x45          ; 'E'
2514 0x000208EF 46          DC8          0x46          ; 'F'
2515
2516
2517 ;=====
=====
2518 ; .rodata.libc.__SEGGER_RTL_hex_uc

```

```

2519 ;=====
=====
2520 ; Module:      __SEGGER_RTL_vfprintf_long_long_nwp_wchar.o
(libc_rv32ima_small.a)
2521 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2522 ; Size:       16 bytes
2523 ; Align:      4 bytes
2524
2525 __SEGGER_RTL_hex_uc:
2526 0x000208F0 30          DC8          0x30          ; '0'
2527 0x000208F1 31          DC8          0x31          ; '1'
2528 0x000208F2 32          DC8          0x32          ; '2'
2529 0x000208F3 33          DC8          0x33          ; '3'
2530 0x000208F4 34          DC8          0x34          ; '4'
2531 0x000208F5 35          DC8          0x35          ; '5'
2532 0x000208F6 36          DC8          0x36          ; '6'
2533 0x000208F7 37          DC8          0x37          ; '7'
2534 0x000208F8 38          DC8          0x38          ; '8'
2535 0x000208F9 39          DC8          0x39          ; '9'
2536 0x000208FA 41          DC8          0x41          ; 'A'
2537 0x000208FB 42          DC8          0x42          ; 'B'
2538 0x000208FC 43          DC8          0x43          ; 'C'
2539 0x000208FD 44          DC8          0x44          ; 'D'
2540 0x000208FE 45          DC8          0x45          ; 'E'
2541 0x000208FF 46          DC8          0x46          ; 'F'
2542
2543
2544 ;=====
=====
2545 ; .rodata.libc.__SEGGER_RTL_hex_uc
2546 ;=====
=====
2547 ; Module:      __SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)
2548 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2549 ; Size:       16 bytes
2550 ; Align:      4 bytes
2551
2552 __SEGGER_RTL_hex_uc:
2553 0x00020900 30          DC8          0x30          ; '0'
2554 0x00020901 31          DC8          0x31          ; '1'
2555 0x00020902 32          DC8          0x32          ; '2'
2556 0x00020903 33          DC8          0x33          ; '3'
2557 0x00020904 34          DC8          0x34          ; '4'
2558 0x00020905 35          DC8          0x35          ; '5'
2559 0x00020906 36          DC8          0x36          ; '6'
2560 0x00020907 37          DC8          0x37          ; '7'
2561 0x00020908 38          DC8          0x38          ; '8'
2562 0x00020909 39          DC8          0x39          ; '9'
2563 0x0002090A 41          DC8          0x41          ; 'A'
2564 0x0002090B 42          DC8          0x42          ; 'B'
2565 0x0002090C 43          DC8          0x43          ; 'C'
2566 0x0002090D 44          DC8          0x44          ; 'D'
2567 0x0002090E 45          DC8          0x45          ; 'E'
2568 0x0002090F 46          DC8          0x46          ; 'F'
2569
2570
2571 ;=====
=====

```

```

=====
2572 ; .rodata.libc.__SEGGER_RTL_hex_uc
2573 ;=====
=====
2574 ; Module:      __SEGGER_RTL_vfprintf_float_long_long_wchar.o
(libc_rv32ima_small.a)
2575 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2576 ; Size:       16 bytes
2577 ; Align:      4 bytes
2578
2579 __SEGGER_RTL_hex_uc:
2580 0x00020910 30          DC8          0x30          ; '0'
2581 0x00020911 31          DC8          0x31          ; '1'
2582 0x00020912 32          DC8          0x32          ; '2'
2583 0x00020913 33          DC8          0x33          ; '3'
2584 0x00020914 34          DC8          0x34          ; '4'
2585 0x00020915 35          DC8          0x35          ; '5'
2586 0x00020916 36          DC8          0x36          ; '6'
2587 0x00020917 37          DC8          0x37          ; '7'
2588 0x00020918 38          DC8          0x38          ; '8'
2589 0x00020919 39          DC8          0x39          ; '9'
2590 0x0002091A 41          DC8          0x41          ; 'A'
2591 0x0002091B 42          DC8          0x42          ; 'B'
2592 0x0002091C 43          DC8          0x43          ; 'C'
2593 0x0002091D 44          DC8          0x44          ; 'D'
2594 0x0002091E 45          DC8          0x45          ; 'E'
2595 0x0002091F 46          DC8          0x46          ; 'F'
2596
2597
2598 ;=====
=====
2599 ; .rodata.libc.__SEGGER_RTL_hex_uc
2600 ;=====
=====
2601 ; Module:      __SEGGER_RTL_vfprintf_short_float_long_wchar.o
(libc_rv32ima_small.a)
2602 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2603 ; Size:       16 bytes
2604 ; Align:      4 bytes
2605
2606 __SEGGER_RTL_hex_uc:
2607 0x00020920 30          DC8          0x30          ; '0'
2608 0x00020921 31          DC8          0x31          ; '1'
2609 0x00020922 32          DC8          0x32          ; '2'
2610 0x00020923 33          DC8          0x33          ; '3'
2611 0x00020924 34          DC8          0x34          ; '4'
2612 0x00020925 35          DC8          0x35          ; '5'
2613 0x00020926 36          DC8          0x36          ; '6'
2614 0x00020927 37          DC8          0x37          ; '7'
2615 0x00020928 38          DC8          0x38          ; '8'
2616 0x00020929 39          DC8          0x39          ; '9'
2617 0x0002092A 41          DC8          0x41          ; 'A'
2618 0x0002092B 42          DC8          0x42          ; 'B'
2619 0x0002092C 43          DC8          0x43          ; 'C'
2620 0x0002092D 44          DC8          0x44          ; 'D'
2621 0x0002092E 45          DC8          0x45          ; 'E'
2622 0x0002092F 46          DC8          0x46          ; 'F'

```

```

2623
2624
2625 ;=====
=====
2626 ; .rodata.libc.__SEGGER_RTL_hex_uc
2627 ;=====
=====
2628 ; Module:      __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o
(libc_rv32ima_small.a)
2629 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2630 ; Size:       16 bytes
2631 ; Align:      4 bytes
2632
2633 __SEGGER_RTL_hex_uc:
2634 0x00020930 30      DC8      0x30      ; '0'
2635 0x00020931 31      DC8      0x31      ; '1'
2636 0x00020932 32      DC8      0x32      ; '2'
2637 0x00020933 33      DC8      0x33      ; '3'
2638 0x00020934 34      DC8      0x34      ; '4'
2639 0x00020935 35      DC8      0x35      ; '5'
2640 0x00020936 36      DC8      0x36      ; '6'
2641 0x00020937 37      DC8      0x37      ; '7'
2642 0x00020938 38      DC8      0x38      ; '8'
2643 0x00020939 39      DC8      0x39      ; '9'
2644 0x0002093A 41      DC8      0x41      ; 'A'
2645 0x0002093B 42      DC8      0x42      ; 'B'
2646 0x0002093C 43      DC8      0x43      ; 'C'
2647 0x0002093D 44      DC8      0x44      ; 'D'
2648 0x0002093E 45      DC8      0x45      ; 'E'
2649 0x0002093F 46      DC8      0x46      ; 'F'
2650
2651
2652 ;=====
=====
2653 ; .rodata.libc.__SEGGER_RTL_hex_lc
2654 ;=====
=====
2655 ; Module:      __SEGGER_RTL_vfprintf_int.o (libc_rv32ima_small.a)
2656 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2657 ; Size:       16 bytes
2658 ; Align:      4 bytes
2659
2660 __SEGGER_RTL_hex_lc:
2661 0x00020940 30      DC8      0x30      ; '0'
2662 0x00020941 31      DC8      0x31      ; '1'
2663 0x00020942 32      DC8      0x32      ; '2'
2664 0x00020943 33      DC8      0x33      ; '3'
2665 0x00020944 34      DC8      0x34      ; '4'
2666 0x00020945 35      DC8      0x35      ; '5'
2667 0x00020946 36      DC8      0x36      ; '6'
2668 0x00020947 37      DC8      0x37      ; '7'
2669 0x00020948 38      DC8      0x38      ; '8'
2670 0x00020949 39      DC8      0x39      ; '9'
2671 0x0002094A 61      DC8      0x61      ; 'a'
2672 0x0002094B 62      DC8      0x62      ; 'b'
2673 0x0002094C 63      DC8      0x63      ; 'c'
2674 0x0002094D 64      DC8      0x64      ; 'd'

```

```

2675     0x0002094E  65             DC8             0x65             ; 'e'
2676     0x0002094F  66             DC8             0x66             ; 'f'
2677
2678
2679 ;=====
=====
2680 ; .rodata.libc.__SEGGER_RTL_hex_lc
2681 ;=====
=====
2682 ; Module:      __SEGGER_RTL_vfprintf_int_nwp.o (libc_rv32ima_small.a)
2683 ; Attributes:  read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2684 ; Size:       16 bytes
2685 ; Align:      4 bytes
2686 ;
2687 ; Used by:
2688 ;   0x00020000 __SEGGER_RTL_vfprintf_int_nwp ()
2689
2690 __SEGGER_RTL_hex_lc:
2691     0x00020950  30             DC8             0x30             ; '0'
2692     0x00020951  31             DC8             0x31             ; '1'
2693     0x00020952  32             DC8             0x32             ; '2'
2694     0x00020953  33             DC8             0x33             ; '3'
2695     0x00020954  34             DC8             0x34             ; '4'
2696     0x00020955  35             DC8             0x35             ; '5'
2697     0x00020956  36             DC8             0x36             ; '6'
2698     0x00020957  37             DC8             0x37             ; '7'
2699     0x00020958  38             DC8             0x38             ; '8'
2700     0x00020959  39             DC8             0x39             ; '9'
2701     0x0002095A  61             DC8             0x61             ; 'a'
2702     0x0002095B  62             DC8             0x62             ; 'b'
2703     0x0002095C  63             DC8             0x63             ; 'c'
2704     0x0002095D  64             DC8             0x64             ; 'd'
2705     0x0002095E  65             DC8             0x65             ; 'e'
2706     0x0002095F  66             DC8             0x66             ; 'f'
2707
2708
2709 ;=====
=====
2710 ; .rodata.libc.__SEGGER_RTL_hex_lc
2711 ;=====
=====
2712 ; Module:      __SEGGER_RTL_vfprintf_long.o (libc_rv32ima_small.a)
2713 ; Attributes:  read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2714 ; Size:       16 bytes
2715 ; Align:      4 bytes
2716 ;
2717 __SEGGER_RTL_hex_lc:
2718     0x00020960  30             DC8             0x30             ; '0'
2719     0x00020961  31             DC8             0x31             ; '1'
2720     0x00020962  32             DC8             0x32             ; '2'
2721     0x00020963  33             DC8             0x33             ; '3'
2722     0x00020964  34             DC8             0x34             ; '4'
2723     0x00020965  35             DC8             0x35             ; '5'
2724     0x00020966  36             DC8             0x36             ; '6'
2725     0x00020967  37             DC8             0x37             ; '7'
2726     0x00020968  38             DC8             0x38             ; '8'
2727     0x00020969  39             DC8             0x39             ; '9'

```

```

2728      0x0002096A  61          DC8          0x61          ; 'a'
2729      0x0002096B  62          DC8          0x62          ; 'b'
2730      0x0002096C  63          DC8          0x63          ; 'c'
2731      0x0002096D  64          DC8          0x64          ; 'd'
2732      0x0002096E  65          DC8          0x65          ; 'e'
2733      0x0002096F  66          DC8          0x66          ; 'f'
2734
2735
2736      ;=====
=====
2737      ; .rodata.libc.__SEGGER_RTL_hex_lc
2738      ;=====
=====
2739      ; Module:      __SEGGER_RTL_vfprintf_long_nwp.o (libc_rv32ima_small.a)
2740      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2741      ; Size:       16 bytes
2742      ; Align:     4 bytes
2743
2744      __SEGGER_RTL_hex_lc:
2745      0x00020970  30          DC8          0x30          ; '0'
2746      0x00020971  31          DC8          0x31          ; '1'
2747      0x00020972  32          DC8          0x32          ; '2'
2748      0x00020973  33          DC8          0x33          ; '3'
2749      0x00020974  34          DC8          0x34          ; '4'
2750      0x00020975  35          DC8          0x35          ; '5'
2751      0x00020976  36          DC8          0x36          ; '6'
2752      0x00020977  37          DC8          0x37          ; '7'
2753      0x00020978  38          DC8          0x38          ; '8'
2754      0x00020979  39          DC8          0x39          ; '9'
2755      0x0002097A  61          DC8          0x61          ; 'a'
2756      0x0002097B  62          DC8          0x62          ; 'b'
2757      0x0002097C  63          DC8          0x63          ; 'c'
2758      0x0002097D  64          DC8          0x64          ; 'd'
2759      0x0002097E  65          DC8          0x65          ; 'e'
2760      0x0002097F  66          DC8          0x66          ; 'f'
2761
2762
2763      ;=====
=====
2764      ; .rodata.libc.__SEGGER_RTL_hex_lc
2765      ;=====
=====
2766      ; Module:      __SEGGER_RTL_vfprintf_long_long.o (libc_rv32ima_small.a)
2767      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2768      ; Size:       16 bytes
2769      ; Align:     4 bytes
2770
2771      __SEGGER_RTL_hex_lc:
2772      0x00020980  30          DC8          0x30          ; '0'
2773      0x00020981  31          DC8          0x31          ; '1'
2774      0x00020982  32          DC8          0x32          ; '2'
2775      0x00020983  33          DC8          0x33          ; '3'
2776      0x00020984  34          DC8          0x34          ; '4'
2777      0x00020985  35          DC8          0x35          ; '5'
2778      0x00020986  36          DC8          0x36          ; '6'
2779      0x00020987  37          DC8          0x37          ; '7'
2780      0x00020988  38          DC8          0x38          ; '8'

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2781      0x00020989  39          DC8          0x39          ; '9'
2782      0x0002098A  61          DC8          0x61          ; 'a'
2783      0x0002098B  62          DC8          0x62          ; 'b'
2784      0x0002098C  63          DC8          0x63          ; 'c'
2785      0x0002098D  64          DC8          0x64          ; 'd'
2786      0x0002098E  65          DC8          0x65          ; 'e'
2787      0x0002098F  66          DC8          0x66          ; 'f'
2788
2789
2790      ;=====
=====
2791      ; .rodata.libc.__SEGGER_RTL_hex_lc
2792      ;=====
=====
2793      ; Module:      __SEGGER_RTL_vfprintf_long_long_nwp.o (libc_rv32ima_small.a)
2794      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2795      ; Size:        16 bytes
2796      ; Align:       4 bytes
2797
2798      __SEGGER_RTL_hex_lc:
2799      0x00020990  30          DC8          0x30          ; '0'
2800      0x00020991  31          DC8          0x31          ; '1'
2801      0x00020992  32          DC8          0x32          ; '2'
2802      0x00020993  33          DC8          0x33          ; '3'
2803      0x00020994  34          DC8          0x34          ; '4'
2804      0x00020995  35          DC8          0x35          ; '5'
2805      0x00020996  36          DC8          0x36          ; '6'
2806      0x00020997  37          DC8          0x37          ; '7'
2807      0x00020998  38          DC8          0x38          ; '8'
2808      0x00020999  39          DC8          0x39          ; '9'
2809      0x0002099A  61          DC8          0x61          ; 'a'
2810      0x0002099B  62          DC8          0x62          ; 'b'
2811      0x0002099C  63          DC8          0x63          ; 'c'
2812      0x0002099D  64          DC8          0x64          ; 'd'
2813      0x0002099E  65          DC8          0x65          ; 'e'
2814      0x0002099F  66          DC8          0x66          ; 'f'
2815
2816
2817      ;=====
=====
2818      ; .rodata.libc.__SEGGER_RTL_hex_lc
2819      ;=====
=====
2820      ; Module:      __SEGGER_RTL_vfprintf_float_long.o (libc_rv32ima_small.a)
2821      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2822      ; Size:        16 bytes
2823      ; Align:       4 bytes
2824
2825      __SEGGER_RTL_hex_lc:
2826      0x000209A0  30          DC8          0x30          ; '0'
2827      0x000209A1  31          DC8          0x31          ; '1'
2828      0x000209A2  32          DC8          0x32          ; '2'
2829      0x000209A3  33          DC8          0x33          ; '3'
2830      0x000209A4  34          DC8          0x34          ; '4'
2831      0x000209A5  35          DC8          0x35          ; '5'
2832      0x000209A6  36          DC8          0x36          ; '6'
2833      0x000209A7  37          DC8          0x37          ; '7'

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2834      0x000209A8  38          DC8          0x38          ; '8'
2835      0x000209A9  39          DC8          0x39          ; '9'
2836      0x000209AA  61          DC8          0x61          ; 'a'
2837      0x000209AB  62          DC8          0x62          ; 'b'
2838      0x000209AC  63          DC8          0x63          ; 'c'
2839      0x000209AD  64          DC8          0x64          ; 'd'
2840      0x000209AE  65          DC8          0x65          ; 'e'
2841      0x000209AF  66          DC8          0x66          ; 'f'
2842
2843
2844      ;=====
      =====
2845      ; .rodata.libc.__SEGGER_RTL_hex_lc
2846      ;=====
      =====
2847      ; Module:      __SEGGER_RTL_vfprintf_float_long_long.o (libc_rv32ima_small.a)
2848      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2849      ; Size:        16 bytes
2850      ; Align:       4 bytes
2851
2852      __SEGGER_RTL_hex_lc:
2853      0x000209B0  30          DC8          0x30          ; '0'
2854      0x000209B1  31          DC8          0x31          ; '1'
2855      0x000209B2  32          DC8          0x32          ; '2'
2856      0x000209B3  33          DC8          0x33          ; '3'
2857      0x000209B4  34          DC8          0x34          ; '4'
2858      0x000209B5  35          DC8          0x35          ; '5'
2859      0x000209B6  36          DC8          0x36          ; '6'
2860      0x000209B7  37          DC8          0x37          ; '7'
2861      0x000209B8  38          DC8          0x38          ; '8'
2862      0x000209B9  39          DC8          0x39          ; '9'
2863      0x000209BA  61          DC8          0x61          ; 'a'
2864      0x000209BB  62          DC8          0x62          ; 'b'
2865      0x000209BC  63          DC8          0x63          ; 'c'
2866      0x000209BD  64          DC8          0x64          ; 'd'
2867      0x000209BE  65          DC8          0x65          ; 'e'
2868      0x000209BF  66          DC8          0x66          ; 'f'
2869
2870
2871      ;=====
      =====
2872      ; .rodata.libc.__SEGGER_RTL_hex_lc
2873      ;=====
      =====
2874      ; Module:      __SEGGER_RTL_vfprintf_short_float_long.o (libc_rv32ima_small.a)
2875      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2876      ; Size:        16 bytes
2877      ; Align:       4 bytes
2878
2879      __SEGGER_RTL_hex_lc:
2880      0x000209C0  30          DC8          0x30          ; '0'
2881      0x000209C1  31          DC8          0x31          ; '1'
2882      0x000209C2  32          DC8          0x32          ; '2'
2883      0x000209C3  33          DC8          0x33          ; '3'
2884      0x000209C4  34          DC8          0x34          ; '4'
2885      0x000209C5  35          DC8          0x35          ; '5'
2886      0x000209C6  36          DC8          0x36          ; '6'

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2887      0x000209C7  37          DC8          0x37          ; '7'
2888      0x000209C8  38          DC8          0x38          ; '8'
2889      0x000209C9  39          DC8          0x39          ; '9'
2890      0x000209CA  61          DC8          0x61          ; 'a'
2891      0x000209CB  62          DC8          0x62          ; 'b'
2892      0x000209CC  63          DC8          0x63          ; 'c'
2893      0x000209CD  64          DC8          0x64          ; 'd'
2894      0x000209CE  65          DC8          0x65          ; 'e'
2895      0x000209CF  66          DC8          0x66          ; 'f'
2896
2897
2898      ;=====
      =====
2899      ; .rodata.libc.__SEGGER_RTL_hex_lc
2900      ;=====
      =====
2901      ; Module:      __SEGGER_RTL_vfprintf_short_float_long_long.o
      (libc_rv32ima_small.a)
2902      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2903      ; Size:       16 bytes
2904      ; Align:     4 bytes
2905
2906      __SEGGER_RTL_hex_lc:
2907      0x000209D0  30          DC8          0x30          ; '0'
2908      0x000209D1  31          DC8          0x31          ; '1'
2909      0x000209D2  32          DC8          0x32          ; '2'
2910      0x000209D3  33          DC8          0x33          ; '3'
2911      0x000209D4  34          DC8          0x34          ; '4'
2912      0x000209D5  35          DC8          0x35          ; '5'
2913      0x000209D6  36          DC8          0x36          ; '6'
2914      0x000209D7  37          DC8          0x37          ; '7'
2915      0x000209D8  38          DC8          0x38          ; '8'
2916      0x000209D9  39          DC8          0x39          ; '9'
2917      0x000209DA  61          DC8          0x61          ; 'a'
2918      0x000209DB  62          DC8          0x62          ; 'b'
2919      0x000209DC  63          DC8          0x63          ; 'c'
2920      0x000209DD  64          DC8          0x64          ; 'd'
2921      0x000209DE  65          DC8          0x65          ; 'e'
2922      0x000209DF  66          DC8          0x66          ; 'f'
2923
2924
2925      ;=====
      =====
2926      ; .rodata.libc.__SEGGER_RTL_hex_lc
2927      ;=====
      =====
2928      ; Module:      __SEGGER_RTL_vfprintf_int_wchar.o (libc_rv32ima_small.a)
2929      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2930      ; Size:       16 bytes
2931      ; Align:     4 bytes
2932
2933      __SEGGER_RTL_hex_lc:
2934      0x000209E0  30          DC8          0x30          ; '0'
2935      0x000209E1  31          DC8          0x31          ; '1'
2936      0x000209E2  32          DC8          0x32          ; '2'
2937      0x000209E3  33          DC8          0x33          ; '3'
2938      0x000209E4  34          DC8          0x34          ; '4'

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2939      0x000209E5  35          DC8          0x35          ; '5'
2940      0x000209E6  36          DC8          0x36          ; '6'
2941      0x000209E7  37          DC8          0x37          ; '7'
2942      0x000209E8  38          DC8          0x38          ; '8'
2943      0x000209E9  39          DC8          0x39          ; '9'
2944      0x000209EA  61          DC8          0x61          ; 'a'
2945      0x000209EB  62          DC8          0x62          ; 'b'
2946      0x000209EC  63          DC8          0x63          ; 'c'
2947      0x000209ED  64          DC8          0x64          ; 'd'
2948      0x000209EE  65          DC8          0x65          ; 'e'
2949      0x000209EF  66          DC8          0x66          ; 'f'
2950
2951
2952      ;=====
      =====
2953      ; .rodata.libc.__SEGGER_RTL_hex_lc
2954      ;=====
      =====
2955      ; Module:      __SEGGER_RTL_vfprintf_int_nwp_wchar.o (libc_rv32ima_small.a)
2956      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2957      ; Size:       16 bytes
2958      ; Align:     4 bytes
2959
2960      __SEGGER_RTL_hex_lc:
2961      0x000209F0  30          DC8          0x30          ; '0'
2962      0x000209F1  31          DC8          0x31          ; '1'
2963      0x000209F2  32          DC8          0x32          ; '2'
2964      0x000209F3  33          DC8          0x33          ; '3'
2965      0x000209F4  34          DC8          0x34          ; '4'
2966      0x000209F5  35          DC8          0x35          ; '5'
2967      0x000209F6  36          DC8          0x36          ; '6'
2968      0x000209F7  37          DC8          0x37          ; '7'
2969      0x000209F8  38          DC8          0x38          ; '8'
2970      0x000209F9  39          DC8          0x39          ; '9'
2971      0x000209FA  61          DC8          0x61          ; 'a'
2972      0x000209FB  62          DC8          0x62          ; 'b'
2973      0x000209FC  63          DC8          0x63          ; 'c'
2974      0x000209FD  64          DC8          0x64          ; 'd'
2975      0x000209FE  65          DC8          0x65          ; 'e'
2976      0x000209FF  66          DC8          0x66          ; 'f'
2977
2978
2979      ;=====
      =====
2980      ; .rodata.libc.__SEGGER_RTL_hex_lc
2981      ;=====
      =====
2982      ; Module:      __SEGGER_RTL_vfprintf_long_wchar.o (libc_rv32ima_small.a)
2983      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
2984      ; Size:       16 bytes
2985      ; Align:     4 bytes
2986
2987      __SEGGER_RTL_hex_lc:
2988      0x00020A00  30          DC8          0x30          ; '0'
2989      0x00020A01  31          DC8          0x31          ; '1'
2990      0x00020A02  32          DC8          0x32          ; '2'
2991      0x00020A03  33          DC8          0x33          ; '3'

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2992      0x00020A04  34          DC8          0x34          ; '4'
2993      0x00020A05  35          DC8          0x35          ; '5'
2994      0x00020A06  36          DC8          0x36          ; '6'
2995      0x00020A07  37          DC8          0x37          ; '7'
2996      0x00020A08  38          DC8          0x38          ; '8'
2997      0x00020A09  39          DC8          0x39          ; '9'
2998      0x00020A0A  61          DC8          0x61          ; 'a'
2999      0x00020A0B  62          DC8          0x62          ; 'b'
3000      0x00020A0C  63          DC8          0x63          ; 'c'
3001      0x00020A0D  64          DC8          0x64          ; 'd'
3002      0x00020A0E  65          DC8          0x65          ; 'e'
3003      0x00020A0F  66          DC8          0x66          ; 'f'
3004
3005
3006      ;=====
=====
3007      ; .rodata.libc.__SEGGER_RTL_hex_lc
3008      ;=====
=====
3009      ; Module:      __SEGGER_RTL_vfprintf_long_nwp_wchar.o (libc_rv32ima_small.a)
3010      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
3011      ; Size:       16 bytes
3012      ; Align:     4 bytes
3013
3014      __SEGGER_RTL_hex_lc:
3015      0x00020A10  30          DC8          0x30          ; '0'
3016      0x00020A11  31          DC8          0x31          ; '1'
3017      0x00020A12  32          DC8          0x32          ; '2'
3018      0x00020A13  33          DC8          0x33          ; '3'
3019      0x00020A14  34          DC8          0x34          ; '4'
3020      0x00020A15  35          DC8          0x35          ; '5'
3021      0x00020A16  36          DC8          0x36          ; '6'
3022      0x00020A17  37          DC8          0x37          ; '7'
3023      0x00020A18  38          DC8          0x38          ; '8'
3024      0x00020A19  39          DC8          0x39          ; '9'
3025      0x00020A1A  61          DC8          0x61          ; 'a'
3026      0x00020A1B  62          DC8          0x62          ; 'b'
3027      0x00020A1C  63          DC8          0x63          ; 'c'
3028      0x00020A1D  64          DC8          0x64          ; 'd'
3029      0x00020A1E  65          DC8          0x65          ; 'e'
3030      0x00020A1F  66          DC8          0x66          ; 'f'
3031
3032
3033      ;=====
=====
3034      ; .rodata.libc.__SEGGER_RTL_hex_lc
3035      ;=====
=====
3036      ; Module:      __SEGGER_RTL_vfprintf_long_long_wchar.o (libc_rv32ima_small.a)
3037      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
3038      ; Size:       16 bytes
3039      ; Align:     4 bytes
3040
3041      __SEGGER_RTL_hex_lc:
3042      0x00020A20  30          DC8          0x30          ; '0'
3043      0x00020A21  31          DC8          0x31          ; '1'
3044      0x00020A22  32          DC8          0x32          ; '2'

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3045      0x00020A23  33          DC8          0x33          ; '3'
3046      0x00020A24  34          DC8          0x34          ; '4'
3047      0x00020A25  35          DC8          0x35          ; '5'
3048      0x00020A26  36          DC8          0x36          ; '6'
3049      0x00020A27  37          DC8          0x37          ; '7'
3050      0x00020A28  38          DC8          0x38          ; '8'
3051      0x00020A29  39          DC8          0x39          ; '9'
3052      0x00020A2A  61          DC8          0x61          ; 'a'
3053      0x00020A2B  62          DC8          0x62          ; 'b'
3054      0x00020A2C  63          DC8          0x63          ; 'c'
3055      0x00020A2D  64          DC8          0x64          ; 'd'
3056      0x00020A2E  65          DC8          0x65          ; 'e'
3057      0x00020A2F  66          DC8          0x66          ; 'f'
3058
3059
3060      ;=====
      =====
3061      ; .rodata.libc.__SEGGER_RTL_hex_lc
3062      ;=====
      =====
3063      ; Module:      __SEGGER_RTL_vfprintf_long_long_nwp_wchar.o
      (libc_rv32ima_small.a)
3064      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
3065      ; Size:       16 bytes
3066      ; Align:     4 bytes
3067
3068      __SEGGER_RTL_hex_lc:
3069      0x00020A30  30          DC8          0x30          ; '0'
3070      0x00020A31  31          DC8          0x31          ; '1'
3071      0x00020A32  32          DC8          0x32          ; '2'
3072      0x00020A33  33          DC8          0x33          ; '3'
3073      0x00020A34  34          DC8          0x34          ; '4'
3074      0x00020A35  35          DC8          0x35          ; '5'
3075      0x00020A36  36          DC8          0x36          ; '6'
3076      0x00020A37  37          DC8          0x37          ; '7'
3077      0x00020A38  38          DC8          0x38          ; '8'
3078      0x00020A39  39          DC8          0x39          ; '9'
3079      0x00020A3A  61          DC8          0x61          ; 'a'
3080      0x00020A3B  62          DC8          0x62          ; 'b'
3081      0x00020A3C  63          DC8          0x63          ; 'c'
3082      0x00020A3D  64          DC8          0x64          ; 'd'
3083      0x00020A3E  65          DC8          0x65          ; 'e'
3084      0x00020A3F  66          DC8          0x66          ; 'f'
3085
3086
3087      ;=====
      =====
3088      ; .rodata.libc.__SEGGER_RTL_hex_lc
3089      ;=====
      =====
3090      ; Module:      __SEGGER_RTL_vfprintf_float_long_wchar.o (libc_rv32ima_small.a)
3091      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
3092      ; Size:       16 bytes
3093      ; Align:     4 bytes
3094
3095      __SEGGER_RTL_hex_lc:
3096      0x00020A40  30          DC8          0x30          ; '0'

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3097      0x00020A41  31          DC8          0x31          ; '1'
3098      0x00020A42  32          DC8          0x32          ; '2'
3099      0x00020A43  33          DC8          0x33          ; '3'
3100      0x00020A44  34          DC8          0x34          ; '4'
3101      0x00020A45  35          DC8          0x35          ; '5'
3102      0x00020A46  36          DC8          0x36          ; '6'
3103      0x00020A47  37          DC8          0x37          ; '7'
3104      0x00020A48  38          DC8          0x38          ; '8'
3105      0x00020A49  39          DC8          0x39          ; '9'
3106      0x00020A4A  61          DC8          0x61          ; 'a'
3107      0x00020A4B  62          DC8          0x62          ; 'b'
3108      0x00020A4C  63          DC8          0x63          ; 'c'
3109      0x00020A4D  64          DC8          0x64          ; 'd'
3110      0x00020A4E  65          DC8          0x65          ; 'e'
3111      0x00020A4F  66          DC8          0x66          ; 'f'
3112
3113
3114      ;=====
      =====
3115      ; .rodata.libc.__SEGGER_RTL_hex_lc
3116      ;=====
      =====
3117      ; Module:      __SEGGER_RTL_vfprintf_float_long_long_wchar.o
      (libc_rv32ima_small.a)
3118      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
3119      ; Size:       16 bytes
3120      ; Align:     4 bytes
3121
3122      __SEGGER_RTL_hex_lc:
3123      0x00020A50  30          DC8          0x30          ; '0'
3124      0x00020A51  31          DC8          0x31          ; '1'
3125      0x00020A52  32          DC8          0x32          ; '2'
3126      0x00020A53  33          DC8          0x33          ; '3'
3127      0x00020A54  34          DC8          0x34          ; '4'
3128      0x00020A55  35          DC8          0x35          ; '5'
3129      0x00020A56  36          DC8          0x36          ; '6'
3130      0x00020A57  37          DC8          0x37          ; '7'
3131      0x00020A58  38          DC8          0x38          ; '8'
3132      0x00020A59  39          DC8          0x39          ; '9'
3133      0x00020A5A  61          DC8          0x61          ; 'a'
3134      0x00020A5B  62          DC8          0x62          ; 'b'
3135      0x00020A5C  63          DC8          0x63          ; 'c'
3136      0x00020A5D  64          DC8          0x64          ; 'd'
3137      0x00020A5E  65          DC8          0x65          ; 'e'
3138      0x00020A5F  66          DC8          0x66          ; 'f'
3139
3140
3141      ;=====
      =====
3142      ; .rodata.libc.__SEGGER_RTL_hex_lc
3143      ;=====
      =====
3144      ; Module:      __SEGGER_RTL_vfprintf_short_float_long_wchar.o
      (libc_rv32ima_small.a)
3145      ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
3146      ; Size:       16 bytes
3147      ; Align:     4 bytes

```

```

3148
3149 __SEGGER_RTL_hex_lc:
3150 0x00020A60 30 DC8 0x30 ; '0'
3151 0x00020A61 31 DC8 0x31 ; '1'
3152 0x00020A62 32 DC8 0x32 ; '2'
3153 0x00020A63 33 DC8 0x33 ; '3'
3154 0x00020A64 34 DC8 0x34 ; '4'
3155 0x00020A65 35 DC8 0x35 ; '5'
3156 0x00020A66 36 DC8 0x36 ; '6'
3157 0x00020A67 37 DC8 0x37 ; '7'
3158 0x00020A68 38 DC8 0x38 ; '8'
3159 0x00020A69 39 DC8 0x39 ; '9'
3160 0x00020A6A 61 DC8 0x61 ; 'a'
3161 0x00020A6B 62 DC8 0x62 ; 'b'
3162 0x00020A6C 63 DC8 0x63 ; 'c'
3163 0x00020A6D 64 DC8 0x64 ; 'd'
3164 0x00020A6E 65 DC8 0x65 ; 'e'
3165 0x00020A6F 66 DC8 0x66 ; 'f'
3166
3167
3168 ;=====
=====
3169 ; .rodata.libc.__SEGGER_RTL_hex_lc
3170 ;=====
=====
3171 ; Module: __SEGGER_RTL_vfprintf_short_float_long_long_wchar.o
(libc_rv32ima_small.a)
3172 ; Attributes: read-only, non-executable, allocatable (SHF_ALLOC), %progbits
3173 ; Size: 16 bytes
3174 ; Align: 4 bytes
3175
3176 __SEGGER_RTL_hex_lc:
3177 0x00020A70 30 DC8 0x30 ; '0'
3178 0x00020A71 31 DC8 0x31 ; '1'
3179 0x00020A72 32 DC8 0x32 ; '2'
3180 0x00020A73 33 DC8 0x33 ; '3'
3181 0x00020A74 34 DC8 0x34 ; '4'
3182 0x00020A75 35 DC8 0x35 ; '5'
3183 0x00020A76 36 DC8 0x36 ; '6'
3184 0x00020A77 37 DC8 0x37 ; '7'
3185 0x00020A78 38 DC8 0x38 ; '8'
3186 0x00020A79 39 DC8 0x39 ; '9'
3187 0x00020A7A 61 DC8 0x61 ; 'a'
3188 0x00020A7B 62 DC8 0x62 ; 'b'
3189 0x00020A7C 63 DC8 0x63 ; 'c'
3190 0x00020A7D 64 DC8 0x64 ; 'd'
3191 0x00020A7E 65 DC8 0x65 ; 'e'
3192 0x00020A7F 66 DC8 0x66 ; 'f'
3193
3194 *****
*****
3195 ***
***
3196 ***
LINK
SUMMARY ***
3197 ***
3198 ***

```

3199 *****

3200

3201 Memory breakdown:

3202

3203 2 172 bytes read-only code

3204 701 bytes read-only data

3205 1 088 bytes read-write data

3206

3207 Region summary:

3208

3209

Name	Range	Size	Used
Unused	Alignment Loss		

3210

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-----	-----		

3211	FLASH	00000000-00000fff	4 096	509	12.43%	3 587
	87.57%	0	0.00%			

3212	RAM	00008000-000087ff	2 048	1 088	53.13%	960
	46.88%	0	0.00%			

3213	ROM	00020000-000207ff	2 048	1 724	84.18%	324
	15.82%	0	0.00%			

3214	ROM2	00020800-00020fff	2 048	640	31.25%	1 408
	68.75%	0	0.00%			

3215

3216 Link complete: 0 errors, 0 warnings, 0 remarks

3217