

Report about lab

lab: toggle led by using stm32.

Sections of startup.o:

```
PS D:\study\GNU-Tools-ARM-Embedded\7 2017-q4-major\bin> .\arm-none-eabi-objdump.exe -h startup.o
startup.o:      file format elf32-littlearm

Sections:
Idx Name          Size      VMA           LMA           File off  Algn
 0 .text          00000090  00000000  00000000  00000034  2**2
   CONTENTS, ALLOC, LOAD, RELOC, READONLY, CODE
 1 .data          00000000  00000000  00000000  000000c4  2**0
   CONTENTS, ALLOC, LOAD, DATA
 2 .bss           00000000  00000000  00000000  000000c4  2**0
   ALLOC
 3 .vectors        0000001c  00000000  00000000  000000c4  2**2
   CONTENTS, ALLOC, LOAD, RELOC, DATA
 4 .debug_info     00000156  00000000  00000000  000000e0  2**0
   CONTENTS, RELOC, READONLY, DEBUGGING
 5 .debug_abbrev   000000c0  00000000  00000000  00000236  2**0
   CONTENTS, READONLY, DEBUGGING
 6 .debug_aranges  00000020  00000000  00000000  000002f6  2**0
   CONTENTS, RELOC, READONLY, DEBUGGING
 7 .debug_line     00000120  00000000  00000000  00000316  2**0
   CONTENTS, RELOC, READONLY, DEBUGGING
 8 .debug_str      000001b0  00000000  00000000  00000436  2**0
   CONTENTS, READONLY, DEBUGGING
 9 .comment        0000007f  00000000  00000000  000005e6  2**0
   CONTENTS, READONLY
10 .debug_frame    00000050  00000000  00000000  00000668  2**2
   CONTENTS, RELOC, READONLY, DEBUGGING
11 .ARM.attributes 00000033  00000000  00000000  000006b8  2**0
   CONTENTS, READONLY
```

Sections of main.o:

```
PS D:\study\GNU-Tools-ARM-Embedded\7 2017-q4-major\bin> .\arm-none-eabi-objdump.exe -h main.o
main.o:      file format elf32-littlearm

Sections:
Idx Name          Size      VMA           LMA           File off  Algn
 0 .text          00000094  00000000  00000000  00000034  2**2
   CONTENTS, ALLOC, LOAD, READONLY, CODE
 1 .data          00000000  00000000  00000000  000000c8  2**0
   CONTENTS, ALLOC, LOAD, DATA
 2 .bss           00000000  00000000  00000000  000000c8  2**0
   ALLOC
 3 .debug_info     000000ee  00000000  00000000  000000c8  2**0
   CONTENTS, RELOC, READONLY, DEBUGGING
 4 .debug_abbrev   0000008e  00000000  00000000  000001b6  2**0
   CONTENTS, READONLY, DEBUGGING
 5 .debug_aranges  00000020  00000000  00000000  00000244  2**0
   CONTENTS, RELOC, READONLY, DEBUGGING
 6 .debug_line     00000113  00000000  00000000  00000264  2**0
   CONTENTS, RELOC, READONLY, DEBUGGING
 7 .debug_str      00000158  00000000  00000000  00000377  2**0
   CONTENTS, READONLY, DEBUGGING
 8 .comment        0000007f  00000000  00000000  000004cf  2**0
   CONTENTS, READONLY
 9 .debug_frame    0000006c  00000000  00000000  00000550  2**2
   CONTENTS, RELOC, READONLY, DEBUGGING
10 .ARM.attributes 00000033  00000000  00000000  000005bc  2**0
   CONTENTS, READONLY
```

Sections of learn-in-depth-cortex-m3.elf

```
learn-in-depth-cortex-m3.elf:      file format elf32-littlearm

Sections:
Idx Name          Size      VMA           LMA           File off  Algn
  0 .text          00000140  08000000      08000000      00010000  2**2
    CONTENTS, ALLOC, LOAD, READONLY, CODE
  1 .bss           00001000  20000000      08000140      00020000  2**0
    ALLOC
  2 .debug_info     00000244  00000000      00000000      00010140  2**0
    CONTENTS, READONLY, DEBUGGING
  3 .debug_abbrev   0000014e  00000000      00000000      00010384  2**0
    CONTENTS, READONLY, DEBUGGING
  4 .debug_aranges  00000040  00000000      00000000      000104d2  2**0
    CONTENTS, READONLY, DEBUGGING
  5 .debug_line     00000233  00000000      00000000      00010512  2**0
    CONTENTS, READONLY, DEBUGGING
  6 .debug_str      0000019b  00000000      00000000      00010745  2**0
    CONTENTS, READONLY, DEBUGGING
  7 .comment        0000007e  00000000      00000000      000108e0  2**0
    CONTENTS, READONLY
  8 .ARM.attributes 00000033  00000000      00000000      0001095e  2**0
    CONTENTS, READONLY
  9 .debug_frame    000000bc  00000000      00000000      00010994  2**2
    CONTENTS, READONLY, DEBUGGING
```

Symbols of startup.o

```
PS D:\study\GNU-Tools-ARM-Embedded\7 2017-q4-major\bin> .\arm-none-eabi-nm.exe startup.o
U _E_BSS
U _E_DATA
U _E_TEXT
U _S_BSS
U _S_DATA
U _stack_top
00000000 W Bus_Handler
00000000 T Default_Handler
00000000 W H_fault_Handler
U main
00000000 W MM_fault_Handler
00000000 W NMI_Handler
0000000c T Reset_Handler
00000000 W Usage_fault_Handler
00000000 D vectors
```

Symbols of main.o

```
PS D:\study\GNU-Tools-ARM-Embedded\7 2017-q4-major\bin> .\arm-none-eabi-nm.exe main.o
0000000c T H_fault_Handler
00000018 T main
00000000 T NMI_Handler
```

Symbols of learn-in-depth.elf

```
PS D:\study\GNU-Tools-ARM-Embedded\7 2017-q4-major\bin> .\arm-none-eabi-nm.exe .\learn-in-depth-cortex-m3.elf
20000000 B _E_BSS
20000000 T _E_DATA
08000140 T _E_TEXT
20000000 B _S_BSS
20000000 T _S_DATA
20001000 B _stack_top
080000b0 W Bus_Handler
080000b0 T Default_Handler
08000028 T H_fault_Handler
08000034 T main
080000b0 W MM_fault_Handler
0800001c T NMI_Handler
080000bc T Reset_Handler
080000b0 W Usage_fault_Handler
08000000 T vectors
```