Symbol Table of startup.o

```
Ahmed (master) Lab4
$ arm-none-eabi-nm.exe startup.o
         U _E_bss
         U _E_DATA
         U _E_text
         U _S_bss
         U _S_DATA
00000000 T Default_Handler
00000000 D g_p_fn_Vectors
00000000 W Hard_Fault_Handler
         U main
00000000 W NMI_Handler
0000000c T Reset_Handler
00000000 b stack_top
Ahmed (master) Lab4
```

Symbol Table of main.o

```
Ahmed (master) Lab4
$ arm-none-eabi-nm.exe main.o
00000000 T main
Ahmed (master) Lab4
$
```

Symbol Table of toggle_led_m4.elf

```
Ahmed (master) Lab4
$ arm-none-eabi-nm.exe toggle_led_cortex_m4.elf
20000400 B _E_bss
20000000 T _E_DATA
00000194 T _E_text
20000000 B _S_bss
20000000 T _S_DATA
000000d8 T Default_Handler
00000000 T g_p_fn_Vectors
000000d8 W Hard_Fault_Handler
00000010 T main
000000d8 W NMI_Handler
000000e4 T Reset_Handler
20000000 b stack_top
```

Map file

```
 9  Linker script and memory map
10
11
12  .text              0x00000000        0x194
13   *(.vectors*)
14   .vectors          0x00000000         0x10 startup.o
15                     0x00000000              g_p_fn_Vectors
16   *(.text*)
17   .text             0x00000010         0xc8 main.o
18                     0x00000010              main
19   .text             0x000000d8         0xbc startup.o
20                     0x000000d8              Hard_Fault_Handler
21                     0x000000d8              Default_Handler
22                     0x000000d8              NMI_Handler
23                     0x000000e4              Reset_Handler
24   *(.rodata)
25                     0x00000194              _E_text = .
26
```

g_p_fn_Vectors is at the entry point of the cortex m4, and the first address is the stack pointer address.

```
45  .data              0x20000000          0x0 load address 0x00000194
46                     0x20000000              _S_DATA = .
47   *(.data)
48   .data             0x20000000          0x0 main.o
49   .data             0x20000000          0x0 startup.o
50                     0x20000000              . = ALIGN (0x4)
51                     0x20000000              _E_DATA = .
52
53  .igot.plt          0x20000000          0x0 load address 0x00000194
54   .igot.plt         0x00000000          0x0 main.o
55
56  .bss               0x20000000        0x400 load address 0x00000194
57                     0x20000000              _S_bss = .
58   *(.bss)
59   .bss              0x20000000          0x0 main.o
60   .bss              0x20000000        0x400 startup.o
61                     0x20000400              _E_bss = .
```