

Lab3-1

0xffffeffc	07 00 00 00 03 00 00 00
0xffffef04	01 00 00 00 02 00 00 00
0xffffeffc	03 00 00 00 07 00 00 00
0xffffef04	01 00 00 00 02 00 00 00
0xffffeffc	01 00 00 00 03 00 00 00
0xffffef04	07 00 00 00 02 00 00 00
0xffffeffc	01 00 00 00 02 00 00 00
0xffffef04	03 00 00 00 07 00 00 00

Lab3-2

0xffffeffc	03 00 00 00 07 00 00 00
0xffffef04	01 00 00 00 02 00 00 00
0xffffeffc	03 00 00 00 01 00 00 00
0xffffef04	07 00 00 00 02 00 00 00
0xffffeffc	01 00 00 00 03 00 00 00
0xffffef04	07 00 00 00 02 00 00 00

Lab3-3

0xffffeffc	07 00 00 00 03 00 00 00	
0xffffef04	01 00 00 00 02 00 00 00reset height	
> breakpoints			
> signals			
▼ registers			
name	value (hex)	value (decimal)	description
r0	0xffffeffc	4294897660	
r1	0x0	0	
r2	0x1	1	
r3	0x0	0	
r4	0x7	7	
r5	0x3	3	
r6	0xffffeffc	4294897660	
r7	0x4	4	
r8	0x0	0	register 8 (64-bit)
r9	0x0	0	register 9 (64-bit)
r10	0x89b04	563972	register 10 (64-bit)
r11	0xffffef024	4294897700	register 11 (64-bit)
r12	0xffffeffc	4294897660	register 12 (64-bit)

0xffffeffc	03 00 00 00 07 00 00 00	
0xffffef04	01 00 00 00 02 00 00 00reset	
> breakpoints			
> signals			
▼ registers			
name	value (hex)	value (decimal)	description
r0	0xffffeffc	4294897660	
r1	0x0	0	
r2	0x7	7	
r3	0x3	3	
r4	0x7	7	
r5	0x3	3	
r6	0xffffeffc	4294897660	
r7	0x4	4	
r8	0x0	0	register 8 (64-bit)
r9	0x0	0	register 9 (64-bit)
r10	0x89b04	563972	register 10 (64-bit)
r11	0xffffef024	4294897700	register 11 (64-bit)
r12	0xffffeffc	4294897660	register 12 (64-bit)

R2와 R3의 값을 저장하지 않고 실행하여서 실행후에 값이 깨져서 결과가 제대로 안나온다.

Lab3-4

코드

```
1 .text
2 .global sort
3 .global swap
4 .type sort, STT_FUNC
5
6 sort:
7     sub sp, sp, #24
8     str lr, [sp, #20]
9     str r8, [sp, #16] // n-1-i
10    str r7, [sp, #12] // ncopy
11    str r6, [sp, #8] // vcopy
12    str r3, [sp, #4] //j
13    str r2, [sp, #0] //i
14
15    mov r6, r0 // v
16    mov r7, r1 // n
17    sub r1, #1
18    mov r2, #0
19
20 for1tst:
21     cmp r2, r1
22     bge exit1
23     mov r3, #0
24
25 for2tst:
26     sub r8, r1, r2
27     cmp r3, r8
28     bge exit2
29     add r12, r0, r3, LSL #2
30     ldr r4, [r12, #0]
31     ldr r5, [r12, #4]
32     cmp r4, r5
33     ble exit2
34
35     stmdb sp!, {r0, r1, r2, r3, r12}
36     mov r0, r6
37     mov r1, r3
38     bl swap
39     ldmbia sp!, {r0, r1, r2, r3, r12}
40
41     add r3, r3, #1
42     b for2tst
43
44 exit2:
45     add r2, r2, #1
46     b for1tst
47
48 exit1:
49     ldr r2, [sp, #0]
50     ldr r3, [sp, #4]
51     ldr r6, [sp, #8]
52     ldr r7, [sp, #12]
53     ldr r8, [sp, #16]
54     ldr lr, [sp, #20]
55     add sp, sp, #24
56
57     mov pc, lr
58
59 .end
60
```

결과

```
junyeong ~ /Lab3 qemu-arm-static -g 8080 ./lab3
Array before sorting : 7 3 1 2
Array after sorting : 1 2 3 7
```