

EE 354
Practice Stack

September 5, 2016

The program below calls a subprogram which in turn, calls a second subprogram. Show what is on the stack and what is in the registers after the program completes.

```

MainSeg SEGMENT CODE
SubPgms SEGMENT CODE
;
CSEG at 0h
    ljmp Start
RSEG MainSeg
Start: mov SP, #8
        mov r1, #01h
        mov r2, #02h
        mov r3, #03h
        push 1
        call Sub1
        pop 1
Here:  sjmp Here

RSEG SubPgms
Sub1:  push 2
        mov r1, #011h
        mov r2, #012h
        pop 2
        call Sub2
        ret

Sub2:  push 3
        mov r3, #023h
        add a, r3
        mov r1, a
        pop 3
        ret

END

```

Register	Data
r0	
r1	
r2	
r3	
r4	
r5	
r6	
r7	
acc	

Internal memory	
Address	Data
8	
9	
10	
11	
12	
13	
14	
15	
16	