

## Programming Task #2

Assumptions: starting Address of stack 0x1000

① Before calling any function

High Address :

0x1000 Sp →

Low Address :

② When DataArray is called

High Address

0x1000

0xFDC

a0

0xFDB

s0

SP 0xFD4 →

ra(main)

Low Address :

0xFD4 as

(0x1000 - 44 is 0xFD4)

Before going in loop

$$to = sp + 12$$

$$= 0xFD4 + 0xC$$

$$= 0xFE0$$

Here I have used to find the base address for array on stack which will have 10 elements ends at 0x1000



③ When compare is called

High Address	
0x1000	
0xFDC	a0
0xFD8	s0
0xFD4	ra (main)
sp → 0xFD0	ra (for <del>main</del> loop)

} array on stack  
starting address  
was stored  
previously on to

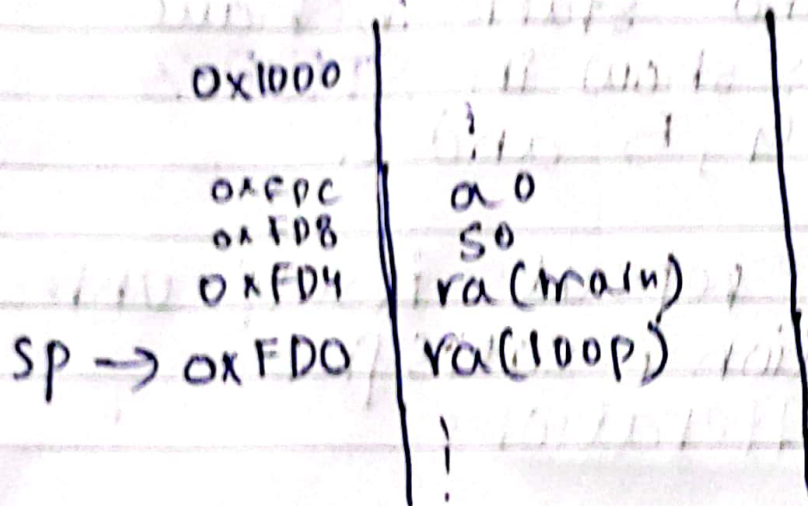
Low Address

④ When sub is called

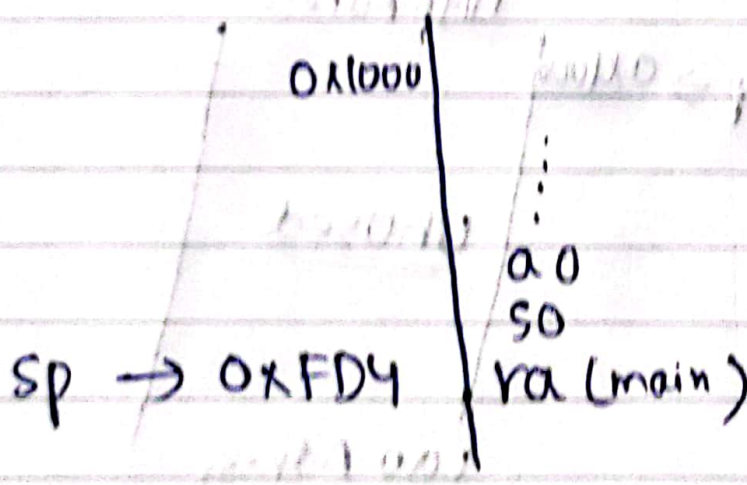
0x1000	
0xFDC	a0
0xFD8	s0
0xFD4	ra (main)
0xFD0	ra (loop)
sp → 0xFCC	ra (compare)



⑤ After subcomming out of subfunction  
pop the ra(compare) out of stack



⑥ After Comming out of compare funct.



After compare func the result is stored at  
o(t0) adrees.

s0 is incremented by 1

a0 is loaded with num and then  
again loop condition is checked



If the loop condition is not satisfied then compare function is called and stack behave exactly as show in **STEP 3** then Step 4, 5 and 6

This process repeats itself unless loop condition is satisfied

→ After 10<sup>th</sup> Iteration:-

Stack changes as

