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Roll No: 20P-0101

Lab Task: 5

Subject: COAL Lab

Section: BCS-4B

Submitted To Respected Sir:

Khurram Shahzad

```asm
[org 0x0100]

jmp start

data: dw 2, 0, 0, 1, 0, 1

start:

    mov cx, 6

    outerloop:

        mov bx, 0

            innerloop:

                mov ax, [data + bx]

                cmp ax, 2

                je noswap

                cmp ax, [data + bx + 2]

                jbe noswap              ;if we don't have to swap, we just
```

```asm
                                        ; think of this as the "if"


                        ; the swap potion


                        mov dx, [data + bx + 2]

                        mov [data + bx + 2], ax ; again with the AX?


                        mov [data + bx], dx

                noswap:
```

```
38
39                  add bx, 2
40
41                  cmp bx, 10
42
43                  jne innerloop
44
45                  ; check outer loop termination
46
47                  sub cx, 1
48
49                  jnz outerloop
50
51                  ;exit system call
52
53                  mov ax, 0x4c00
54
55                  int 0x21
```

```
2         0  1  2  3  4  5  6  7    8  9  A  B  C  D  E  F
DS:0000   02 03 04 05 02 08 F0 FE   AD DE 1B 05 C5 06 00 00   ..
DS:0010   18 01 10 01 18 01 92 01   01 01 01 00 02 FF FF FF   ..
DS:0020   FF FF FF FF FF FF FF FF   FF FF FF FF EB 19 C0 11
DS:0030   A2 01 14 00 18 00 F5 19   FF FF FF FF 00 00 00 00   ó.
DS:0040   05 00 00 00 00 00 00 00   00 00 00 00 00 00 00 00   ..

1  Step    2ProcStep 3Retrieve 4Help ON  5BRK Menu 6          7 up  8
```