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Course - CSE 331 L

Q1] We knows

SAR stands for Shift Arithmatic Register and SHR stands for Shift Right.

The value of BL is 0EFh.

Initial ~~state~~.

	CF
0000 0000 1110 1111	x

After SAR operation

	CF
0000 0000 0111 0111	1
0000 0000 0011 ~~00~~ 1011	1
0000 0000 0001 1101	1

The value will be - 01Dh

~~After~~ SHR operation

	CF
0000 0000 0000 1110	1

The value will be - 0Eh

Q2)

```
.model small
.stack 100h
.data
    input1 db ~~0ah~~ ?
    input2 db ~~0ah~~ ?

.code
    mov ax, @data
    mov ds, ax
    mov al, input1
    mov bl, input2
    sub al, bl
    mov ch, 02h
    mov cl, 04h
    mov bh, al
label: rol bh, cl
    mov dl, bh
    and dl, 0fh
    cmp dl, 09
    jbe forward
forward: add dl, 030h
    mov ah, 02
```

```
int 21h
dec ch
jnz label
mov ah, 4ch
int 21h
```

Q3] Firstly, there will be mismatched of bit size. Push operation decrements SP register by 2 and saves a 16 bit output. But al is an 8 bit value. So we need to push ax which is 16 bit. However, after changing 'al' to 'ax', this will remain an infinity loop.

Q4]

a) XOR bx, bx

b) and cx, 695Eh

c)
```
.data
variable1 db/dw ?    ; user input variable
variable2 db/dw 6    ; constant variable
```