

Day / Date

MPI MID

OMAR

024.

Q1. R = 024

S = 0

A = S + 2

① CS = 0236h

IP = (024 + 100)h

IP = (0124)h

↓ Append

Physical Address = 0236 0 + 0124
= 2484

Now,

Physical Address for Next Instruction = 2484 + 1 = 2485

② Mov Ax, [DI + 024]

Indexed Addressing Mode [offset address is found by adding the contents of SI or DI register and 8 bit / 16 bit displacement]

AX = 0001 0010 0011 0100

R = 0000 0000 0010 0100

0001 0010 0001 0000

} by taking XOR

Thus, Result in hexa: 1210

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Q2:-

~~mov Ah, 2~~

~~mov Al, 2h~~

~~mov Bl, 0h~~

~~mov dl, 0h~~

mov cx, 2

label: inc bl

add dl, bl

loop label

dec

[Automaticall Counter decrement]

Q2:-

mov cx, 2

~~mov bl, 0h~~

mov bx, 0

mov dx, 0

; $8+2=0+2=2$

again: inc bx
add dx, bx
loop again

} Here counter (cx) will decrement automatically. So, we don't need to apply (dec) command separately.

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Q4:- Fibonacci Series.

FIBO PROC

```
mov al, 10h
mov SI, 15h
mov [SI], al
add SI, 1
add AL, 1
mov [SI], AL
mov CX, [0000h]
sub CX, 02h
LI: mov al, [SI-1]
add al, [SI]
add SI, 1
mov [SI], AL
loop LI
END P
```

Procedure.

Main Program:-

```
mov al, 0
mov SI, 0
mov CX, 0
call FIBO(10, 15)
```

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$\therefore S=0$

$R=024$

Q3:-

```
MOV    Ax, 1000h
MOV    Cx, 3000h
MOV    dx, 4000h
MOV    bx, 0100h
MOV    Cs, bx
MOV    bx, 0700h
MOV    ds, bx
MOV    ds, bx
```

```
MOV    bp, 0024h
MOV    SP, 2400h
```

```
MOV    ds:[10h], 22h
MOV    ds:[11h], 33h
MOV    ds:[12h], 44h
MOV    ds:[13h], 55h
```

(a) AND Ax, ds:[10h]
 MOV ds:[024h], Ax

(b) XOR ds:[12h], ds:[13h]
 MOV ds:[024h], ds:[12h]

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(C)

mov Ax, 7890h

mov Bx, 3456h

add word Ptr Ax, ds:[10h]

add word Ptr Bx, ds:[10h+16]

~~mov ds~~

mov word Ptr ds:[024h], Ax

mov word Ptr ds:[024h+16], Bx

(D)

~~Cmp BP, CX~~

CMP CX, BP

BP =>	0000	0000	0010	0100
CX =>	0011	0000	0000	0000
		0000	0010	0100

} Subtract

CX =>	0011	0000	0000	0000
BP =>	0000	0000	0010	0100
	0010	1111	1101	1100

} Subtract

Flag Registers:-

(Carry Flag) CF = 1

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$\therefore S = 0$

(c)

MOV AX, 4000h

MOV CX, 0

ROL AX, 0

OR

MOV AX, 0100 0000 0000 0000h

MOV CX, 0

ROR AX, CX

if For My Case $S = 1$

MOV AX, 0100 0000 0000 0000h

MOV CX, 1

ROR AX, CX

Then AX = 0000 0000 0000 0000

Append -

CF = 0