1. mov

```
.data
 var1 BYTE 100
 var2 BYTE ?
 var3 WORD 2
 var4 DWORD 5

.code        ; True/False
 mov ds, 45 ;  X
 mov esi, var3 ;  X     (movzx)
 mov eip, var4 ;  X
 mov 25, var2 ;  X
 mov var1, var2 ;  X          memory to memory  X
```

2. INC/DEC

```
.data
        myByte BYTE 0FFh, 0
.code
        mov al,myByte       ; AL = FF h
        mov ah,[myByte+1]   ; AH = 00 h
        dec ah              ; AH = FF h
        inc al              ; AL = 00 h
        dec ax              ; AX = FEFF
```

ax: FF00 - 1

3. flag

```
mov al,-128
neg al    ; CF = 1 OF = X 1
```

maybe 0?

0 - (-128) = +128

```
mov ax,8000h
add ax,2  ; CF = 0 OF = 0

mov ax,0
sub ax,2  ; CF = 1 OF = 0
```

mov al,-5

sub al,+125; OF = 1

4. PTR

.data

varB BYTE 65h,31h,02h,05h

varW WORD 6543h,1202h

varD DWORD 12345678h

varB 05 } H — word : 16 bits
02 }
31
65 L

.code

mov ax,WORD PTR [varB+2] ; a= 0502

mov bl,BYTE PTR varD ; b= 78h

mov bl,BYTE PTR [varW+2] ; c= 02h

mov ax,WORD PTR [varD+2] ; d= 1234h

mov eax,DWORD PTR varW ; e= 12026543h

varD H L
12345678

varW
H L
1202 6543

5. LOOP

What will be the final value in AX?

```
        mov ax,6
        mov ecx,4
L1:
        inc ax
        loop L1
```

aX = 10

6. OFFSET

Please finish the program below for an array sum.

.386

.model flat,stdcall

.stack 4096

ExitProcess proto,dwExitCode:dword

.data

array WORD 100h, 200h, 300h

.code

```
mov esi, OFFSET array      ; address of array
mov ax,[esi]               ; obtain the first value in ax
add esi, 2                 ; move to next value in array
add ax, [esi]              ; addition
add esi, 2                 ; move to next value in array
add ax, [esi]              ; addition
```

```
mov   ecx, LENGTHOF array
L1:
    add  esi, 2
    add  ax, [esi]

Loop L1
```