

Flag Register, Carry flag, parity flag, Auxiliary flag, zero flag, sign flag, trap flag, interrupt flag, direction and overflow flag

Is a register that contains the current state of the processor



Useful bits = 9

Status Flags :
To handle the result of an operation.

- 1. Carry : CF
- 2. Parity : PF
- 3. Auxiliary : AF
- 4. Zero: ZF
- 5. Sign: Flag
- 6. Overflow flag

Controls Flags:
To Control the operations of CPU

- 1. Trap: TF
- 2. Direction: DF
- 3. Interrupt: IF

Trap Flag : TF
System use it when debugging is required;
1 : When single step mode (debugging) is needed
0: When single step mode (debugging) is not needed

Overflow Flag : OF
1 : When result is too big to fit in the destination
0: When there is not too big to fit in the destination

Why do we study flag register basically?

Theoretically?

- 1. What controls the operations of CPU?
- 2. What handles the status of operations?

In programming?

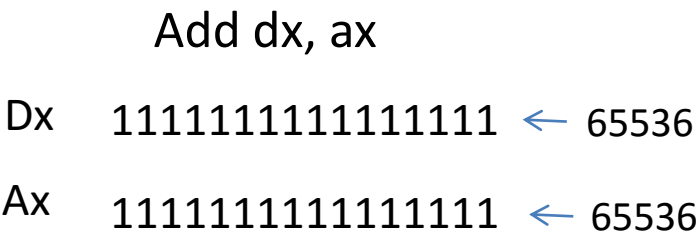
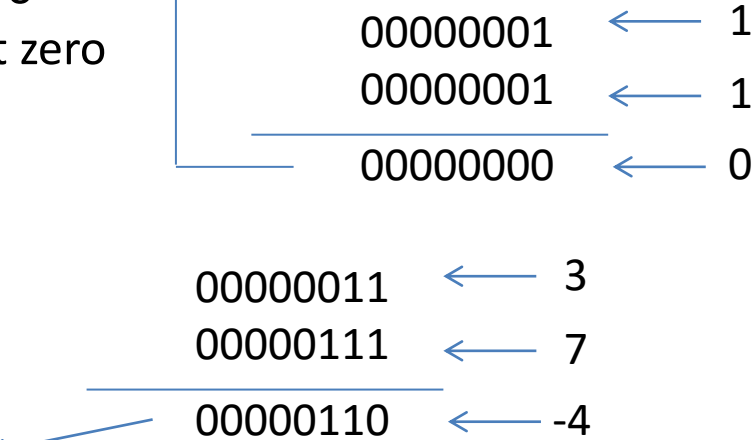
- 1. Conditional Jump
- 2. Which number is lesser, greater, or equal

Zero Flag: ZF
1 : When result is zero
0: when result is not zero

Interrupt Flag : IF
1 : When interrupt is called
0: when interrupt is not called

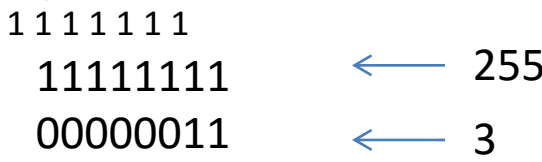
Sign Flag : SF
1 : When result is negative
0: When result is positive

Carry Flag : CF
1 : When there is last carry out
0: When there is not last carry out



Auxiliary Flag
1: When 3rd bit carry exits
0: When 3rd bit carry doesn't exit

Every 3rd bit carry



Last carry out

Parity: PF
1 : When there is even number of bits
0: When there is not even number of bits

'hello\$'

Direction Flag : DF
1 : Strings automatically decrements the address
0: String does not automatically decrement the address

Mov dl, 12
Mov al, 10

Mov dx, 'a'
Mov ax, 2
Int 21h