OPERAND INSTRUCTIONS INVOLVING IMMEDIATE DATA

MOV
ADD/ADC/SUB/SBB } R/M, d8/d16
AND/OR/XOR/TEST/CMP

8 byte registers + 8 word registers+ 24 byte memory + 24 word memory = 64 opcodes

10 instructions x 64 = 640 opcodes

3.3.1 Move Immediate data to a Register/ Memory location

		Before	After
MOV DX, ABCDH	DX	1234H	ABCDH

		Before	After
MOV BH, 12H	BH	56H	12H

3.3.2 Add Immediate data to a Register/ Memory location

		Before	After
ADD [BX], 12H	BX	1000H	
	DS:1000H	20H	32H
	DS:1001H		

		Before	After
ADD [BX], 1234H	BX	1000H	
	DS:1000H	~~2000H~~	3234H
	DS:1002H		

3.3.3 Add with Carry Immediate data to a Register/ Memory location

		Before	After
ADC DH, 32H	DH	30H	63H
Add with Carry	Carry flag	1	0

63H= 0110 0011 It has four 1's

New flag values: Ac=0, S=0, Z=0, V=0, P=1

3.3.4 Subtract Immediate data from a Register/ Memory location

		Before	After
SUB DH, 40H	DH	30H	F0H

Subtract (without borrow)

F0H=1111 0000 B(Four 1's)

New flag values: Ac=0, S=1, Z=0, V=0, P=1, Cy=1

3.3.5 Subtract with borrow Immediate data from a Register/ Memory location

		Before	After
SBB DH, 25H	DH	20H	06H
Subtract (with borrow)	Cy flag	1	1

06H= 0000 0110B(Two 1's)

New flag values: Ac=1, S=0, Z=0, V=0, P=1, Cy=1

3.3.6 AND Immediate data with a Register/ Memory location

		Before	After
AND BH, 0FH	BH	56H	06H
56H = 0101 0110B	AND		
0FH = 0000 1111B	Cy flag	1	1

06H = 0000 0110B(Two 1's)

Use: Selectively reset to 0 some bits of the destination

Bits that are ANDed with 0's are reset to 0

Bits that are ANDed with 1's are not changed

3.3.7 OR Immediate data with a Register/ Memory location

		Before	After
OR BH, 0FH	BH	56H	5FH
56H = 0101 0110B	OR		

0FH = 0000 1111B CL | 0FH |

5FH = 0101 1111B

Use: Selectively set to 1 some bits of the destination

Bits that are ORed with 1's are set to 1

Bits that are ORed with 0's are not changed

3.3.8 Ex-OR Immediate data with a Register/ Memory location

			Before	After
XOR BH, 0FH		BH	56H	59H
56H = 0101 0110B	XOR			
0FH = 0000 1111B		CL	0FH	

59H = 0101 1001B

Use: Selectively complement some bits of the destn.

Bits that are XORed with 1's are complemented

Bits that are XORed with 0's are not changed

3.3.9 Test immediate data with a Register/ Memory location

			Before	After
TEST BH, 0FH		BH	56H	56H
56H=0101 0110B	AND			
0FH=0000 1111B		Temp	45H	06H

06H=0000 0110B

TEST basically performs AND operation. Result of AND is not stored in destination. It is stored in Temp register. Temp is not accessible to programmer. There is no instruction like MOV Temp, 67H. Only flags are affected.