**Setting and clearing the bits in an operand**

CLEAR => assign 0 to a bit

SET => assign 1 to a bit.

**CLEAR a bit in an operand**

The AND instruction is used.

Recall the And truth table:

A B Z

0 0 0

0 1 0

1 0 0

1 1 1

**Sample Code:**

mov AX,0FF75h

and AX,0DFFFh

**Result stored in AX now:**

DF75

**Explanation of code above:**

FF75 1111 1111 0111 0101

AND WITH 11**0**1 1111 1111 1111 (bit to be cleared: 0. Everything else: 1)

RESULT 11**0**1 1111 0111 0101 (observe: only the highlighted bits changed)

D F 7 5

**SET a bit in an operand**

The OR instruction is used.

Recall the OR truth table:

A B Z

0 0 0

0 1 1

1 0 1

1 1 1

**Sample Code:**

mov AX,0FF75h

or AX,00080h

**Result stored in AX now:**

FFF5

**Explanation of code above:**

FF75 1111 1111 0111 0101

OR WITH 0000 0000 1000 0000 (bit to be set: 1. Everything else: 0)

RESULT 1111 1111 1111 0101 (observe: only the highlighted bits changed)

F F F 5