MOVZX - Move zero-extended
MOVSX - Move sign-extended

Logical (bitwise) instructions
- AND - Bitwise AND
- OR - Bitwise OR
- XOR - Bitwise Exclusive-OR
- NOT - Bitwise NOT

0x6A 0110 1010
0x36 0011 0110

```
    0110 1010
AND 0011 0110
-------------
    0010 0010
```

6A AND 36 = 22

```
   0110 1010
OR 0011 0110
------------
   0111 1110
      7E
```

C++

&& - Logical AND
& - Bitwise AND
|| - Logical OR
| - Bitwise OR

XOR

true xor false
false xor true → true

true xor true
false xor false → false

```
    0110 1010
XOR 0011 0110
-------------
    0101 1100
       5C
```

MOV RAX, 0 XOR RAX,RAX

C++ Bitwise XOR ^ (shift 6)

NOT 6A 0110 1010

NOT

1001 0101

0x 95

C++

Logical NOT .. !

Bitwise NOT .. ~

Shift and rotate instructions

- SHL - Shift left
- SHR - Shift right
- SAR - Arithmetic shift right
- ROL - Rotate left
- ROR - Rotate right

SHL AL,2

6A

0110 1010

←

SHL _,1

1101 0100

D4

0110 1010

SHR _,1

0011 0101

35