

Day -05

Date : 09/08/2025

⑦ Bitwise operators:

& - Bitwise AND

| - Bitwise OR

~ -

>> - left shift

<< - right shift

^ - Bitwise XOR

2^3	2^2	2^1	2^0

1bit 0,1

2bit 0,1,2,3

3bit 0,1,...,6,7

4bit 0,1,...,14,15

1. & - Bitwise AND

Ex: a = 5

b = 4

print(a & b)

0101

0100

0100

} Both True - True

}

→ 4

2. | - Bitwise OR

Ex: a = 5

b = 3

Print(a | b)

0101

0011

0111

} Anyone True - True

}

→ 7

3. ^ - Bitwise XOR

Ex: a = 5

b = 3

print(a ^ b)

0101

0011

0110

} Both Same - False
Different - True

}

→ 6

4. ~ - Bitwise NOT

Ex: a = 5

print(~a)

0101

~a = -(a+1) ⇒ ~5 = -(5+1) = 6

5. << - left shift

a = 5

print(a << 1)

0101

0101

→ 8 + 2 = 10

6. >> - right shift

Ex: a = 5

print(a >> 1)

0101

0101 - 2 → 2

Date: / /