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Operator

Bitwise → & | ~ >> <<

8 + 4 + 2 + 1

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

1 bit → 0, 1

2 bit → 0, 1, 2, 3

3 bit → 0, 1, 2 ... 7

4 bit → 0, 1, 2 ... 15

3 2 1

2^2 2^1 2^0

0 0 0 = 0

0 0 1 = 1

0 1 0 = 2

0 1 1 = 3

1 0 0 = 4

1 0 1 = 5

1 1 0 = 6

1 1 1 = 7

for ex 2^3 2^2 2^1 2^0

13 → 1 1 0 1

2 → 0 0 1 0

5 → 0 1 0 1

| → 1 1 0 1 = 13

& → 0 1 0 0 = 4

Right shifts

The The H T U

1 3 4 5 ignore

1 2 4 5

left shift → increasing

1 2 4 5

1 2 4 5 0

① 13 >> 2

8 4 2 1

1 1 0 1

8 + 4 + 1

1 1 0 1 → 13

(2) 13 << 2

8 + 4 + 2 + 1

1 1 0 1

1 1 0 1 0

1 1 0 1 0 0

32 16 4 → 52

Condition

Nested if else

Syntax:

```
if (cond 1): # outer if
    if (cond 2): # inner if
        statemas of inner if
    else:
        statement of inner else
else:
    statement of outer else.
```

Example

```
n = int (input())
if (n>=0):
    if (n>0):
        print ("+ve")
    else:
        print("zero")
else:
    print ("-ve")
```