DSA DAY 10 ~ OPEARTORS

Sunfire Sensei

+, −, *, /, %

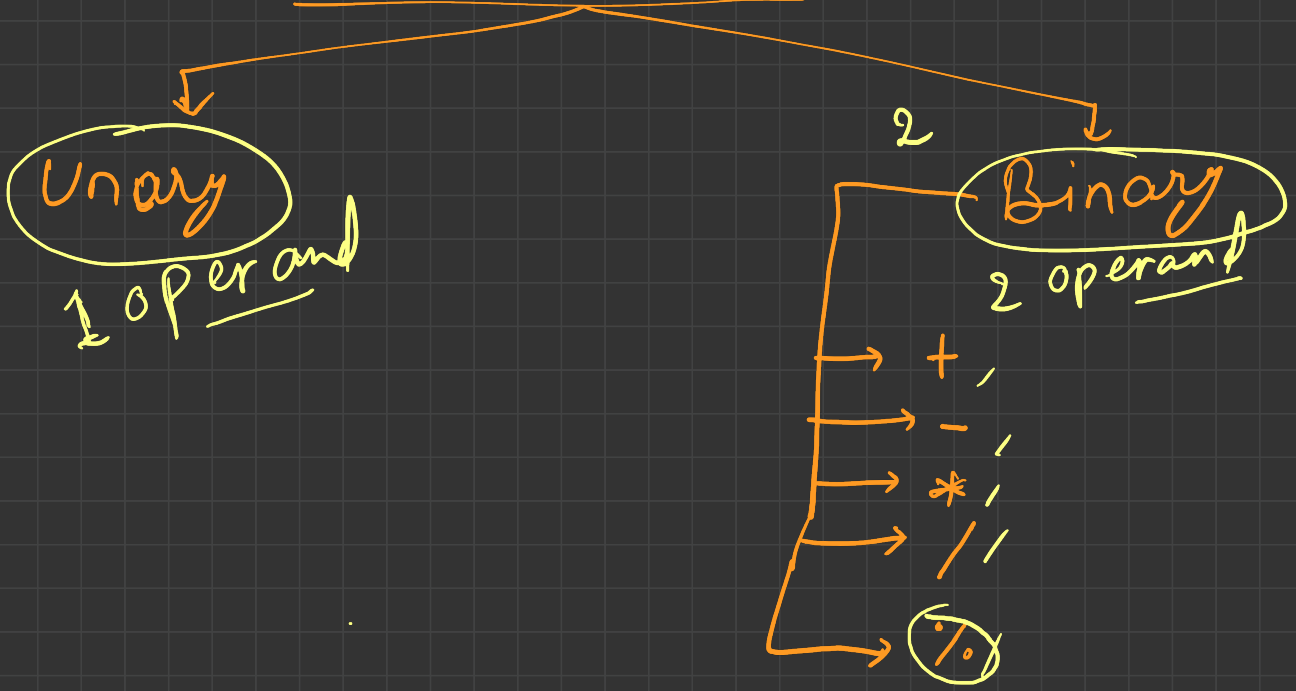
{ BODMAS }

Left to Right

Bracket order Division Multiplication

Addition Subtraction.

Arithmetic Operator?



$\frac{13}{3} = 4.3$ ✗

$\frac{12}{3} = 4$

$\frac{13}{3} = 4$ ✓

$\frac{13.3}{3} = 4.1$ ✓

int < float < double

12.6×3

$= 37.8$

$12 + 3$

$= 15$

$2 + 2 = 4$

$9 - 6 = 1$

$3 \times 2 = 6$

$6 \cdot 1 \cdot 4 = 3$

$12 \times 3 + 6 - 3 \% 4 / 2$

{*, /, %, +, -}

Associativity → Left to Right

42 + 3 * 4 / 3 - 2 % 8

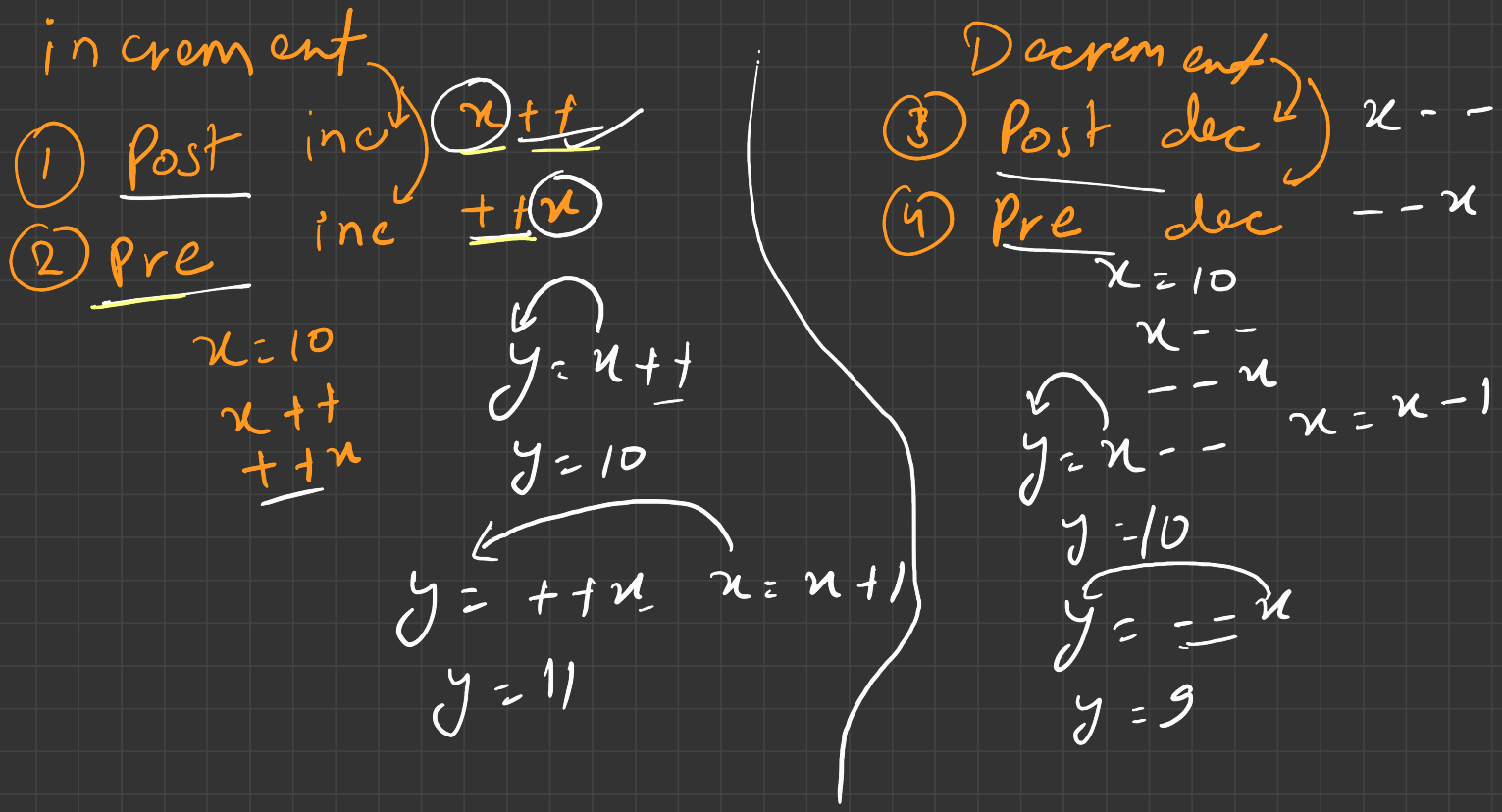
Unary Operator

↓ operand

++ , --

↓ ↓

increment decrement



② Comparison Operator

{==, >, <, <=, >=, !=}

{>, <, <=, >=} > {==, !=}

left to Right

3 == 4

0

2 > 3

0

6 != 4

1

3 <= 3

1

imp

*

0 & 1

15 > 14 > 11

1 > 11

0

$15 > 13 < 4 == 1$

$1 < 4 == 1$

$1 == 1$

1

$15 > 18 > 99 != 0$

$0 > 99 != 0$

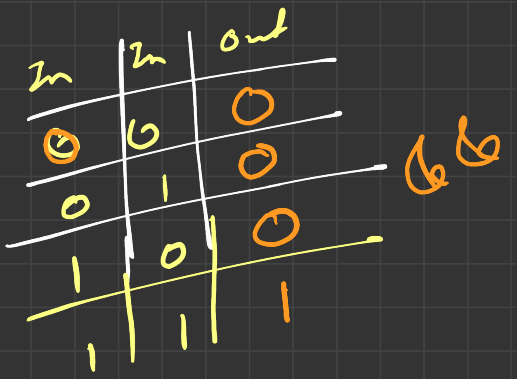
$0 != 0$

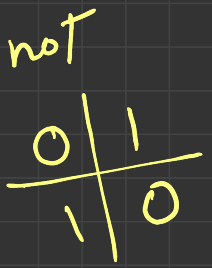
D

Logical operator

And OR NOT

&& || !





!5 = 0

!0 = 1

0 && 1

0 && 5 = 0

0 && 0 = 0

5 && 6 = 1

0 || 5 = 1

0 || 0 = 0

5 || 6 = 1

x > y
x > z

```
if(x>y){
  if(x>z){
    cout<< x is greater
  }
else
    not great
}
else{
    not great
```

Bitwise operator

{ &, |, ^, ~, <<, >>}

- & : And
- | : OR
- ^ : XOR
- ~ : Compliment
- << : Left shift
- >> : Right Shift

2 & 3 = 2

10
&
11
---
10 → 2

2 | 3 = 3

10
|
11
---
11 → 3

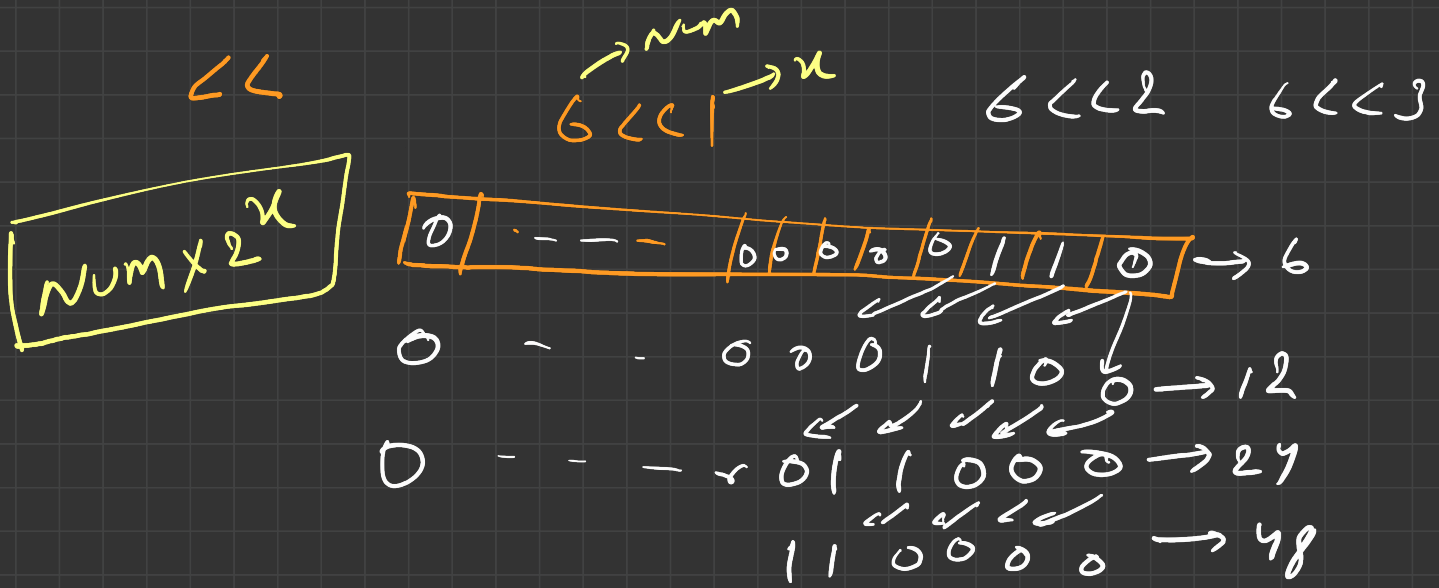
XOR

XOR

0	0	0
0	1	1
1	0	1
1	1	0

$2 \wedge 3 = 1$

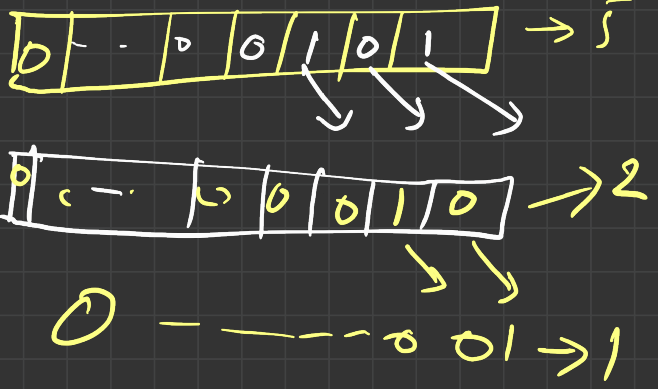
10
11
---
01 → 1



Right shift >>

num
5 >> 2 → n

5 >> 1

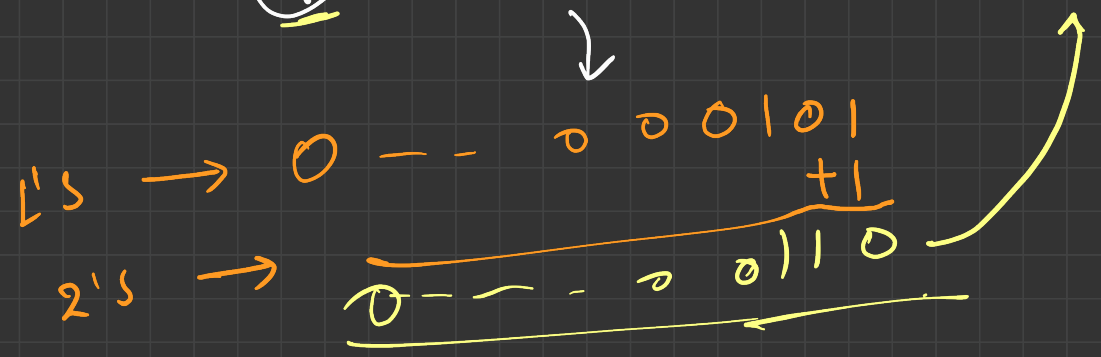


$$\frac{Num}{2^x}$$

compliment ~ ~5

0 --> 00101

1 --> -1 1 1 0 1 0 -ve



~5 = -6

~6 = -7

~99 = -100

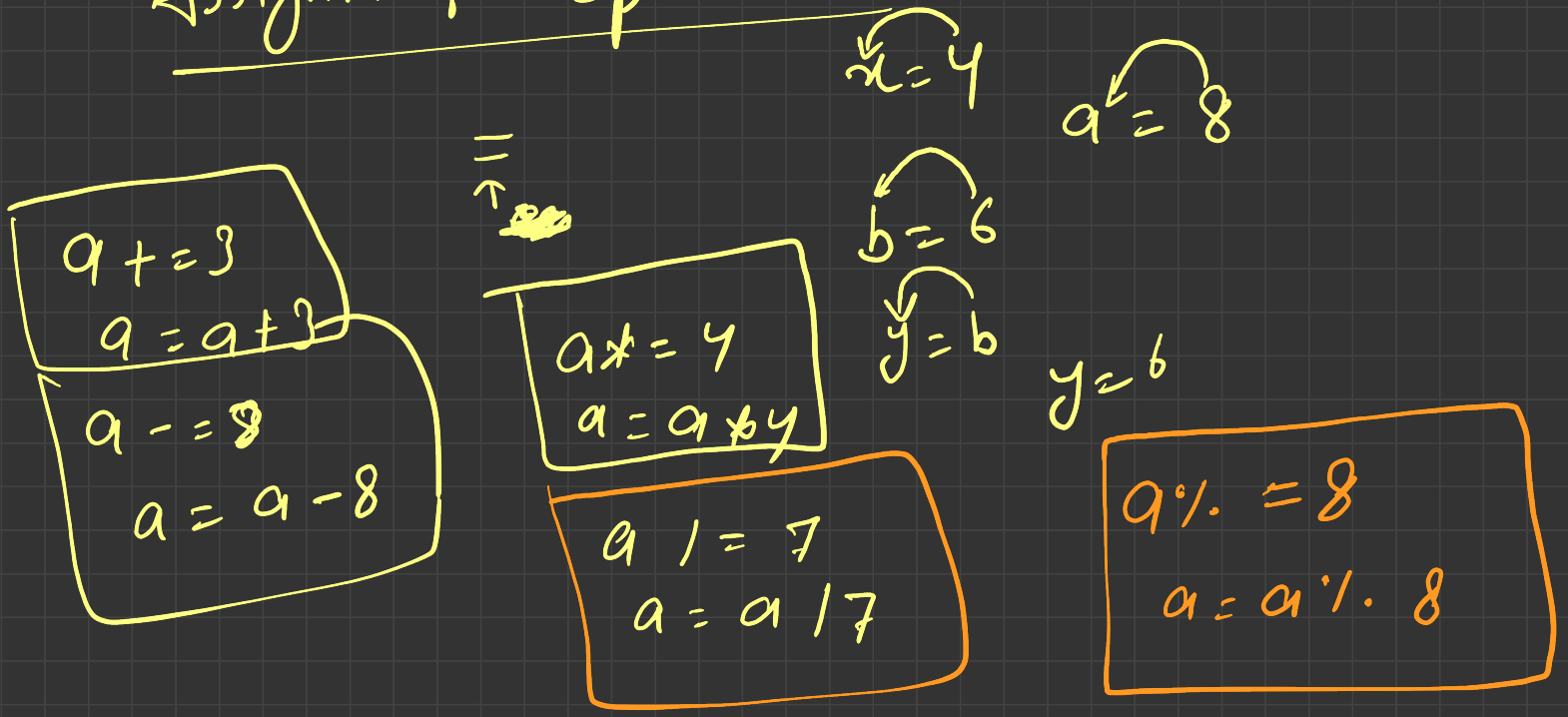
~10 = -11

~-11 = 10

$\{<<,>>\}\{\&\&, |, \wedge\}$

Left to Right

Assignment Operator



$\{10 \times 5 \cdot / \cdot 3 / 6 >> 3 \wedge 4 \& 3 \&\& 2 || 4 \sim 5\}$