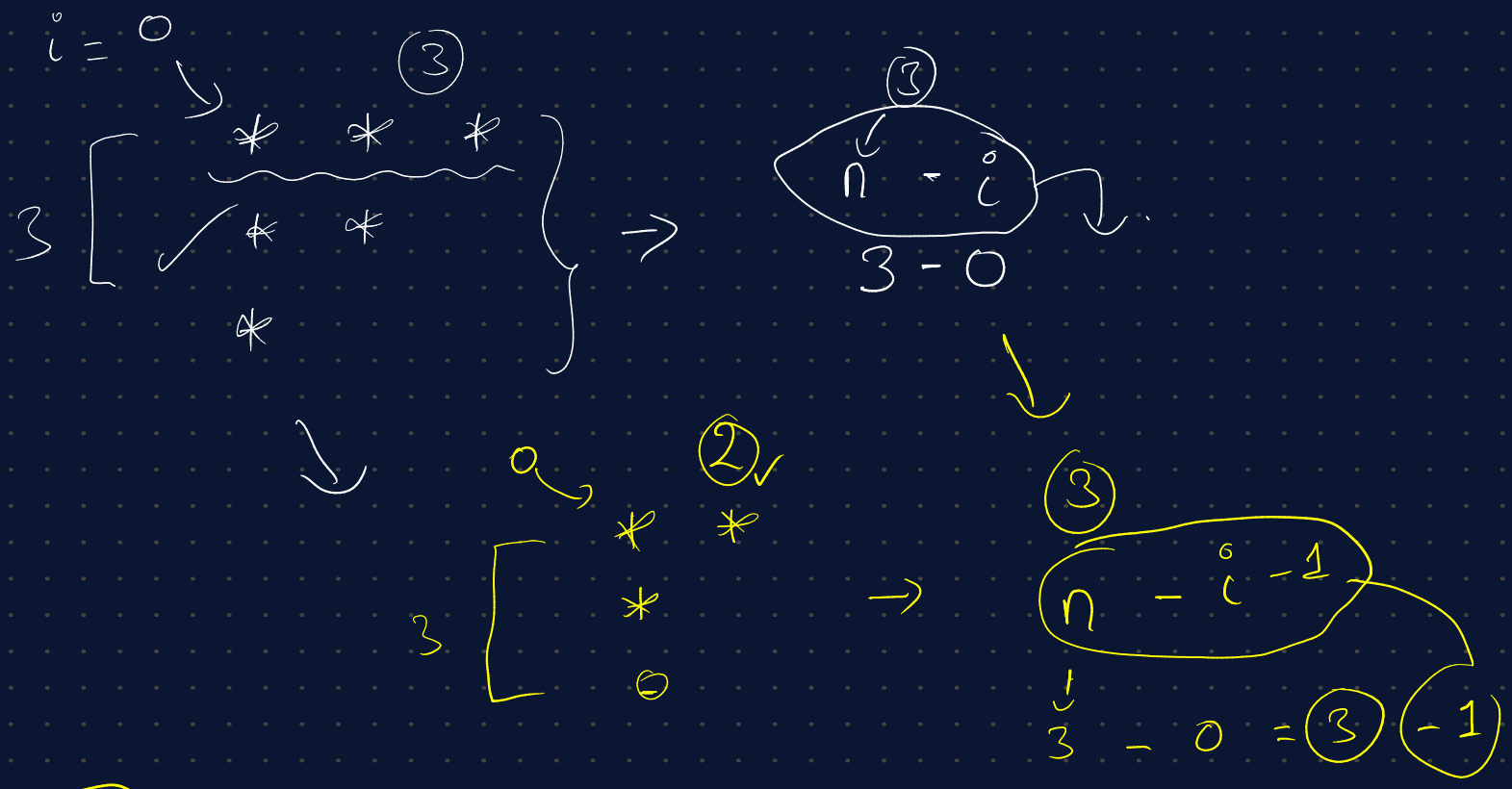
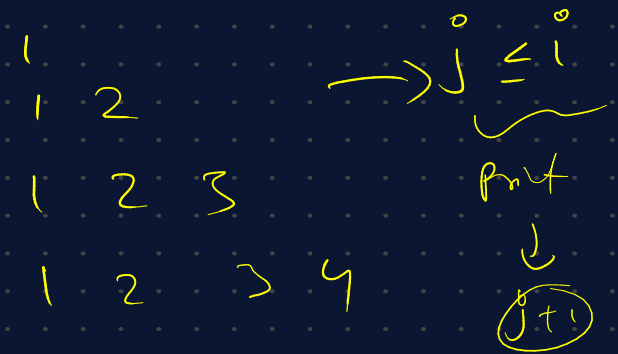
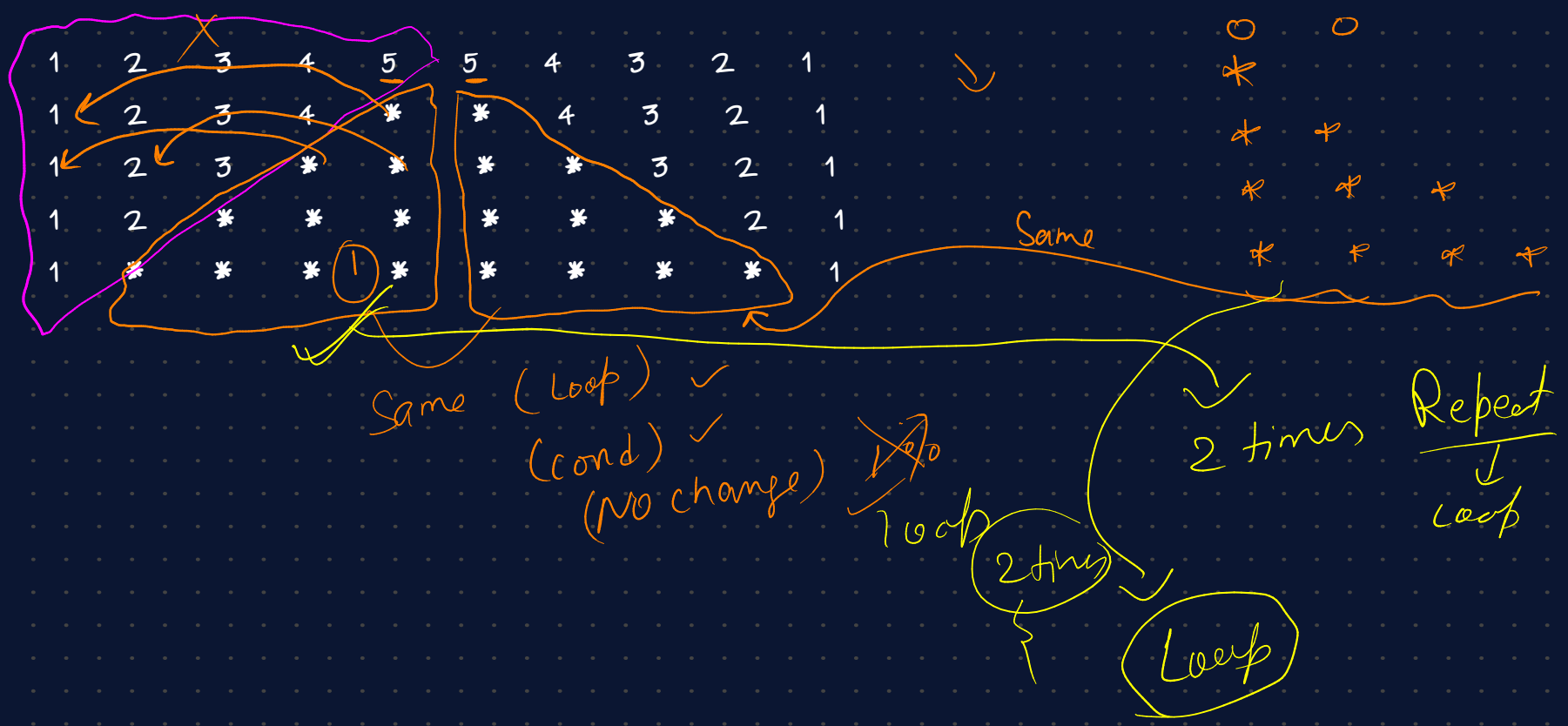
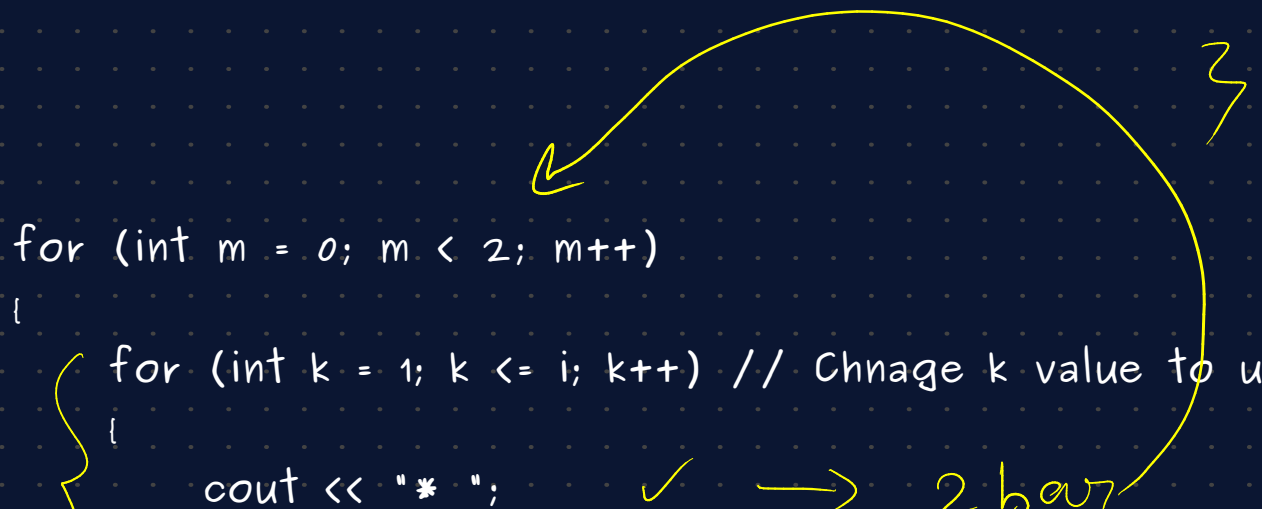
Class – 4 (10th May 2024)










```
for (int m = 0; m < 2; m++)
{
    for (int k = 1; k <= i; k++) // Chnage k value to up and see the fun !!
    {
        cout << "* ";
    }
}
```

Class -> 4

(Operators) :- +, -, *, /, % } Arithmetic

&&, ||, ! } Relational

+=, -=, *= 3 ✓ 😊

(Bitwise)

(&, |, ~, ^)

↑ Bitwise AND

↑ B. OR

↑ Bitwise NOT

↑ B. XOR

(code-54)

cout << 2 && 3 -> 1 -> true

AND

2 && 0 -> 0 -> false

0 -> true

(AND) -> Table (&&)

A	B	Result
0	0	0
0	1	0
1	0	0
1	1	1

OR -> Table (||)

A	B	Result
0	0	0
0	1	1
1	0	1
1	1	1

(Bitwise)

(Not) !

A	Result
0	1
1	0

& → B. AND

2 & 3 ⇒ ?

NO → bin → OP → Res → Dec ✓ Print

Considering → (6 bits) ✓

Actual ⇒ (32) → int

  000010
& 000011

  000010 → Decimal → (2) Ans

2 | 3 ⇒ ?

OP
(|) 000010
     000011

     011 → (3) Ans

Re → (!)

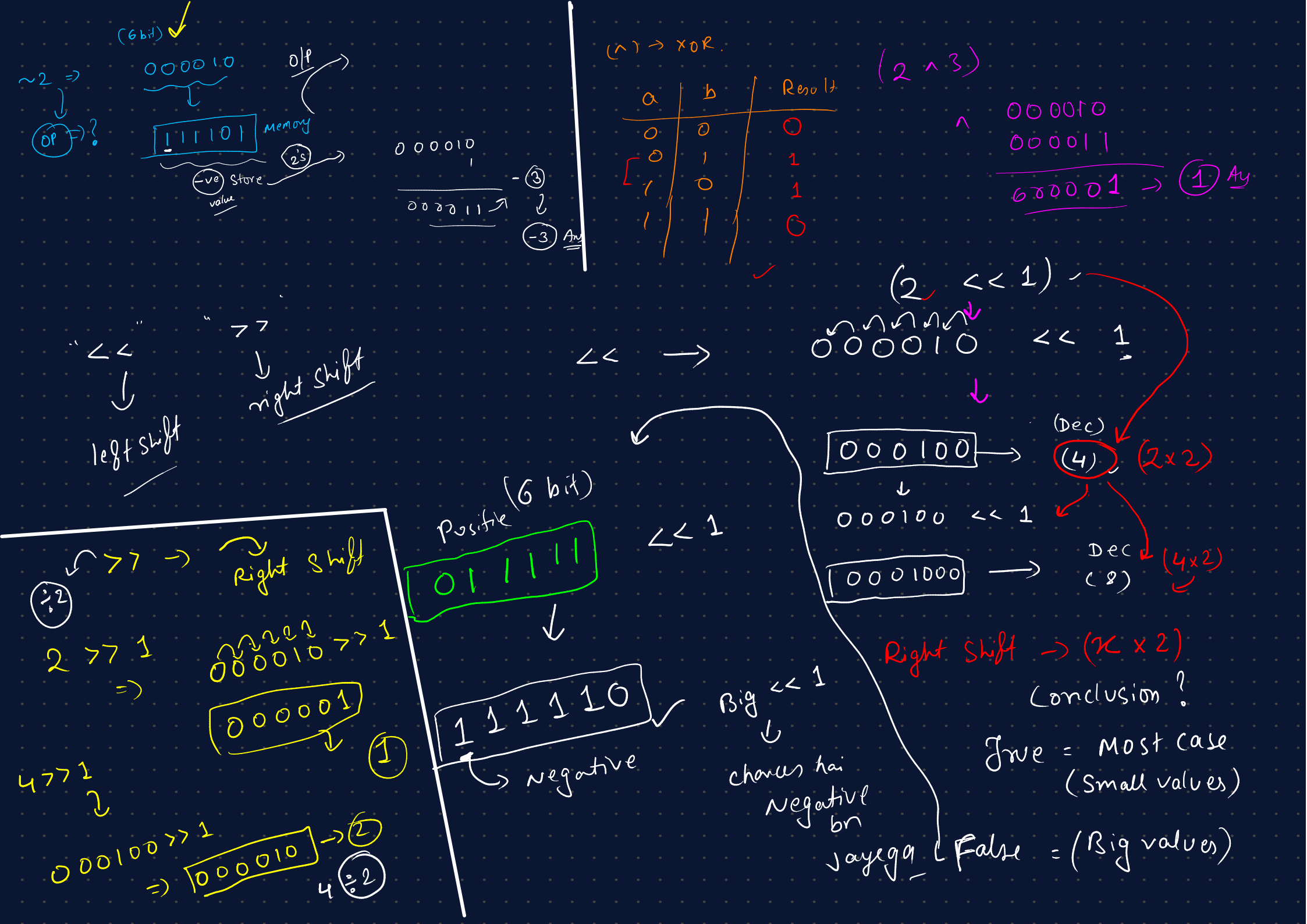
(~) → Bitwise NOT ✓

(^) → B. XOR

(~) (6 bit)

~2 = ? ✓

     000010
(~) 111101 → Dec → output


(6 bit)
000010
o/p
~2 =>
OP =?
111101
Memory
2's
-ve value
Store
000010
000011
-3
-3 Ans
(^) -> XOR.
a
b
Result
0 0 0
0 1 1
1 0 1
1 1 0
(2 ^ 3)
000010
000011
000001 -> 1 Ans
"<<"
left shift
">>"
right shift
<< ->
(2 << 1)
000010 << 1
000100
(Dec)
(4)
(2x2)
000100 << 1
0001000
Dec
(8)
(4x2)
Right Shift -> (x x 2)
Conclusion ?
True = Most case
(Small values)
False = (Big values)
Positive (6 bit)
011111
<< 1
111110
negative
Big << 1
chances hai
negative
bn
jayega
>> -> Right Shift
÷2
2 >> 1
=>
000010 >> 1
000001
1
4 >> 1
=>
000100 >> 1
=> 000010 -> 2
4 ÷2

>> → x ÷ 2
<< → x × 2

} Chote no ke liye / Bare ke liye syd (-ve bn jae)


```
int value = 2;
cout << "(++value) = " << ++value << endl; // 3
int secondValue = value++;
cout << "(++value) = " << ++value << endl;          // 4
cout << "(secondValue) = " << secondValue << endl; // 4
```

```
for(int i = 1 ; i <= n ; i++)   (i to n)
{
    cout << i;
}
```

```
int i = 1;
int n = 4;
```

```
for (int num = 1; num <= 5; num++)
{
    if (num == 4)
    {
        continue;
    }
    cout << num << endl;
}
```

matlab ✗

```
for ( ; ; )
{ if(i<=n)
[ Cout << Count << endl; }
    Count++;
}
```