

LeetCode :- q. 1281. Subtract the product and sum of digits of an integer

q. 191. Number of 1 bits

q. 7. Reverse Integer

q. 1009. complement of Base 10 integer

q. 476. Number complement

q. Binary to decimal.

q. decimal to Binary.

q. sqrt(n); n is integer.

q. pow(a,b)

* Operators & For loop *

→ Bitwise Operators

AND → &	→ works on binary level. ex: $a=2, b=3, a \& b$
OR →	
NOT → ~	
XOR → ^	
Left shift <<	
Right shift >>	$ \begin{array}{r} 010 \\ 011 \\ \hline 010 \end{array} \quad \therefore a \text{ } \& b = 2 $

AND (&)

x	y	i/p	z	o/p
0	0		0	
0	1		0	
1	0		0	
1	1		1	

OR (|)

x	y	i/p	z	o/p
0	0		0	
0	1		1	
1	0		1	
1	1		1	

NOT (!)

x	i/p	z	o/p
0		1	1
1		0	0

XOR (^)

x	y	i/p	z	o/p
0	0		0	
0	1		1	
1	0		1	
1	1		0	

left shift → multiply by 2 every time

$s \ll 1$
 ↑ ↑
 number how many
 times left
 shift happen

$$s = \overbrace{0 \ 1 \ 0 \ 1}^{\ll \ll \ll}$$

After 1 left shift $(1010)_2 = (10)_{10}$

↑
 binary decimal.

→ if no. is big it will make no. -ve

Right Shift → divided by 2 every time you make shift

$a = 10;$

$a \gg 1;$

$10 \gg 1;$

After right shift 0101; $\therefore a = 5$

* pre increment

$i = 4;$
 $a = ++i;$

$i = 5;$
 $a = 5;$

* post increment

$i = 4;$
 $a = i++;$
 $a \rightarrow 4$
 $i \rightarrow 5$

* Pre decrement

$i = 4;$
 $a = --i;$
 $a = 3$
 $i = 3$

* Post dec.

$i = 4;$
 $a = i--;$
 $a = 4$
 $i = 3;$

See 5 questions at 24 min

* for loop: $\text{for}(\text{initialise}; \text{condition}; \text{update})$ y

Q. print 1 to n number

`int n = 5;`

`for(int i=1; i <=n, i++)`

`cout << i << endl;`

y

* break / continue:

k

terminate
the current
executing block
of code

do nothing at
that particular flow of loop.

Q. Sum of 1 to n number

```
int i=1; int sum=0; int n;
```

```
for( ; i<=n; i++) {
```

```
    sum += i;
```

y

```
cout << "sum: " << sum << endl;
```

Q. fibonacci series ($n = (n-1) + (n-2)$)

```
a=0, b=1;
```

```
cout << a << " " << b << " ";
```

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

```
    int nextNumber = a+b
```

```
    cout << nextNumber << " ";
```

```
a=b;
```

```
b=nextNumber;
```

y

Q. Prime or non-prime:

→ write the help of for loop. done in code

See Questions at 49 mins.

* variable and its scope:

- we can't use variable without creating.
- we can use the variable inside the block of code when the variable is declared within that block of code or the parent block of code.
- we can't use the variable outside the block of code which is initialize in other block of code.
- Before using variable block of code first check nearest parent block of code where the variable is declared and gives it most priority.

* operator precedence:

- we will use brackets. No need to remember table.

