Q) Bowl balls of an over in crickets

1 - over => bowled 6 times.

A) count = 1;
while (count < 6) {
count = count + 1;
}

1 2 3 4 5

B) count = 1
while (count <= 6) {
// deliver a ball.
}
no inc — Infinite loop

C) int count = 1;
while (count <= 6) {
// Deliver a ball
count = count + 1;
}

1 2 3 4 5 6

D) count = 0 ;
while (count <= 6) {
// Deliver a ball
count++
}

(0 1 2 3 4 5 6)

Q2) Given a number, find the last digit of that number

6387 → 7

MSB ← 6 ; 7 → LSB (least significant bit);

6126 → 6
916 → 6
72 → 2
9 → 9
10 → 0

6387
6387 = 6000 + 300 + 80 + 7
6380 + 7 → 7 O/P
10 will complete divide it → 6387 % 10

while ?? needed

```
     91      → quotient
10 ) 916     → divident
     90
     ---
      16
      10
      --
       6     → remainder
divisor ← 10
```

916 = 900 + 10 + 6
910 + 6 → 6 O/P
Comp devid by
916 % 10 =>

last digit = num % 10

```
int num = sc.nextInt();
sop(num % 10);
```

Q3) Given a number, print all the digits from right to left

LSD → MSD

916 → 6
1
9

631 → 1
3
4

100) 6381 (63
6300
81 →

6381 % 10 => 1 =>
6381 % 100 => 81
6381 % 1000 => 381

6381 / 10 => 638 -> quotient
6381 % 10 => 1 -> remand

(638 -> quotient
10) 6381
60
381
30
81
80
1 -> rem

int num = 6381 ;

in while loop

1) sop(num % 10); => 1
2) num = num / 10 =>
= 6381 / 10
num = 638

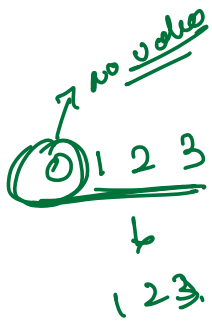
sop (num % 10) => 8
num = num / 10 => 63

sop (num % 10) => 3
num = num / 10 => 6

sop (num % 10) => 6
num = num / 10 => 0

num = 0

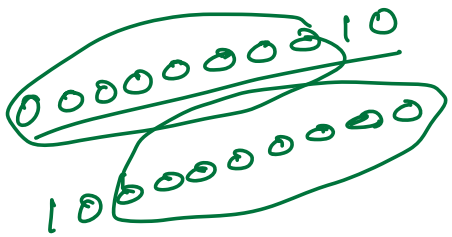
```
int num = sc.nextInt();
while (num > 0) {
    1) int ld = num % 10;
       sop(ld);
    2) num = num / 10;
}
```



638 / num (start) —/10→ 0 (end) (num != 0)

num > 0

6381	=>	> 0	→ t 1
638	=>	> 0	t 8
63	=>	> 0	t 3
6	=>	> 0	t 6
0	=>	> 0	F → exit loop.



Q => Given print sum of all digits

6381 => 6 + 3 + 8 + 1 => 18

916 => 9 + 1 + 6 => 16

916 => 6 + 1 + 9

6381 => 1 + 8 + 3 + 6.

```
int n = sc.nextInt();
int sum = 0;
while (n > 0) {
    int ld = n % 10;
    sum = sum + ld;
    n = n / 10
}
sop(sum);
```

(631)

(1+2+3+4+5 = 15

n = 1 ⟶ 5

1+0 => 1 3+0 => 3

2+0 => 2

1234

n	sum	n>0	ld	sum = sum+ld	n/10
1234	0	T	4	sum = 0+4 => 4	123
123	4	T	3	sum = 4+3 => 7	12
12	7	T	2	sum = 7+2 => 9	1
1	9	T	1	sum = 9+1 => 10	0
0	10	F → come out of loop			

Q5) Given a number n, print all the perfect number from 1 to n.

n = 10 ⟶ 1 ——— 10

$\sqrt{4} \Rightarrow 2$

$\sqrt{2} \Rightarrow (1.4)$ ± Complex int ✗

Not a perfect square.

$\sqrt{3} \Rightarrow$ No

$\sqrt{5} \Rightarrow$ no

$\sqrt{6} \Rightarrow$ no

$\sqrt{9} \Rightarrow 3 // \Rightarrow$ perfect square

N = 50 ⇒ 1, 4, 9, 16, 25, 36, 49

N = 100 ⇒ 1 4 9 16 25 36 49 64 81 100

1^2 2^2 3^2 4^2 5^2 6^2 7^2 8^2 9^2 10^2

1x1 4x4 7x7 9x9

10 ⇒ 1 4 9

n = 10;

```
int i=1;
while (i<=n)
  int sq = i*i
      sop(sq)
      i++
}
```

i	i<=n	sq=i*i	o/p	i++
1	T	sq=1	1	2
2	T	sq=4	4	3
3	T	sq=9	9	4
4	T	sq=16	16	5
5	T	sq=25	25	
⋮				
10				

2)
```
int i=1;
int sq=0;
while (sq<=n){
    sq = i*i;
    sop(sq);
    i++
}
```

i	sq	sq<=n	sq=i*i	o/p	i++
1	0	T	sq=1x1	1	2
2	1	T	sq=2x2	4	3
3	4	T	sq=3x3	9	4
4	9	T	sq=4x4	16	5
5	16	f	i<6		

final solution (Asli solution).

```
int i = 1;
while ((i * i) <= n) {
    cout(i*i);
    i++;
}
```

N = 10;

	i	i*i <= n	O/P cout(i*i)	i++
T	1	1 <= 10 T	1	2
	2	4 <= 10 T	4	3
	3	9 <= 10 T	9	4
	4	16 <= 10 F → exit loop		

7th Nov — 20th Nov

H.W ⇒ Assignment

Hints → free

Video solution - free

200

180 =)

Very Easy

Solution approach :- 0%

Complete solution :- 10%.

Easy, medi, hard

S.A =) 10%.

Compl. S =) 25%

$P_1 \Rightarrow$ 100 $\Rightarrow$ C.S $\Rightarrow$ (90)

Sum

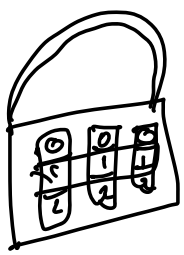
equal ho

100 $\Rightarrow$ S.A 90

C.S 75.

afks -submit

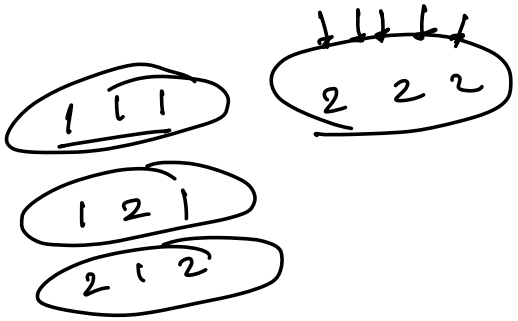
Complete solution



$\Rightarrow$ 0-9

0-9

0-9



A and B $\quad A^{n}B$

A = 2 $\quad$ B = 3 $\Rightarrow (2)^{3}$

(2 × 2 × 2)

A = 5 B = 6 ⇒ 5^6

(A → B times) $\frac{5 \times 5 \times 5 \times 5 \times 5 \times 5}{6}$

5 multiply 6 times

https://www.interviewbit.com/snippet/86f3606789b827f16611/