

Loops

↳ do the repetitive work

- ① For loop
 - ② while loop
 - ③ do while loop
-] entry control
-] exit control

① For loop

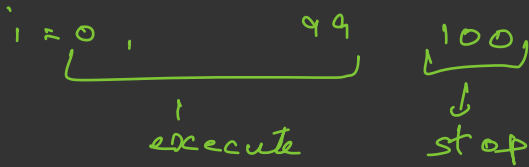
```
for ( int i = 0; i < 100; i++ ) {
```

initialisation

Condition

increment / decrement

} Body of loop



- ① initialisation
- ② Condition
- ③ run loop
- ④ incrementation

② while loop

```
int i = 0;  
while ( i < 100 ) {  
    sys0("Hi");  
    i++;  
}
```

```
sys.stdout.println()
```

```
③ do while  
    int i = 0;  
    do {  
        sys("Hi");  
        i++;  
    } while (i < 5)
```

// Hi

Que Factorial

$$n! = n \times (n-1) \times (n-2) \times \dots \times 1$$

$$4! = 4 \times 3 \times 2 \times 1 = 24$$

$$6! = 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 720$$

Que Fibonacci Series

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...

1st
1
2
3
4
5
6
8

0th

① Print fibonacci upto n

② Print nth fibonacci number

① $a = 0$
 $b = 1$
 $c = a + b = 1$
 $a = b;$
 $b = c$

$$a = 0$$

$$b = 1$$

$$c = a + b$$

$$a = 0$$

$$b = 1$$

$$c = a + b$$

$$a = b;$$

$$b = c;$$

$$c = a + b;$$

$$a = 1$$

$$b = 1$$

$$c = 2$$