

Code Link - https://www.scaler.com/topics/java/online-java-compiler/?snippet_slug=b5e20838bb9d1648bc5a



Agenda

- ① Introduction to for loop
- ② Solve 3-4 of problems
- ③ Break and continue
- ④ T test case question
- ⑤ Scope of variable
- ⑥ Unary operator
- ⑦ Compound Assignment operator

Quiz 1

// initialization

while (condition) {

 action

 update

}

For loop

for (initialize; condition; update)

{

 // action

}

Factors

x is a factor of N . If N is a multiple of x

$6 \rightarrow 1, 2, 3, 6$

$10 \rightarrow 1, 2, 5, 10$

$24 \rightarrow 1, 2, 3, 4, 6, 8, 12, 24$

Smallest factor $\rightarrow 1$

Largest factor for $N \rightarrow N$ (itself)

The range between which factors exist $\rightarrow [1, N]$

write a code to print all factors of given number N.

```
int n = sc.nextInt();  
for (int i = 1; i <= N; i++) {  
    if (N % i == 0) {  
        System.out.print(i + " ");  
    }  
}
```

Prime Number

~~A prime number is only divisible by 1 and itself~~ exception is 1

✓ Number which has exactly 2 factors are prime numbers

1 → [1] ✗

3 → [1, 3] ✓

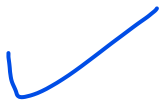
2 → [1, 2] ✓

10 \rightarrow [1, 2, 5, 10] ~~x~~

Given an Integer N, check if it is prime or Not.

Input \rightarrow 1
Output \rightarrow No

Input \rightarrow 5
Output \rightarrow Yes



```
1  int n = sc.nextInt();
2  int cnt = 0;
3  for (int i = 1; i <= N; i++) {
4      if (N % i == 0) {
5          cnt++;
6      }
7  }
8  if (cnt == 2) {
9      sop("Yes");
10 }
11 else {
12     sop("No");
13 }
```

| 0

// Break for 7 mins

Break keyword

12 \rightarrow [1, 2, 3, 4, 6, 12]

i	cnt
1	1
2	2
3	3
<hr/>	
4	4
5	4
6	5
...	
12	6

Break

```
for (int i=1; i<=N; i++) {  
    if (N%i==0) {  
        cnt++;  
    }  
}
```

Break

① Stop the execution of parent loop

As soon as you see
break, you get out
of parent loop
no. more iteration

```
int n = sc.nextInt();
```

```
int cnt = 0;
```

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

```
    if (N % i == 0) {
```

```
        cnt++;
```

```
    }
```

```
    if (cnt > 2) {
```

```
        break;
```

```
    }
```

```
}
```

```
if (cnt == 2) {
```

```
    sop("Yes");
```

```
}
```

```
else {
```

```
    sop("No");
```

```
}
```

continue keyword → skips rest of iteration & starts the new one

Rarely used.

↑ print even numbers

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

```
    if (i%2 == 1) {
```

```
        continue;
```

```
    }
```

```
    sop(i);
```

```
}
```