

## Example

Consider the time complexity for the following loop:

```
for (int i=1; i<=n; i++) {  
    k = k + 5;  
}
```

the loop is executed  $n$  times

constant time:

$$k = k + 5$$

## PerformanceTest.java

```
public class PerformanceTest {  
    public static void main(String[] args) {  
        getTime(100000);  
        getTime(1000000);  
        getTime(10000000);  
        getTime(100000000);  
        getTime(1000000000);  
    }
```

```
    public static void getTime(long n) {  
        long startWme = System.currentTimeMillis();  
        long k = 0;  
        for (long i = 1; i <= n; i++) {  
            k = k + 5;  
        }
```

```
        long endTime = System.currentTimeMillis();  
        System.out.println("Execution time for n = " + n  
                           + " is " + (endTime - startWme) +  
                           " milliseconds");
```