

For loops

v100

for loop syntax

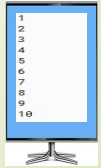
General syntax:

```
for (<initialization> ; <test> ; <update>) {
    <statement>;
    ...
    <statement>;
}
```

header
body

Example:

```
for (int i = 1; i <= 10; i++) {
    System.out.println( i );
}
```



for loop over range of ints

Example:

```
for (int i = 1; i <= 6; i++) {
    System.out.println(i + " squared is " + (i * i));
}
```

Output:

```
1 squared is 1
2 squared is 4
3 squared is 9
4 squared is 16
5 squared is 25
6 squared is 36
```

Downward-Counting

```
System.out.print("T-minus ");
for (int i = 10; i >= 1; i--) {
    System.out.print(i + ", ");
}
System.out.println("take off!");
```

Output:

```
T-minus 10, 9, 8, 7, 6, 5, 4, 3, 2, 1,
blastoff!
```

Nested for loops

```
for (int i = 1; i <= 3; i++)
{
    System.out.println("i = " + i);
    for (int j = 1; j <= 2; j++) {
        System.out.println("  j = " + j);
    }
}
```

Output:

```
i = 1
  j = 1
  j = 2
i = 2
  j = 1
  j = 2
i = 3
  j = 1
  j = 2
```

Nested for loop

```
for (int i = 1; i <= 6; i++) {
    for (int j = 1; j <= 10; j++) {
        System.out.print("*");
    }
    System.out.println();
}
```

Output:

```
*****
*****
*****
*****
*****
*****
```

Nested for loop exercise

```
for (int i = 1; i <= 6; i++) {  
    for (int j = 1; j <= i; j++) {  
        System.out.print("*");  
    }  
    System.out.println();  
}
```

■ Output:

```
*  
**  
***  
****  
*****  
*****
```