Factorial Program in Java

**Factorial Program** in Java: Factorial of n is the *product of all positive descending integers*. Factorial of *n* is denoted by n!. For example:

1. 4! = 4\*3\*2\*1 = 24
2. 5! = 5\*4\*3\*2\*1 = 120

Here, 4! is pronounced as "4 factorial", it is also called "4 bang" or "4 shriek".

The factorial is normally used in Combinations and Permutations (mathematics).

There are many ways to write the factorial program in java language. Let's see the 2 ways to write the factorial program in java.

* Factorial Program using loop
* Factorial Program using recursion

Factorial Program using loop in java

Let's see the factorial Program using loop in java.

1. **class** FactorialExample{
2. **public** **static** **void** main(String args[]){
3. **int** i,fact=1;
4. **int** number=5;//It is the number to calculate factorial
5. **for**(i=1;i<=number;i++){
6. fact=fact\*i;
7. }
8. System.out.println("Factorial of "+number+" is: "+fact);
9. }
10. }

Output:

Factorial of 5 is: 120

Factorial Program using recursion in java

Let's see the factorial program in java using recursion.

1. **class** FactorialExample2{
2. **static** **int** factorial(**int** n){
3. **if** (n == 0)
4. **return** 1;
5. **else**
6. **return**(n \* factorial(n-1));
7. }
8. **public** **static** **void** main(String args[]){
9. **int** i,fact=1;
10. **int** number=4;//It is the number to calculate factorial
11. fact = factorial(number);
12. System.out.println("Factorial of "+number+" is: "+fact);
13. }
14. }

Output:

Factorial of 4 is: 24