

```
1  #include <stdio.h>
2
3  int main() {
4      int num;
5      long long factorial = 1;
6
7      // Input number
8      printf("Enter a number: ");
9      scanf("%d", &num);
10
11     if (num < 0) {
12         printf("Factorial is not defined for negative numbers.\n");
13     } else {
14         // Iterative calculation
15         for (int i = 1; i <= num; i++) {
16             factorial *= i;
17         }
18         printf("Factorial of %d is %lld\n", num, factorial);
19     }
20
21     return 0;
22 }
23
```

```
Enter a number: 5
```

```
Factorial of 5 is 120
```

```
=== Code Execution Successful ===
```

```
1  #include <stdio.h>
2
3  // Recursive function to calculate factorial
4  long long factorial(int n) {
5      if (n == 0 || n == 1)
6          return 1; // base case
7      else
8          return n * factorial(n - 1);
9  }
10
11 int main() {
12     int num;
13
14     // Input number
15     printf("Enter a number: ");
16     scanf("%d", &num);
17
18     if (num < 0)
19         printf("Factorial is not defined for negative numbers.\n");
20     else
21         printf("Factorial of %d is %lld\n", num, factorial(num));
22
23     return 0;
24 }
25
```

```
Enter a number: 5
```

```
Factorial of 5 is 120
```