

6.1.2. Factorial of a Number

Algorithm: Factorial Calculation

- **Step 1:** Start.
- **Step 2:** Read integer **n**.
- **Step 3:** Initialize **factorial** to 1.
- **Step 4:** Check if **n** is negative ($n < 0$).
 - **If Yes:** Print "Invalid Input" and go to **Step 7**.
- **Step 5: Loop** from $i = 1$ to n :
 - Multiply **factorial** by **i** ($\text{factorial} = \text{factorial} * i$).
- **Step 6:** Print the final value of **factorial**.
- **Step 7:** End.

Code :

```
n = int(input())
```

```
factorial = 1
```

```
if n < 0:
```

```
    print("Invalid Input")
```

```
else:
```

```
    for i in range(1, n + 1):
```

```
        factorial *= i
```

```
    print(factorial)
```

Flow chart:



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6.1.2. Factorial of a Number

Write a Python program to calculate the factorial of a number n using loops.

Input Format:

- A single line containing an integer n .

Output Format:

- Print the factorial of the given integer n .

Sample Test Cases

factorialN...

```
1 n = int(input())
2
3 factorial = 1
4
5 if n < 0:
6     print("Invalid Input")
7 else:
8     for i in range(1, n + 1):
9         factorial *= i
10    print(factorial)
11
12
```

Average time
0.007 s
6.75 ms

Maximum time
0.010 s
10.00 ms

2 out of 2 shown test case(s) passed
2 out of 2 hidden test case(s) passed

Test case 1

Expected output
120

Actual output
120

Test case 2