❖Factorial:

Explanation: -

The factorial of a non-negative integer n is the product of all positive integers from 1 to n and is denoted as n! It is defined as n! = n times n-1 times n-2 times for n > 0, with the special case 0! = 1. Factorials are commonly used in permutations, combinations, and various areas of mathematics, including calculus and algebra.

```
Time Complexity: - O(n)
Space Complexity: - O(n)
[Start]
[Input number]
[Is number < 0?]
[Yes]
            [No]
[Output
"Factorial
is not defined
for negative
numbers."]
          [factorialResult = factorial(number)]
[End]
            [Start factorial]
           [Is n == 0 or n == 1?]
         [Yes]
                            [No]
  [Return 1]
                      [Return n * factorial(n - 1)]
```

```
[End] [End]

|
[Output "The factorial of "
+ number + " is: " + factorialResult]

|
[End]
```