Computing e^x

ZPRAC-16-17-Lab7

[20 Points]

ANNOUNCEMENT: Up to 20% marks will be allotted for good programming practice. These include
- Comments for non trivial code
- Indentation: align your code properly
- Use of Functions: Complete the provided code to perform the given task. Fill the function computeExp().

Write a C program to find the value of Exp(x) using upto n terms of the following series where n is given in input.

Exp(x) = 1 + x/1! + x^2/2! + x^3/3! + ...

Here, (a!) refers to factorial of a, term1 is 1, term2 is x/1!, and so on..

To prevent the overflows during the computations, the series should be computed as the following:

Exp(x) = 1 + (x/1) (1 + (x/2) (1 + (x/3) (.....)))

CLARIFICATION : If n = 1, Exp(x) = 1. If n = 2, Exp(x) = 1 + x/1, and so on...

Input:
Input contains a decimal number which denotes the value of x and an integer n which denotes the number of terms to be used in series.

Output:
The value of Exp(x) computed from the series rounded off till 3rd decimal place.

Example:

Input:
1 10
Output:

2.718

Input:
2 10
Output:
7.389

Constraints :
0 <= x < 10
1 <= n < 50