

series2

Write a C program that reads in x as a double-typed number, and prints the result (with 2 digits after the decimal point) of the following formula. You may assume that $-1 \leq x \leq 1$. No need to check user input error.

$$1 - \frac{x}{1!} + \frac{x^2}{2!} - \frac{x^3}{3!} + \frac{x^4}{4!} - \dots + \frac{x^{20}}{20!}$$

A sample program template is given below:

```
#include <stdio.h>
int main()
{
    /* Write your code here */
    return 0;
}
```

Sample input and output sessions are given below:

(1) Test Case 1:

```
Enter a number:
0.5
Result = 0.61
```

(2) Test Case 2:

```
Enter a number:
1
Result = 0.37
```

(3) Test Case 3:

```
Enter a number:
-1
Result = 2.72
```

(4) Test Case 4:

```
Enter a number:
0.7
Result = 0.50
```