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1: // C - Program for calculating the value of log(1+x).
2:
3: #include <stdio.h>
4: #include <math.h>
5:
6: //Expansion of log(1+x)
7:
8: int main(){
9:     //Variables and their initialization.
10:    float x, sum = 0.0; int n,i;
11:
12:    //Inputs
13:    printf("Enter the value of x : ");
14:    scanf("%f", &x);
15:    printf("Enter the no. of terms : ");
16:    scanf("%d", &n);
17:
18:    //Calculation using for loop.
19:    for (i=0; i<=n+1; i++){
20:        sum += (pow(-1, i)*pow(x, i+1))/(i+1);
21:    }
22:
23:    //Output
24:    printf("Value of log(1 + %f) using above defined program = %f\n",
x, sum);
25:    printf("Value of log(1 + %f) using pre-defined function = %f", x,
log(1+x));
26: }
27:

```