

3 b) Write a C program to calculate the following Sum:

$$\text{Sum} = 1 - x^2/2! + x^4/4! - x^6/6! + x^8/8! - x^{10}/10!.$$

<https://onlinegdb.com/ZJCaNboqU>

```
#include<stdio.h>
#include<math.h>
long fact(int);
void main()
{
    int x,i,n; float s=0,c;
    float t1,t2,t3,t4,t5;
    printf("\n enter the value of x\t");
    scanf("%d",&x);
    t1=pow(x,2)/fact(2);
    t2=pow(x,4)/fact(4);
    t3=pow(x,6)/fact(6);
    t4=pow(x,8)/fact(8);
    t5=pow(x,10)/fact(10);
    s=1-t1+t2-t3+t4-t5;
    printf("\n result:%f",s);
}
/* Computing Factorial*/
long fact(int x)
{
    long int y=1;
    while(x!=0)
    {
        y=y*x;
        x--;
    }
    return y;
}
```

OUTPUT:

```
enter the value of x    10

result:-1296.795532
```