S.No: 12	Exp. Name: ***Construct an algorithm which computes the sum of the factorials of numbers between m and n***	Date:2023-04-01

Aim:

Construct an algorithm which computes the sum of the factorials of numbers between m and n

Constraints:

m < n

Sample input output

Sample input output -1:

```
Enter m value: 3
Enter n value: 1
m value should be less than n
```

Sample input output -2:

```
Enter m value: 4
Enter n value: 6
Sum of factorials of numbers between 4 and 6 is 864
```

Sample input output -3:

```
Enter m value: 10
Enter n value: 13
Sum of factorials of numbers between 10 and 13 is 6749568000
```

Note: Do use the printf() function with a newline character (\n) at the end.

Note: Use an appropriate data type for the variable storing the sum to accommodate large factorial values.

Source Code:

fact.c

```
#include<stdio.h>
int main()
{
   long int m,n,k,i,fact=1,sum=0;
   printf("Enter m value: ");
   scanf("%ld",&m);
   printf("Enter n value: ");
   scanf("%ld",&n);
   if(m < n)
   {
      printf("Sum of factorials of numbers between %ld and %ld is ",m,n);
      for(k=m;k<=n;k++)
      {
         fact=1;
         for(i=k;i>=1;i--)
         {
         fact=fact*i;
```

```
      }
         sum=sum+fact;
      }
      printf("%ld\n",sum);
   }
   else
   printf("m value should be less than n\n");
   return 0;
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter m value: 10
Enter n value: 13
Sum of factorials of numbers between 10 and 13 is 6749568000

Test Case - 2
User Output
Enter m value: 3
Enter n value: 1
m value should be less than n