

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 %d and %d 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