S.No: 12	Exp. Name: ***Construct an algorithm which computes the sum of the factorials of numbers between m and n***	Date:2023-04-03

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()
{
   int i,j,n,m;
   long int fact=1,sum=0;
   printf("Enter m value: ");
   scanf("%d",&m);
   printf("Enter n value: ");
   scanf("%d",&n);
   if(m<n)
   {
      for(i=1;i<=n;i++)
      {
         fact=fact*i;
         if(m<=i&&i<=n)
         {
            sum=sum+fact;
```

```
         }
      }
      printf("Sum of factorials of numbers between %d and %d is %ld\n",m,n,su
m);
   }
   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

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