Instructions: Please read carefully

- Please rename this file as only your ID number **(e.g. 18-*****-1.doc or 18-*****-1.pdf).**
- Submit the file before **11:59pm on 28/01/2021** in the portal assignment section labeled **Lab task 1.** **If you cannot complete the full task, do not worry. Just upload what you have completed.**

Do not Copy!!!

Name:- **Amit Podder**

ID:- **20-42273-1**

Section:- **[F]**

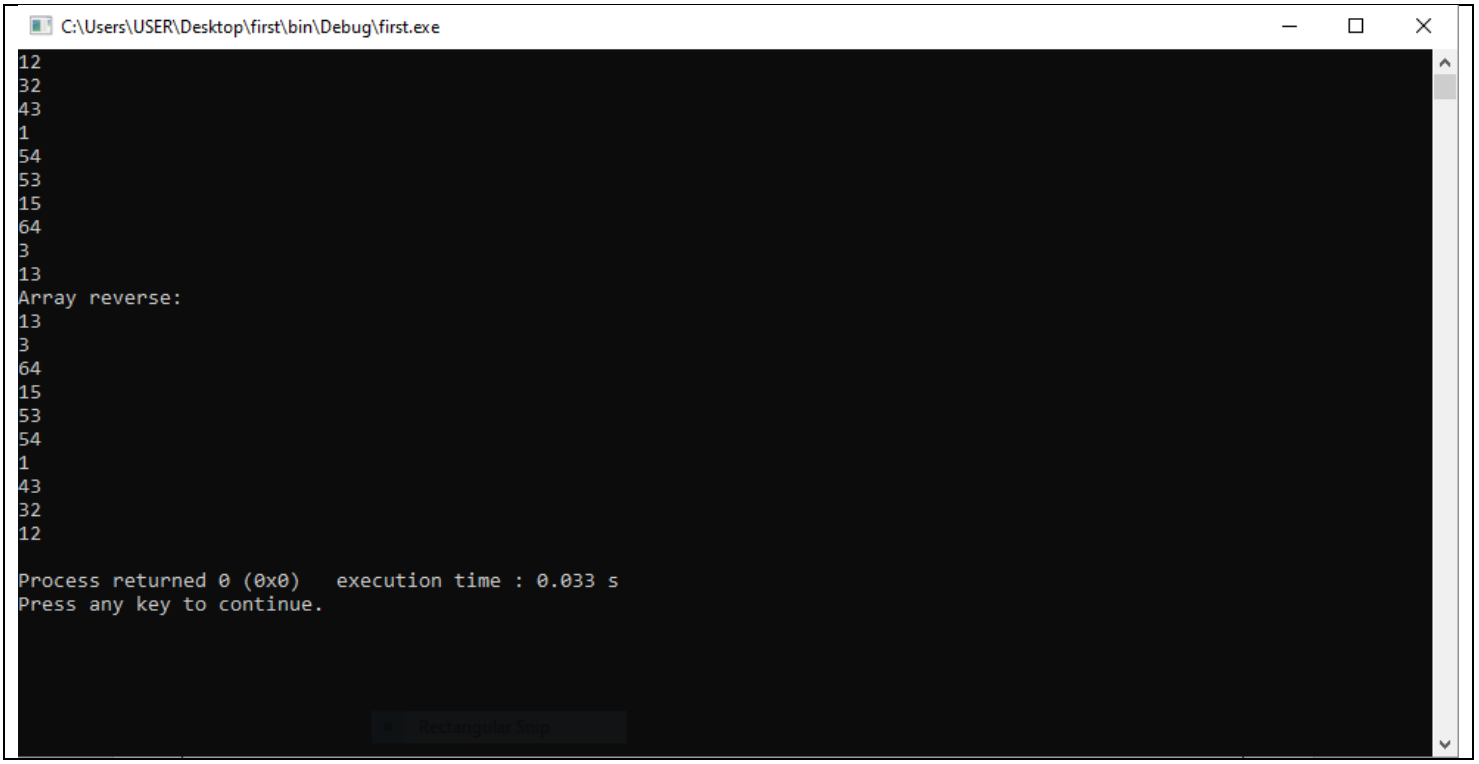
1. Initialize an array of 10 elements and print the array elements both in normal and reverse order.

For example,
Input: **12 32 43 1 54 53 15 64 3 13**
Output: **13 3 64 15 53 54 1 43 32 12**

Your code here:

```
#include <iostream>

using namespace std;

int main()
{
   int a[10]={12,32,43,1,54,53,15,64,3,13};
   for(int n=0;n<=9;n++)
   {
      cout<<a[n]<<""<<endl;
   }
   cout<<"Array reverse:"<<endl;
   for(int i=9;i>=0;i--)
   {
     cout<<a[i]<<""<<endl;
   }
   return 0;
}
```

Your whole Screenshot here: (Console Output):



2. Initialize an integer array of 10 elements and print how many numbers are odd and how many numbers are even.

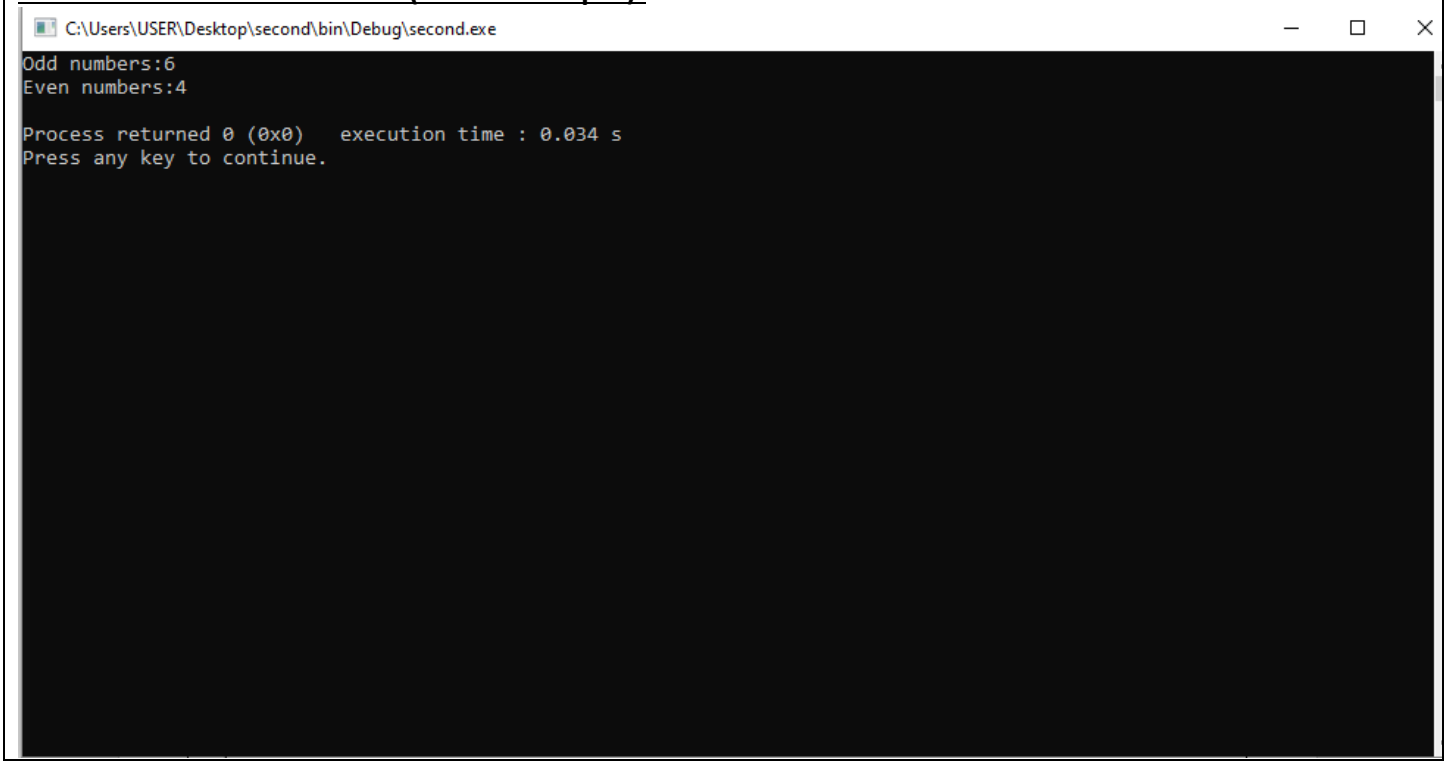
For example,
Input: **12 32 43 1 54 53 15 64 3 13**
Output:
6 odd numbers
4 even numbers

Your code here:

```
#include <iostream>

using namespace std;

int main()
{
   int ar[10]={12,32,43,1,54,53,15,64,3,13};
   int even=0;
   int odd=0;

   for(int n=0;n<10;n++)
   {
      if(ar[n]%2==0)
      {
         even++;
      }
      else
      {
         odd++;
      }
```

```
   }
    cout<<"Odd numbers:"<<odd<<endl;
    cout<<"Even numbers:"<<even<<endl;

   return 0;
}
```

Your whole Screenshot here: (Console Output):



3. Write a function that takes TWO parameters to print all the odd numbers between a given range. Input the starting value of the range and ending value of the range. Then, send them as the parameters to your function.

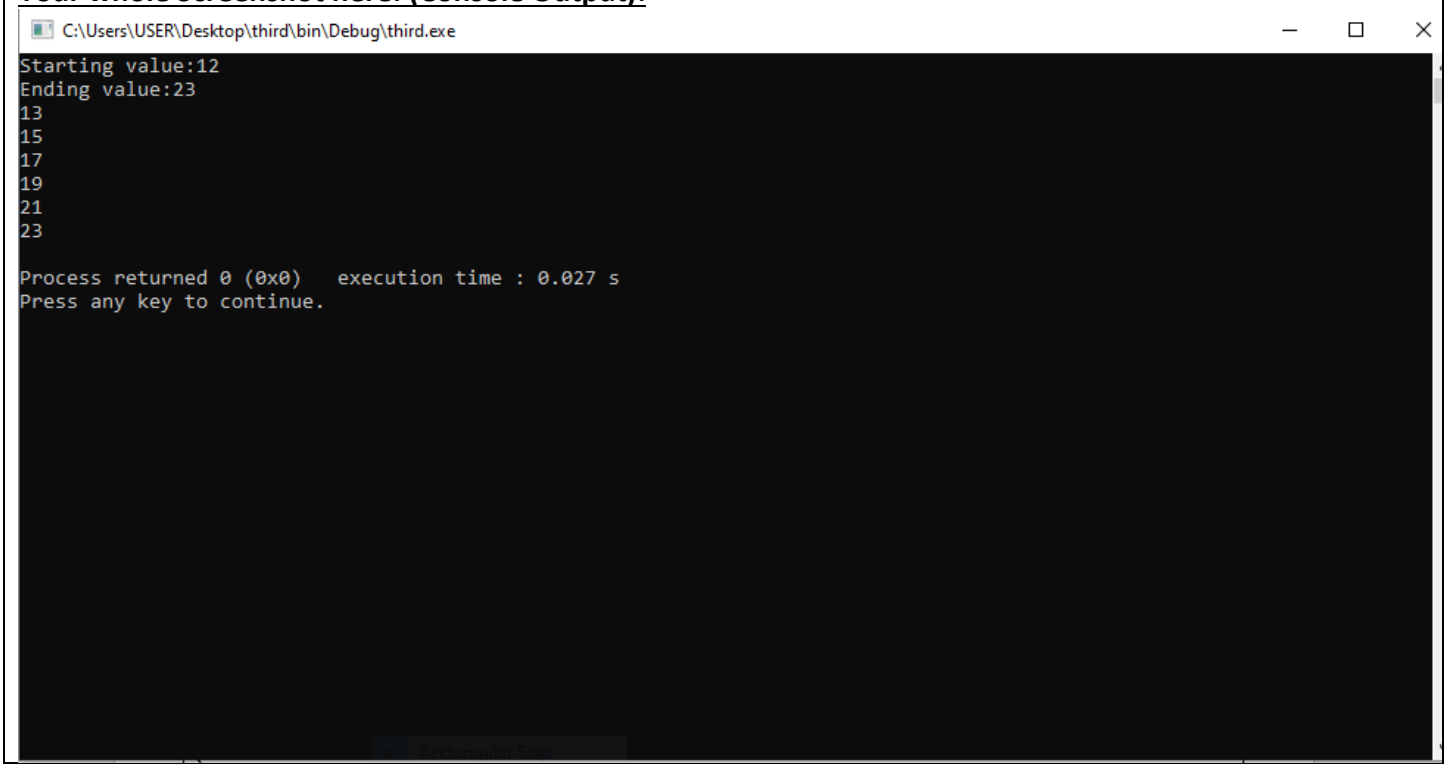
For example,
Output:
Starting value: 12
Ending value: 23
13 15 17 19 21 23

Your code here:

```
#include <iostream>

using namespace std;

int main()
{
   int n=12;
   cout<<"Starting value:"<<n<<endl;
   cout<<"Ending value:"<<23<<endl;

   for(int n=12;n<=23;n++)
   {
```

```
    if(n%2!=0)
    {
       cout<<""<<n<<endl;
    }
  }

  return 0;
}
```

Your whole Screenshot here: (Console Output):



4. Write a program to perform matrix addition between 3 matrices.

For example,

Input:

12 13 14 1 2 3 101 104 107
15 16 17 4 5 6 102 105 108
18 19 20 7 8 9 103 106 109

Output:

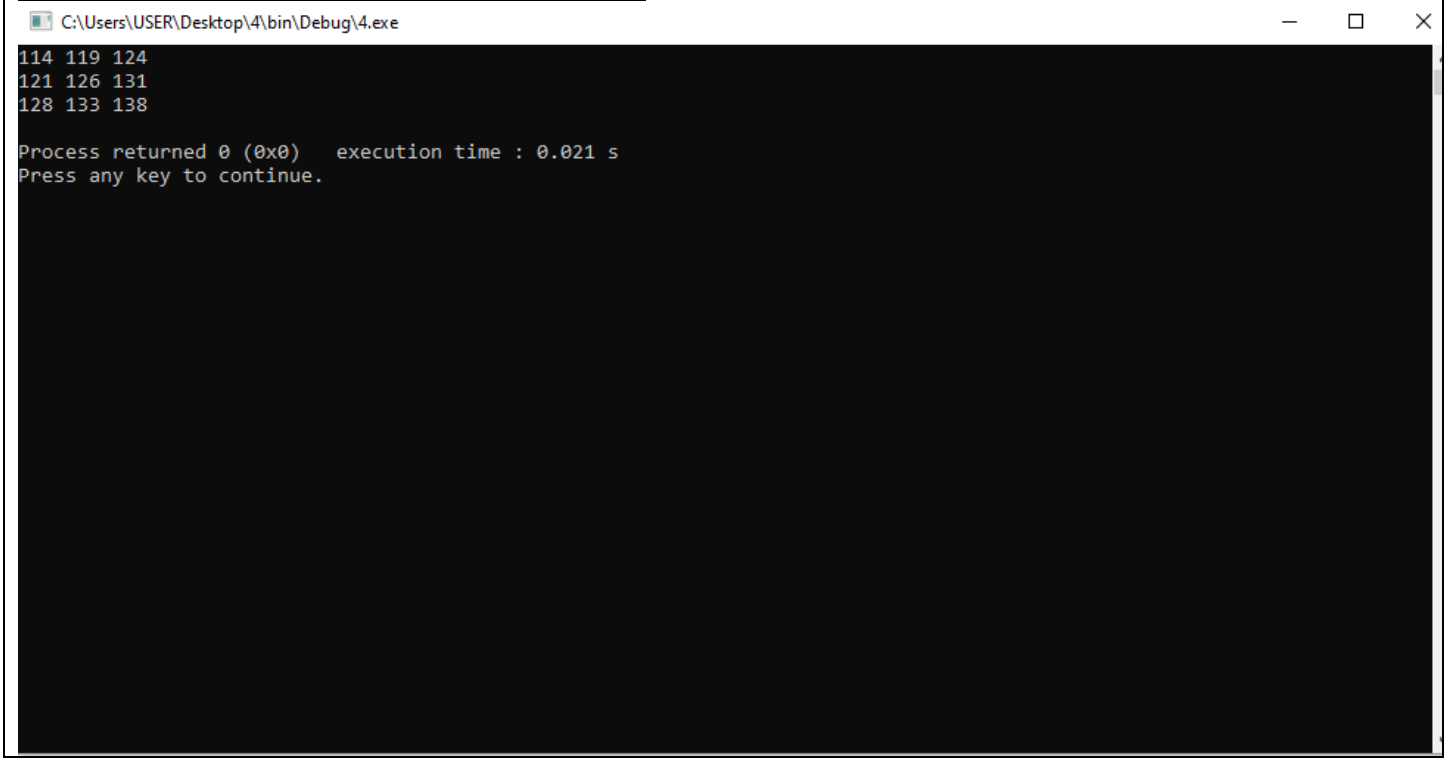
114 119 124
121 126 131
128 133 138

Your code here:

```
#include <iostream>

using namespace std;
```

```
int main()
{
  int a[3][3]={{12,13,14},{15,16,17},{18,19,20}};
  int b[3][3]={{1,2,3},{4,5,6},{7,8,9}};
  int c[3][3]={{101,104,107},{102,105,108},{103,106,109}};
  int sum[3][3];

  for(int i=0;i<3;i++)
  for(int j=0;j<3;j++)

  sum[i][j]=a[i][j]+b[i][j]+c[i][j];

  for(int i=0;i<3;i++){
  for(int j=0;j<3;j++)

  cout<<sum[i][j]<<" ";
  cout<<"\n";

  }
  return 0;
}
```

Your whole Screenshot here: (Console Output):



5. Write a function to calculate factorial of a given integer number if that number is a prime number. If it is not, it will give an error.

For example,

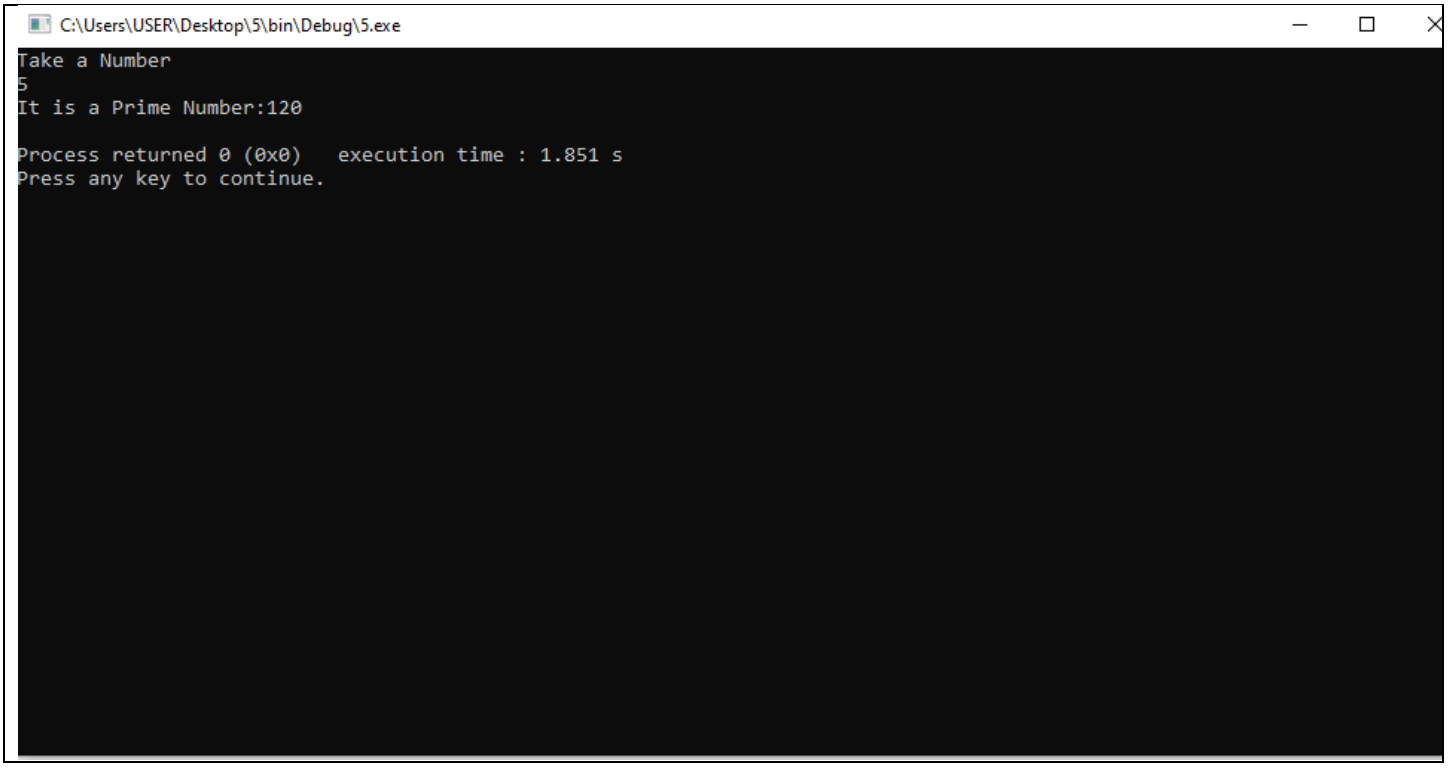
Scenario 1

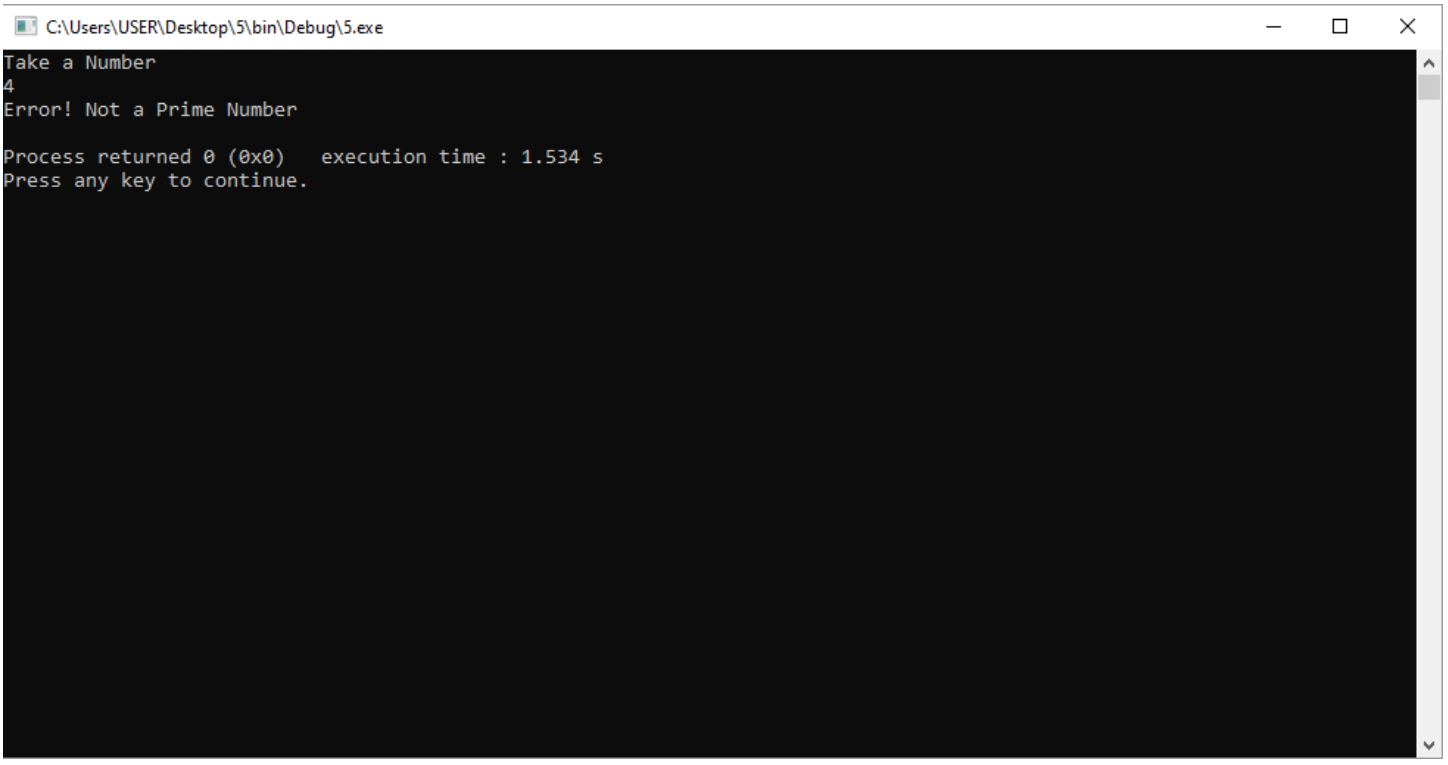
Input: **5**
Output: **120**
Scenario 2
Input: **4**
Output: **Error! Not a prime number.**

Your code here:

```
#include <iostream>

using namespace std;

int main()
{
  int num;
  int fac=1;
  bool prime=true;
  cout<<"Take a Number"<<endl;
  cin>>num;

  for(int n=1;n<=num;n++)
  {
     fac=fac*n;
  }
  for(int i=2;i<=fac;i++)
  {
     if(num%i==0)
     {
        cout<<"Error! Not a Prime Number"<<endl;
        break;
     }
     else
     {
        cout<<"It is a Prime Number:"<<fac<<endl;
        break;
     }
  }
  return 0;
}
```

Your whole Screenshot here: (Console Output):


C:\Users\USER\Desktop\5\bin\Debug\5.exe
Take a Number
5
It is a Prime Number:120
Process returned 0 (0x0)   execution time : 1.851 s
Press any key to continue.


C:\Users\USER\Desktop\5\bin\Debug\5.exe
Take a Number
4
Error! Not a Prime Number
Process returned 0 (0x0)   execution time : 1.534 s
Press any key to continue.