

Lab Task 7

Submitted By:

Wasif Mehmood

Submitted To:

DR Zakira Inayat

Reg NO:

Pwbcs0769

Department:

CS&IT

Q1. Write a C++ program to display the following lines 5 times

Hello World!

### Source Code:

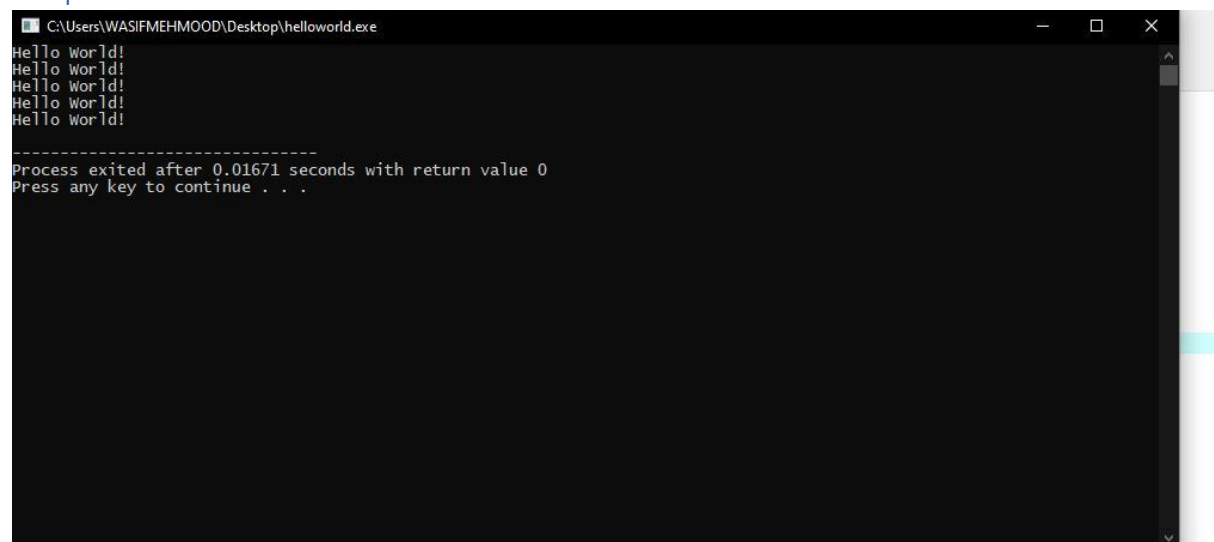
```
#include<iostream>

using namespace std;

int main()
{
    for(int i =0;i<5;i++)
    {
        cout<<"Hello World! \n";
    }

    return 0;
}
```

### Output:



```
C:\Users\WASIFMEHMOOD\Desktop\helloworld.exe
Hello World!
Hello World!
Hello World!
Hello World!
Hello World!

-----
Process exited after 0.01671 seconds with return value 0
Press any key to continue . . .
```

Q.2. Write a program to input a number from the user, and display all the number from 1 to that particular number. There should be a tab between each number.

For output display, enter the number by taking the last digit of your registration number. If your registration number ends with zero, take the second last digit of your registration number.

### Source Code:

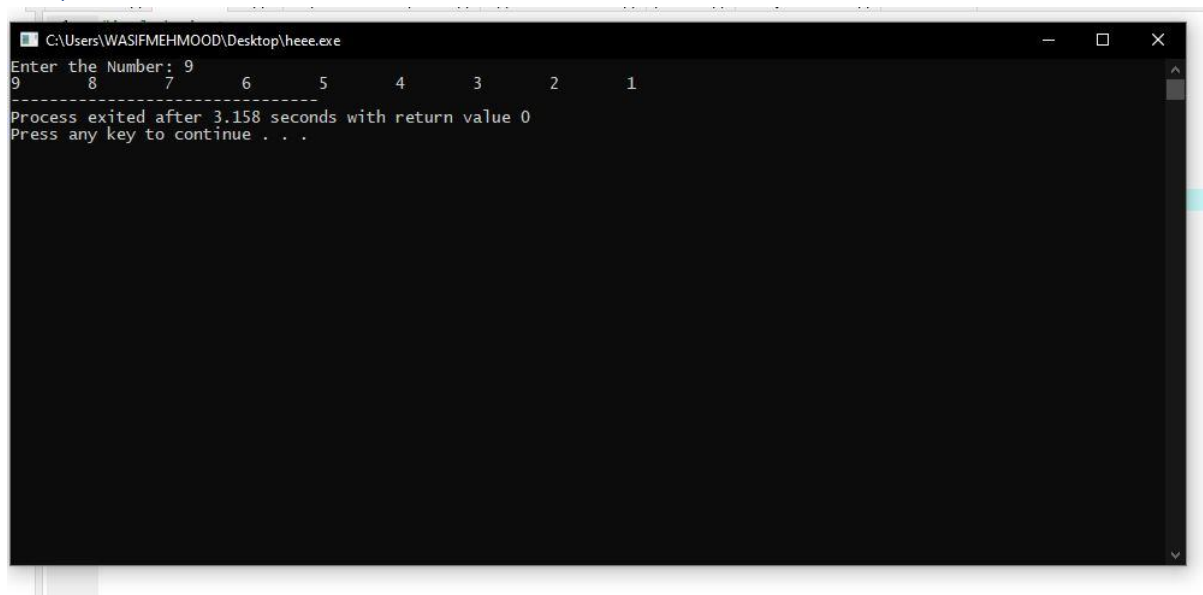
```
#include<iostream>

using namespace std;

int main()
{
    int numb;
    cout<<"Enter the Number: ";
    cin>>numb;
    for(int i=numb;i>0;i--)
    {
        cout<<i<<"\t";

    }
    return 0;
}
```

## Output:



```
C:\Users\WASIFMEHMOOD\Desktop\heee.exe
Enter the Number: 9
9 8 7 6 5 4 3 2 1
-----
Process exited after 3.158 seconds with return value 0
Press any key to continue . . .
```

Q.3. Modify Task 2 such that there are no more than 5 numbers in a line.

## Source Code:

```
#include<iostream>
using namespace std;
int main()
{
    int num;
    int count =0;
    cout<<"Enter the Number: ";
    cin>>num;
    while(num>0)
    {
        if(num%5==0)
        {
            cout<<endl<<num;
```

```

    }
    else
    {
        cout<<num;
    }
    num--;
}

return 0;
}

```

Output:

```

C:\Users\WASIFMEHMOOD\Desktop\hhhh.exe
Enter the Number: 69
69686766
6564636261
6059585756
5554535251
5049484746
4544434241
4039383736
3534333231
3029282726
2524232221
2019181716
1514131211
109876
54321
-----
Process exited after 10.86 seconds with return value 0
Press any key to continue . . .

```

Q.4. Write a program to display all even numbers in the range of 1 - 100.

Source Code:

```

#include<iostream>

using namespace std;

int main()
{
    for(int i=1;i<=100;i++)
    {
        if(i%2==0)

```

```

    {

        cout<<i<<" is a even number \n";

    }

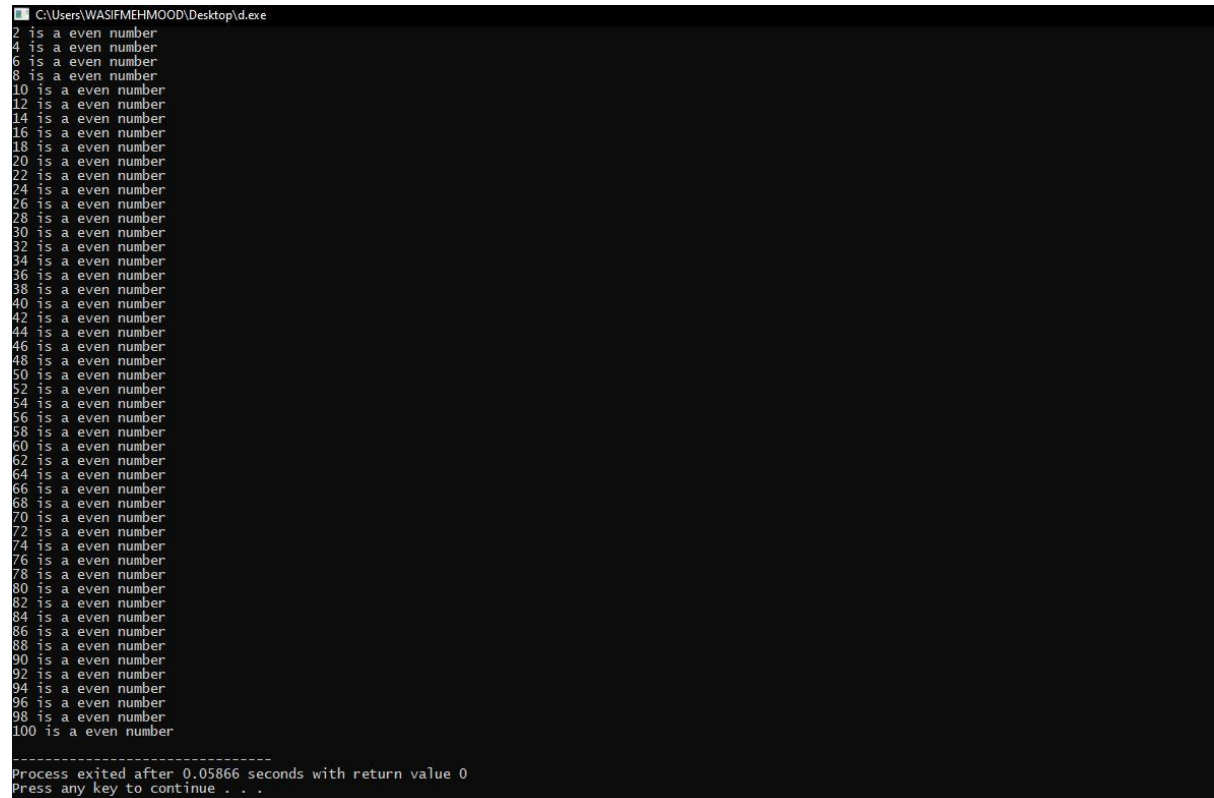
}

return 0;

}

```

Output:



```

C:\Users\WASIFMEHMOOD\Desktop\d.exe
2 is a even number
4 is a even number
6 is a even number
8 is a even number
10 is a even number
12 is a even number
14 is a even number
16 is a even number
18 is a even number
20 is a even number
22 is a even number
24 is a even number
26 is a even number
28 is a even number
30 is a even number
32 is a even number
34 is a even number
36 is a even number
38 is a even number
40 is a even number
42 is a even number
44 is a even number
46 is a even number
48 is a even number
50 is a even number
52 is a even number
54 is a even number
56 is a even number
58 is a even number
60 is a even number
62 is a even number
64 is a even number
66 is a even number
68 is a even number
70 is a even number
72 is a even number
74 is a even number
76 is a even number
78 is a even number
80 is a even number
82 is a even number
84 is a even number
86 is a even number
88 is a even number
90 is a even number
92 is a even number
94 is a even number
96 is a even number
98 is a even number
100 is a even number
-----
Process exited after 0.05866 seconds with return value 0
Press any key to continue . . .

```

Q.5. Write a C++ program to input a number from the user, and classify it as prime or composite.

Source Code:

```

#include<iostream>

using namespace std;

int main()

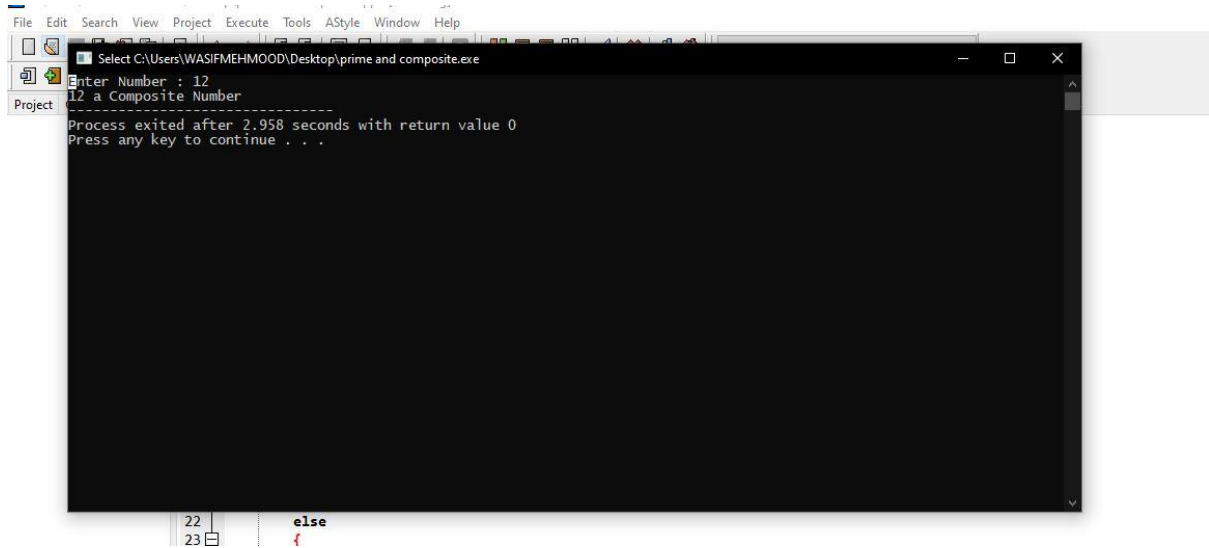
{

    int num,count=0;

```

```
cout<<"Enter Number : ";  
  
cin>>num;  
  
for(i=2;i<num;i++)  
{  
    if(num%i==0)  
    {  
        count++;  
        break;  
    }  
}  
if(count==0)  
{  
    cout<<num<<"Prime Number";  
}  
else  
{  
    cout<<num<<"a Composite Number";  
}  
return 0;  
}
```

## Output:



Q1. Write a C++ program to display the following lines 5 times using while loop  
Hello World!

## Source Code:

```
#include<iostream>

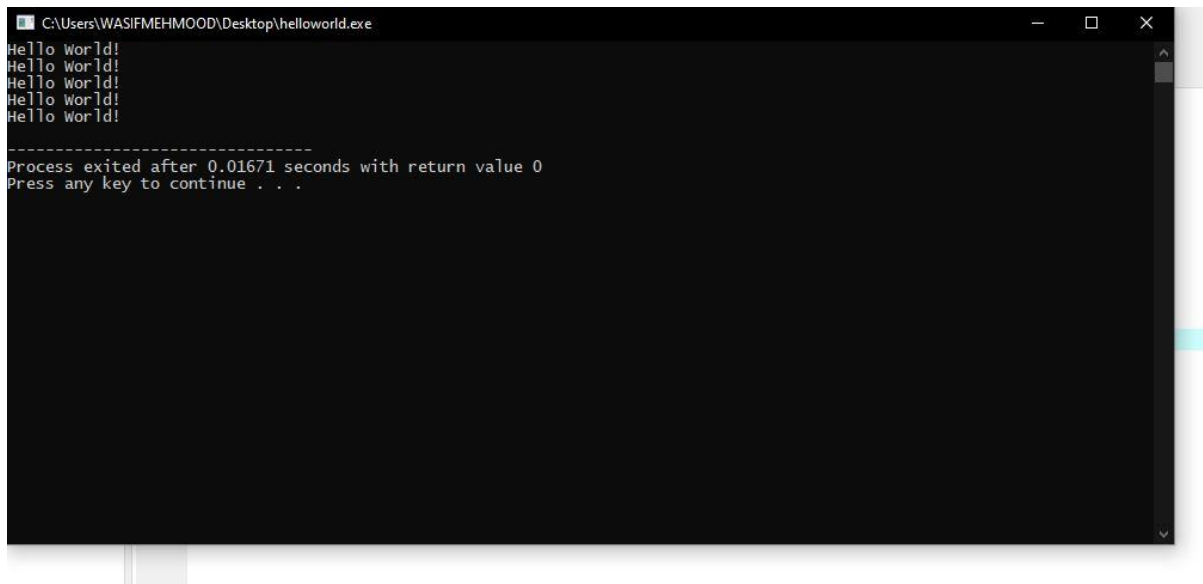
using namespace std;

int main()
{
    int n;
    while(n<=5)
    {
        cout<<"Hello World! \n";
        n++;
    }

    return 0;
}
```

## Output:





Q.2. Write a program to input a number from the user, and display all the number from 1 to that particular number. There should be a tab between each number using while loop. For output display, enter the number by taking the last digit of your registration number. If your registration number ends with zero, take the second last digit of your registration number

### Source Code:

```
#include<iostream>

using namespace std;

int main()
{
    int numb;

    cout<<"Enter the Number: ";

    cin>>numb;

    int i;

    i=numb;

    while(i>0)
    {
```

```

        cout<<i<<"\t";

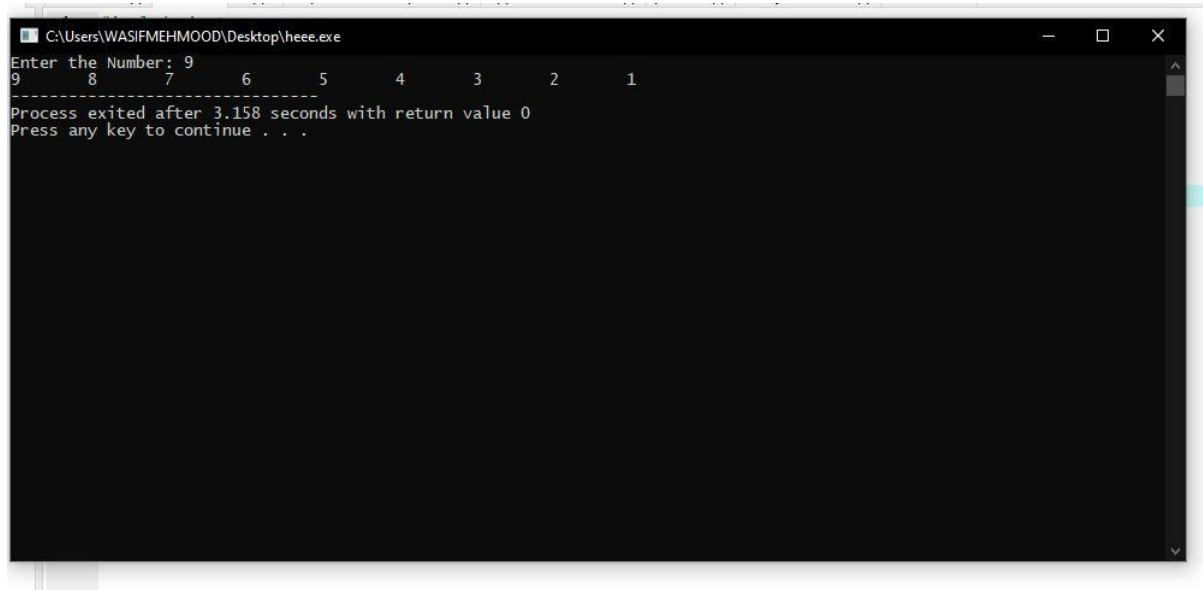
        i--;
    }

return 0;

}

```

Output:



```

C:\Users\WASIFMEHMOOD\Desktop\heee.exe
Enter the Number: 9
9      8      7      6      5      4      3      2      1
-----
Process exited after 3.158 seconds with return value 0
Press any key to continue . . .

```

Q.4. Write a program to display all even numbers in the range of 1 – 100 using while loop.

Source Code:

```

#include<iostream>

using namespace std;

int main()
{
    int i=1;

    while(i<=100)
    {

        if(i%2==0)
        {

```

```

        cout<<i<<" is a even number \n";

    }

    i++;

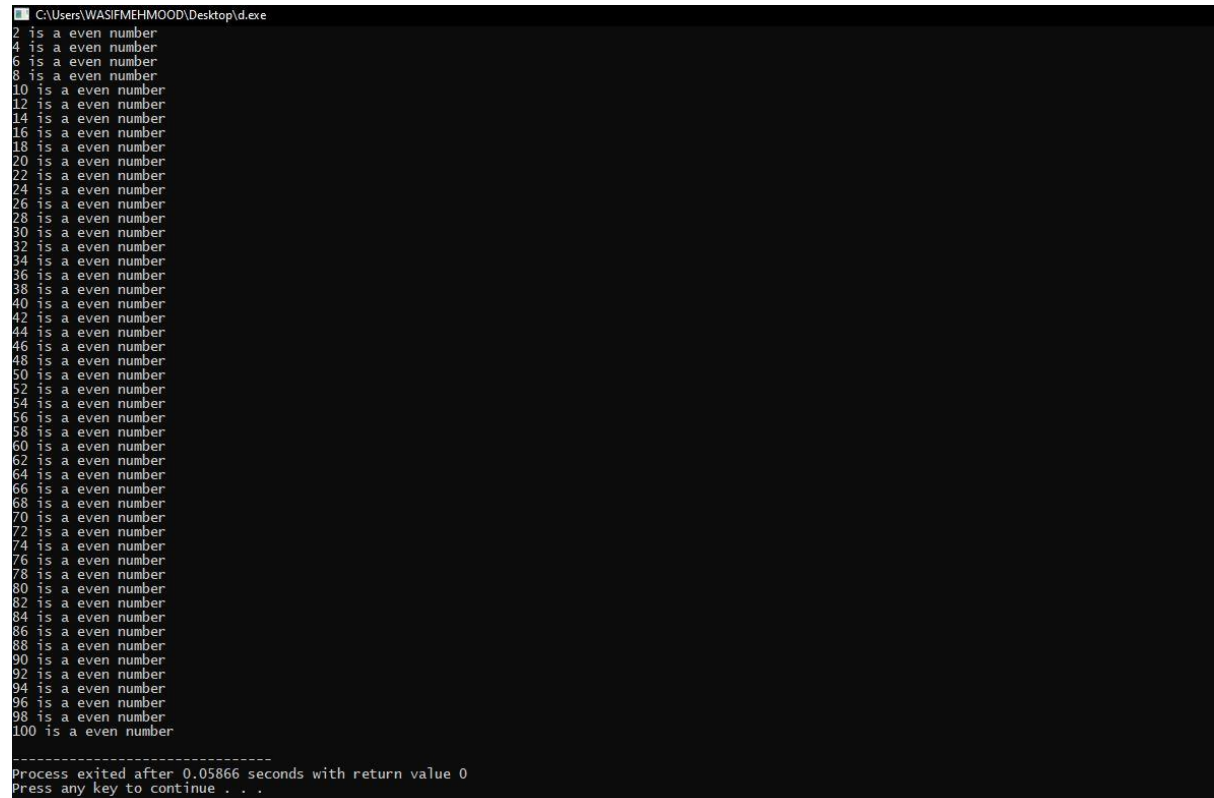
}

return 0;

}

```

### Output:



The screenshot shows a Windows command prompt window with the title "C:\Users\WASIFMEHMOOD\Desktop\d.exe". The output of the program is a list of even numbers from 2 to 100, each followed by the text "is a even number". The numbers are listed in increments of 2: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, and 100. At the bottom of the window, a status bar indicates "Process exited after 0.05866 seconds with return value 0" and "Press any key to continue . . .".

Q.5. Write a C++ program to input a number from the user, and classify it as prime or composite Using While loop.

### Source Code:

```

#include<iostream>

using namespace std;

int main()

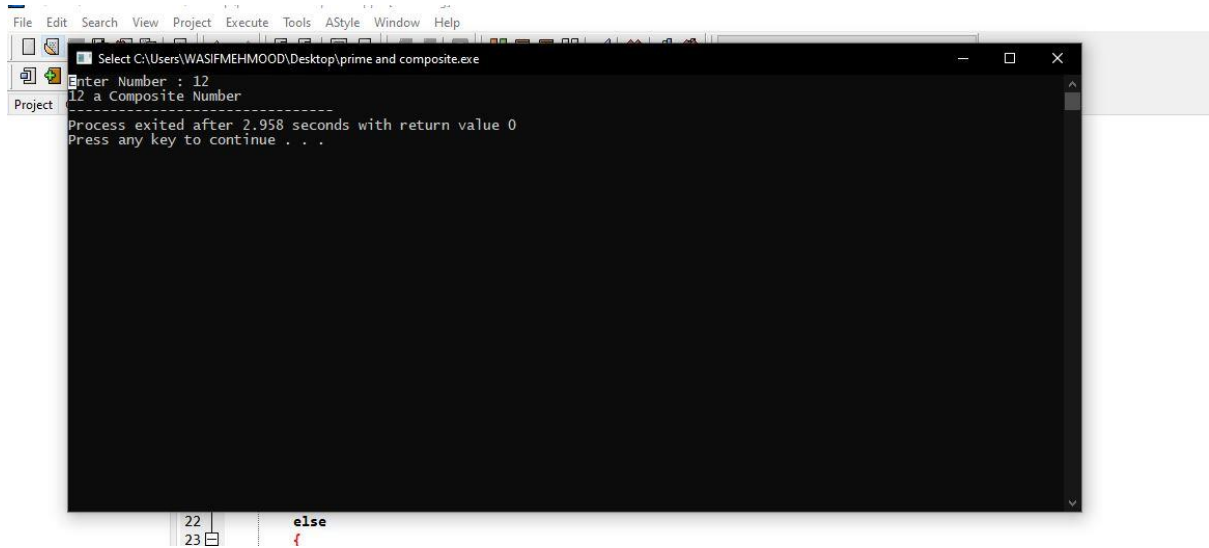
{

    int num,count=0;

```

```
cout<<"Enter Number : ";  
cin>>num;  
    int i=2;  
while(i<num)  
{  
    if(num%i==0)  
    {  
        count++;  
        break;  
    }  
    i++;  
}  
if(count==0)  
{  
    cout<<num<<"Prime Number";  
}  
else  
{  
    cout<<num<<" a Composite Number";  
}  
return 0;  
}
```

## Output:



```
File Edit Search View Project Execute Tools AStyle Window Help
Select C:\Users\WASIFMEHMOOD\Desktop\prime and composite.exe
Enter Number : 12
12 a Composite Number
-----
Process exited after 2.958 seconds with return value 0
Press any key to continue . . .

22
23 else
{
```

Q.7. Input a binary number from user, and convert it to equivalent decimal.

## Source Code:

```
#include<iostream>

#include<math.h>

using namespace std;

int main()
{
    int dec = 0, i = 0, rem;
    long num;

    cout << "Enter the binary number : ";

    cin >> num;

    while (num != 0) {
        rem = num % 10;
        num /= 10;
        dec += rem * pow(2, i);
        ++i;
    }
}
```

```

    }

    cout<<dec;

return 0;

}

```

Output:

The screenshot shows a C++ IDE with the following source code in the editor:

```

1  #include<iostream>
2  #include<math.h>
3  using namespace std;
4
5
6  Enter the binary number : 101010
7  42
8  -----
9  Process exited after 6.187 seconds with return value 0
10 Press any key to continue . . .
11
12
13
14
15
16
17
18
19

```

The output window displays the execution results, showing the input '101010' and the resulting decimal value '42'.

Q8. Input two numbers (x,y) from the user and find the value of  $x^y$ .

Source Code:

```

#include<iostream>

#include<math.h>

using namespace std;

int main()
{
    int x,y,power;

    cout<<"Enter X: ";

    cin>>x;

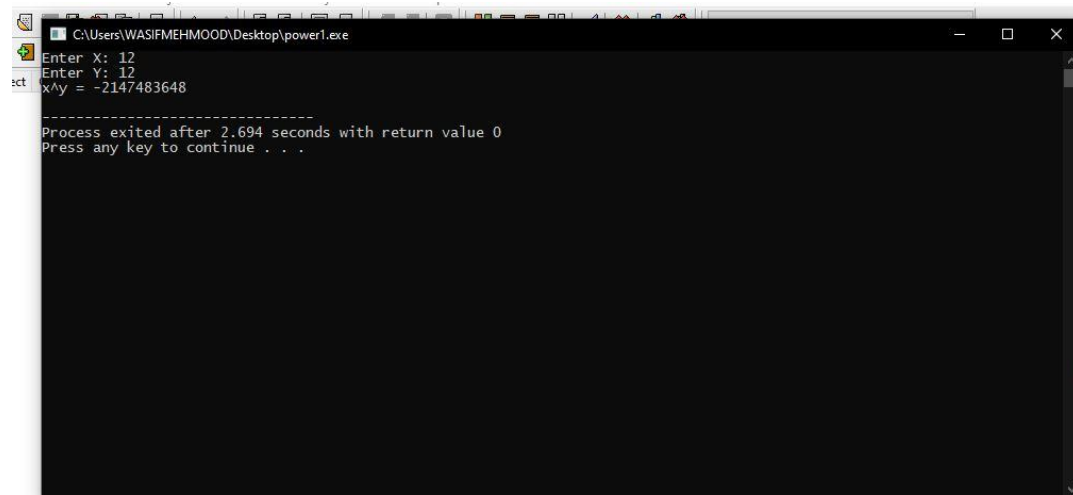
    cout<<"Enter Y: ";

    cin>>y;

```

```
    power=pow(x,y);  
    cout<<"x^y = "<<power<<endl;  
return 0;  
}
```

Output:



```
C:\Users\WASIFMEHMOOD\Desktop\power1.exe  
Enter X: 12  
Enter Y: 12  
x^y = -2147483648  
-----  
Process exited after 2.694 seconds with return value 0  
Press any key to continue . . .
```

Q9. Input two numbers from the user (lowerBound, upperBound) and find the sum all numbers in the given range (both numbers included).

Source Code:

```
#include<iostream>  
using namespace std;  
int main()  
{  
    int lower_range,upper_range;  
    int sum=0;  
    cout<<"Enter Lower Range: ";  
    cin>>lower_range;  
    cout<<"Enter Upper Range: ";  
    cin>>upper_range;  
    for (int i = lower_range; i <= upper_range; i++){
```

```

        sum += i;
    }

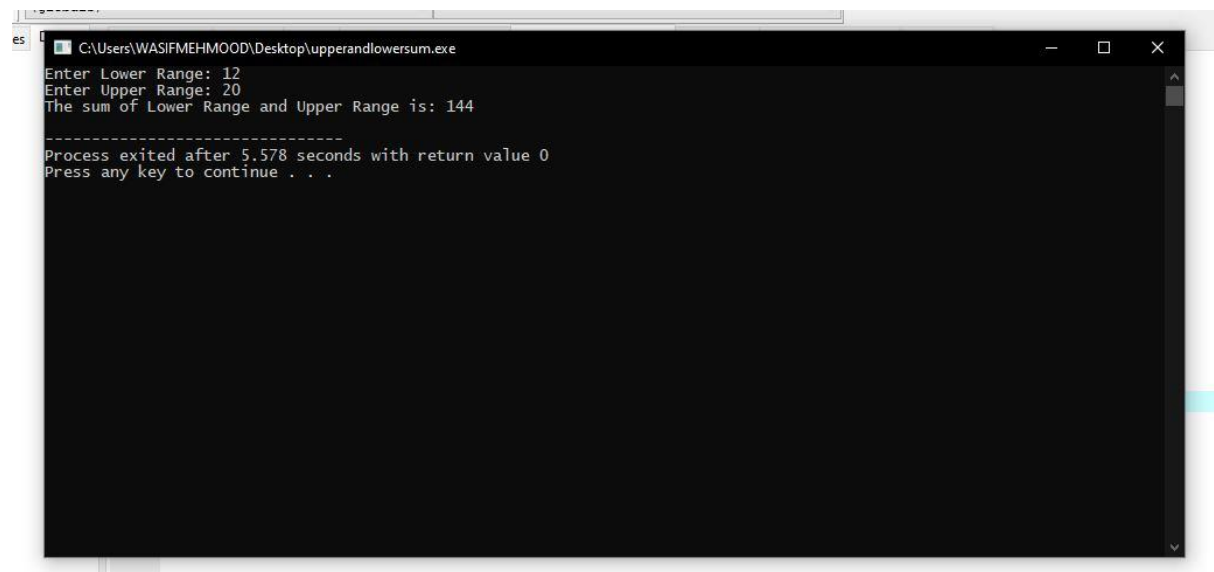
    cout<<"The sum of Lower Range and Upper Range is: "<<sum<<endl;

return 0;

}

```

Output:



```

C:\Users\WASIFMEHMOOD\Desktop\upperandlowersum.exe
Enter Lower Range: 12
Enter Upper Range: 20
The sum of Lower Range and Upper Range is: 144
-----
Process exited after 5.578 seconds with return value 0
Press any key to continue . . .

```

Q.10. Input a number from the user and calculate the factorial of the number.

Source Code:

```

#include<iostream>

using namespace std;

int main()
{
    double long n, i=1,fact=1;

    cout<<" ente the number";

    cin>>n;

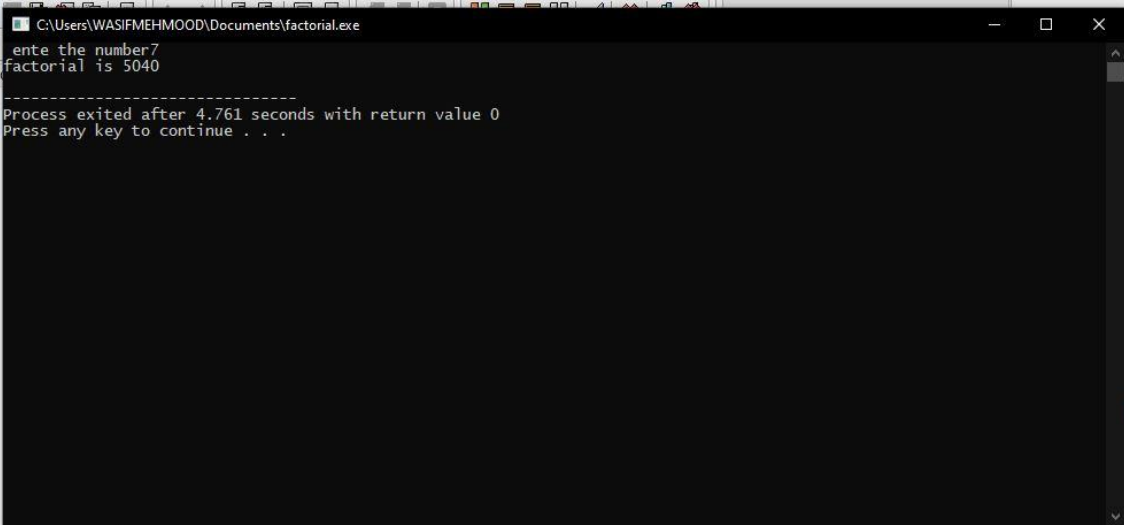
    while(i<=n)

```



```
{  
    fact*=i;  
    i++;  
}  
cout<<"factorial is "<<fact<<endl;  
return 0;  
}
```

Output:



```
C:\Users\WASIFMEHMOOD\Documents\factorial.exe  
ente the number7  
factorial is 5040  
-----  
Process exited after 4.761 seconds with return value 0  
Press any key to continue . . .
```