Lab Task 7

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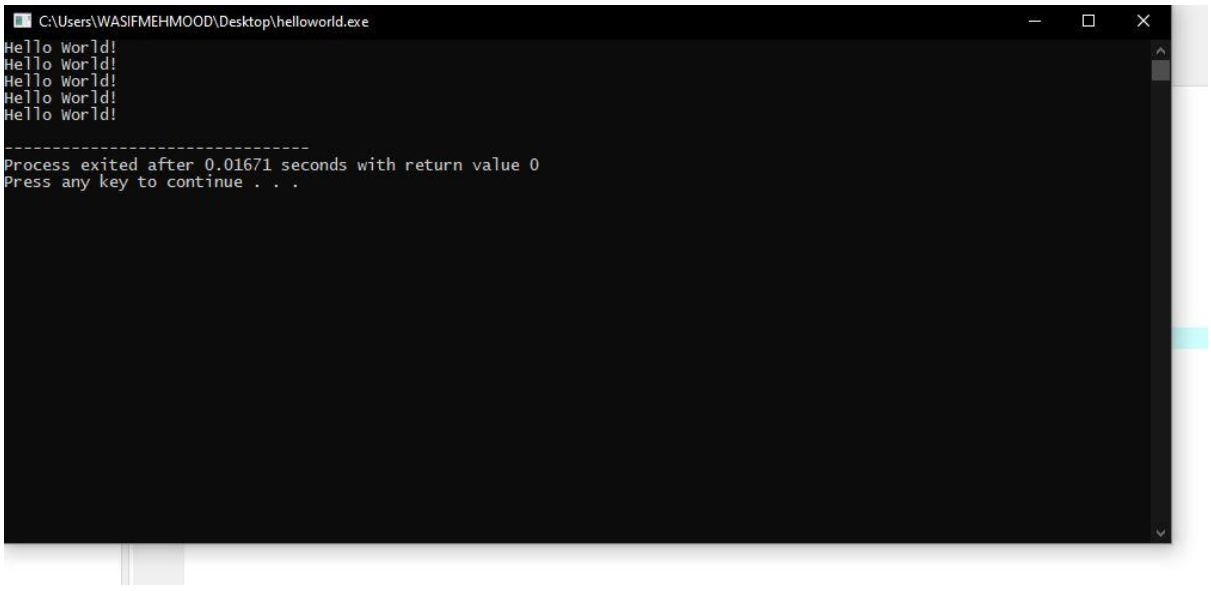
Q1. Write a C++ program to display the following lines 5 times

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:



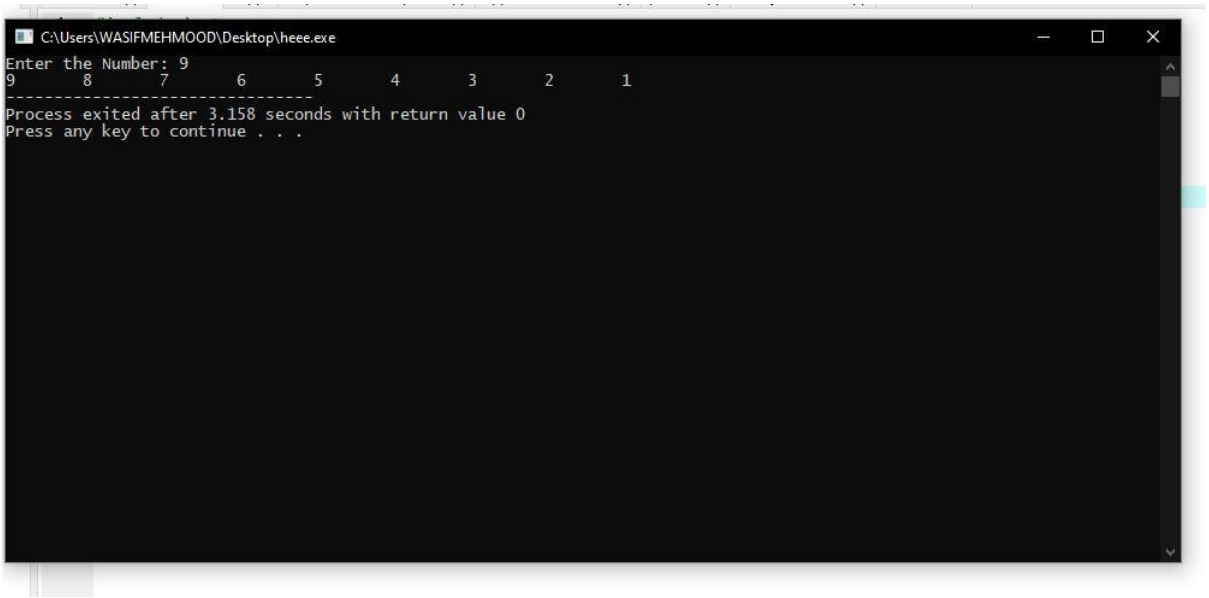
Q.2. Write a program to input a number from the user, and display all the number from 1 to that particular number. There should be a tab between each number.

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:



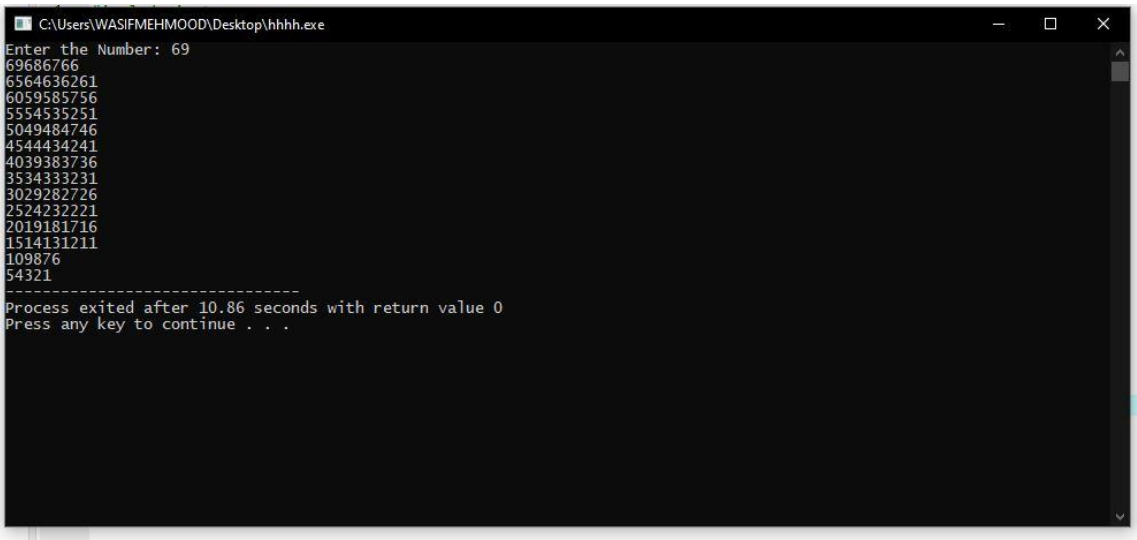
Q.3. Modify Task 2 such that there are no more than 5 numbers in a line.

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:



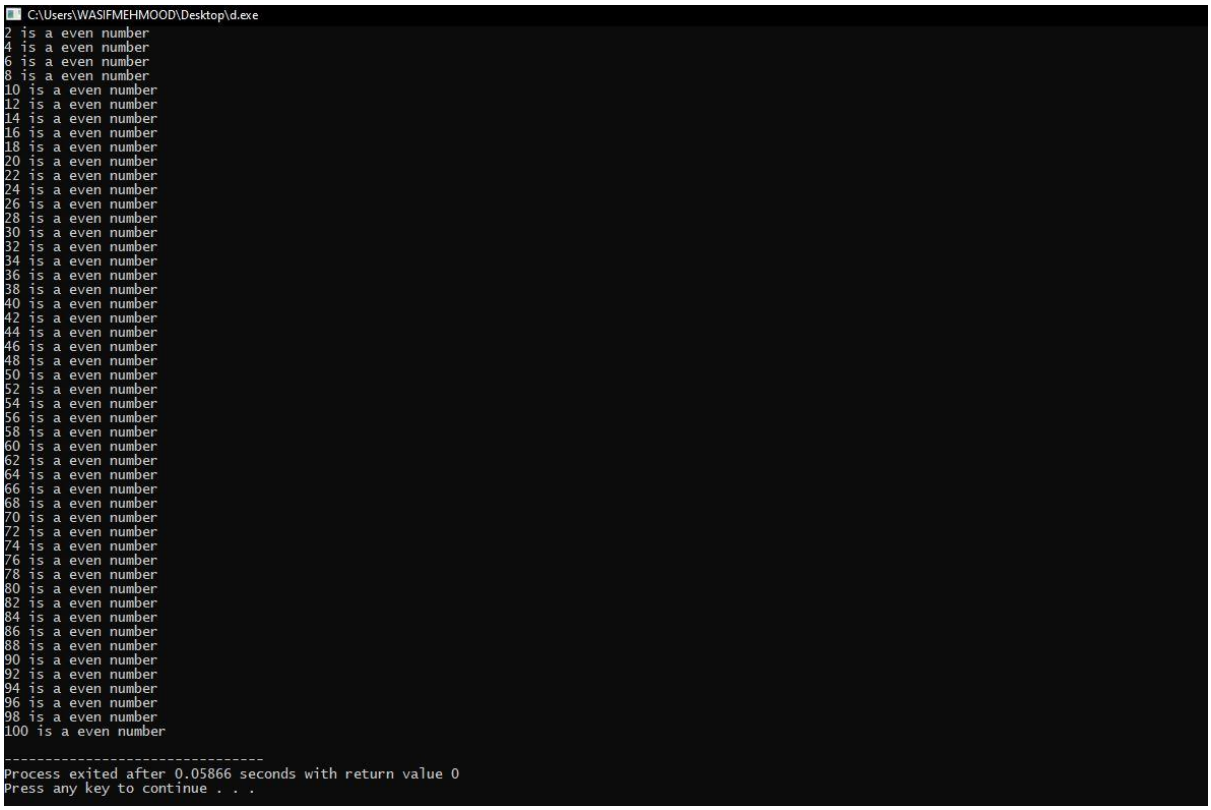
Q.4. Write a program to display all even numbers in the range of 1 - 100.

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:



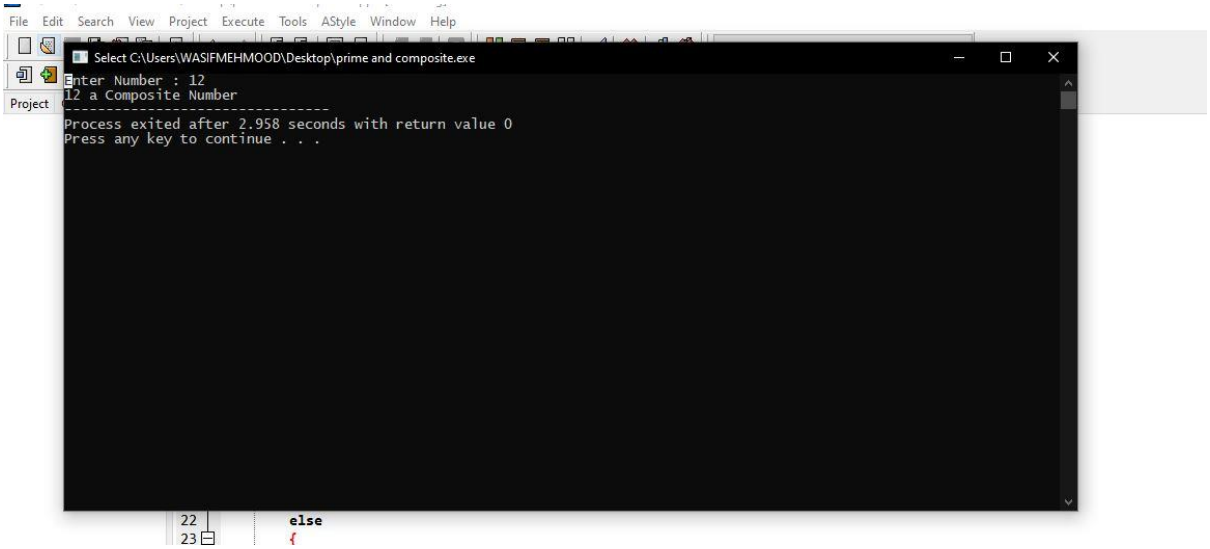
Q.5. Write a C++ program to input a number from the user, and classify it as prime or composite.

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:



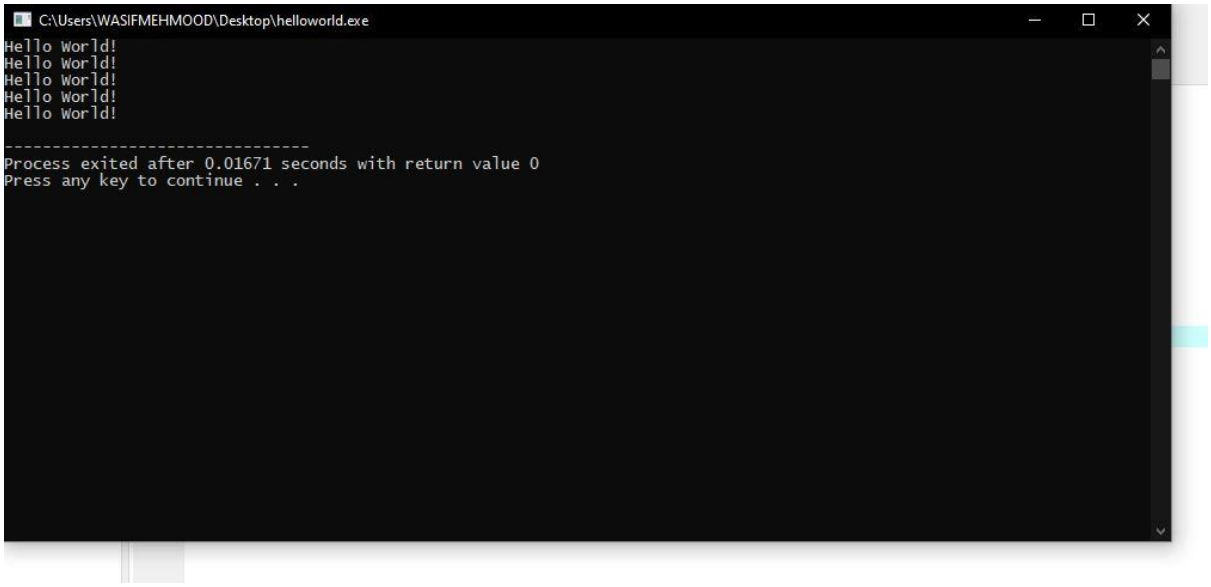
Q1. Write a C++ program to display the following lines 5 times using while loop

Hello World!

Source Code:

```
#include<iostream>
using namespace std;
int main()
{
	int n;
	while(n<=5)
	{
		cout<<"Hello World! \n";
		n++;
	}

return 0;
}
```

Output:



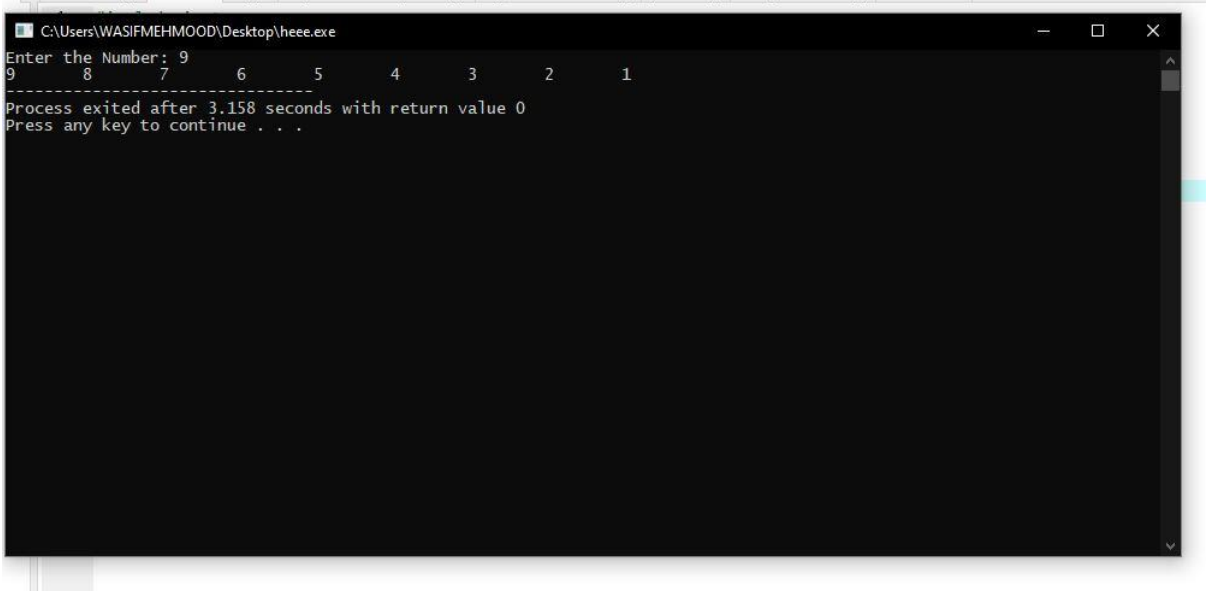
Q.2. Write a program to input a number from the user, and display all the number from 1 to that particular number. There should be a tab between each number using while loop.
For output display, enter the number by taking the last digit of your registration number. If your registration number ends with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



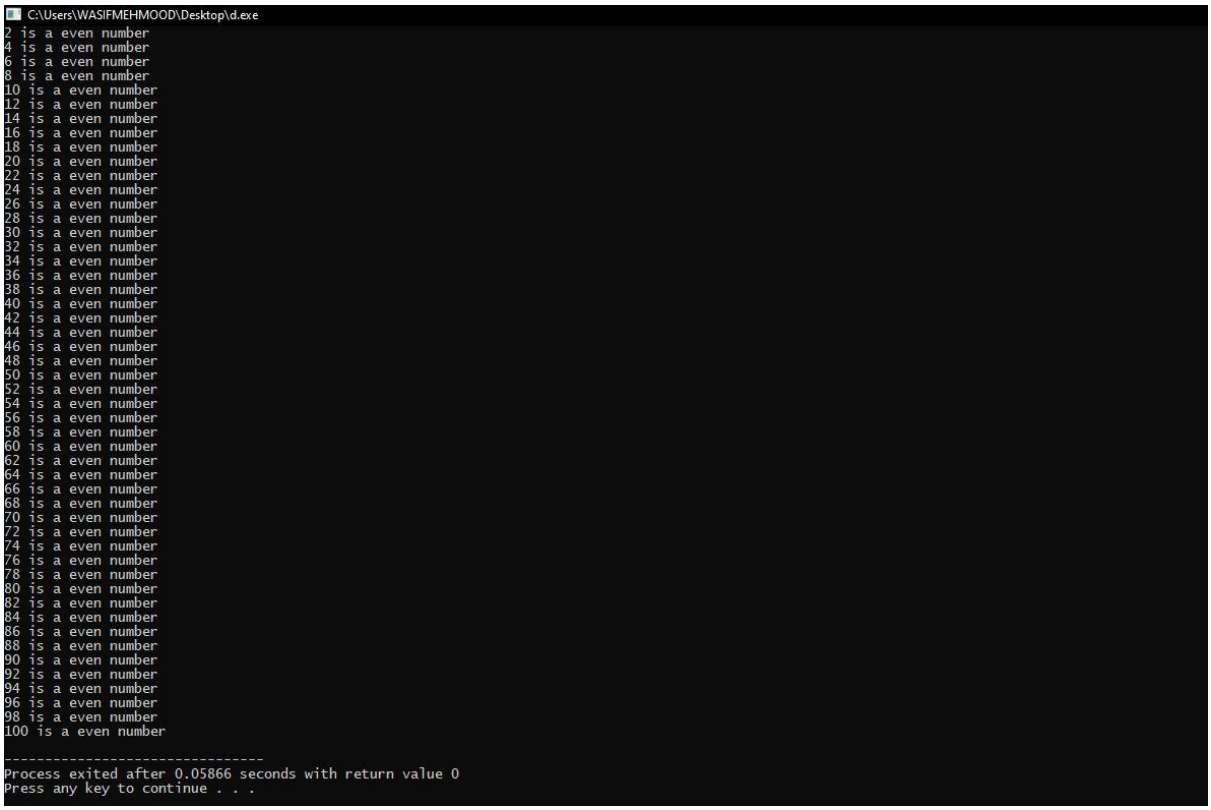
Q.4. Write a program to display all even numbers in the range of 1 – 100 using while loop.

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:



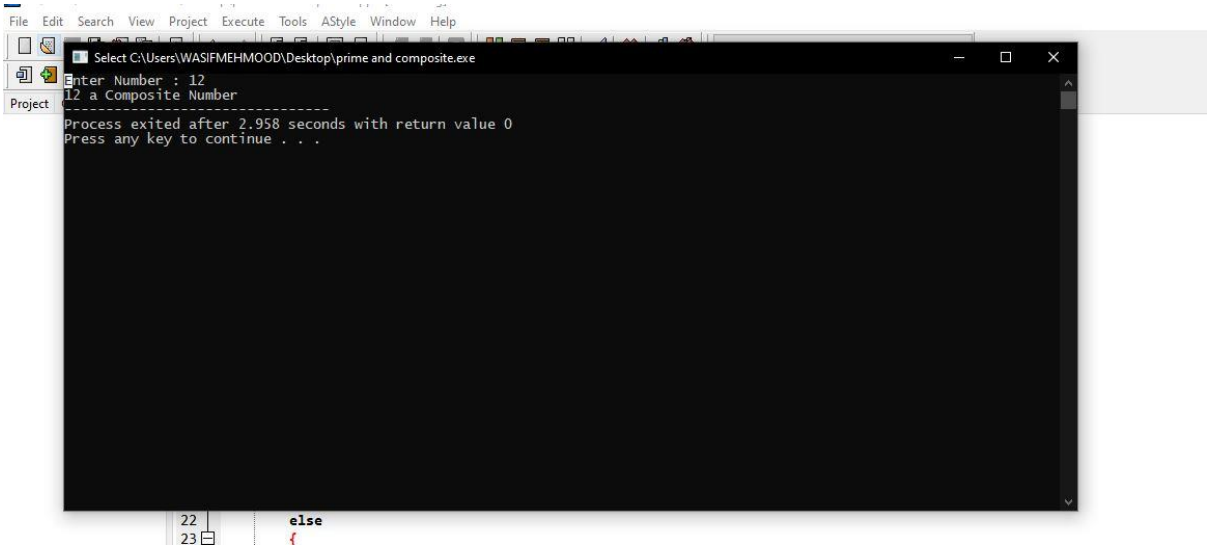
Q.5. Write a C++ program to input a number from the user, and classify it as prime or composite Using While loop.

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:



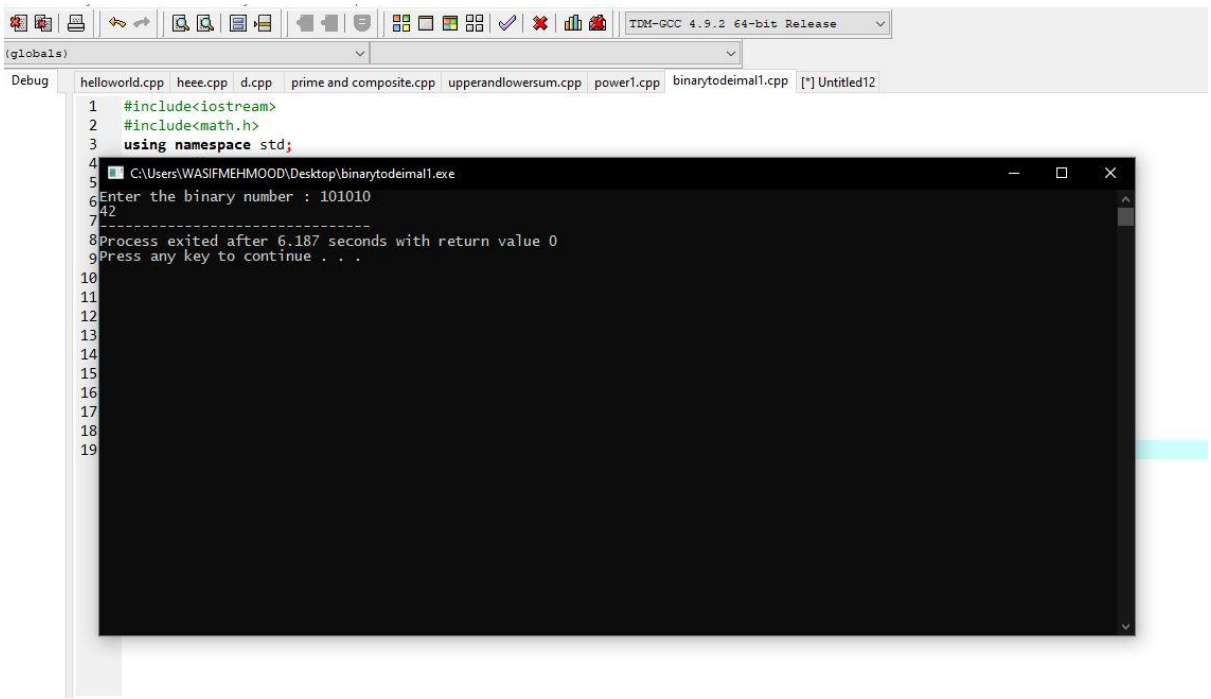
Q.7. Input a binary number from user, and convert it to equivalent decimal.

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:



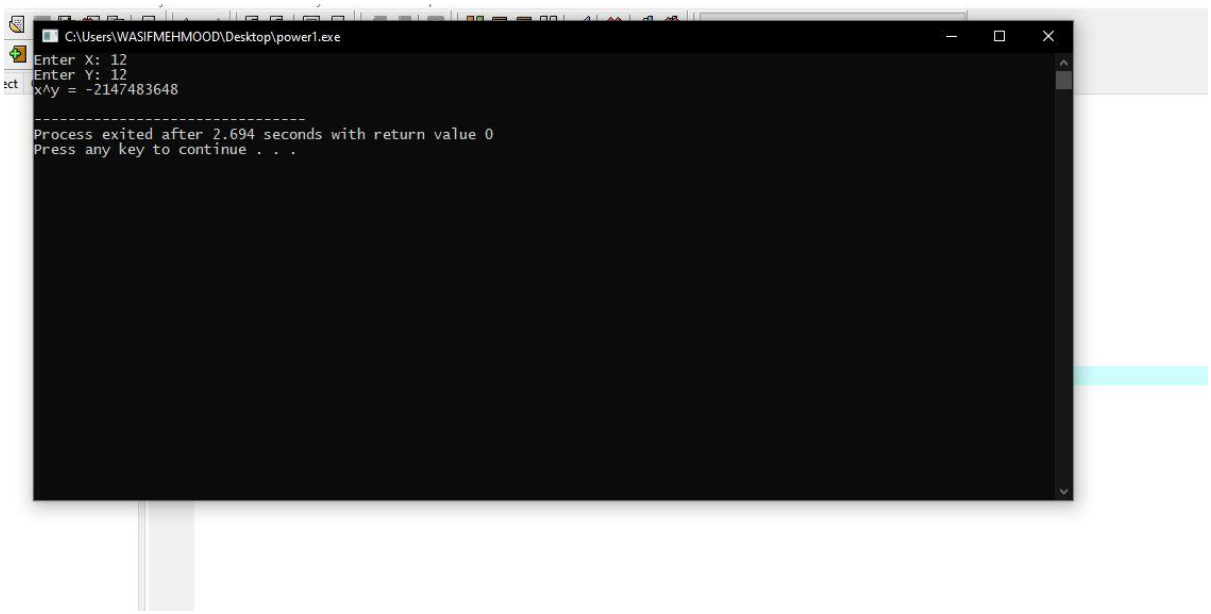
Q8. Input two numbers (x,y) from the user and find the value of x^y.

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:



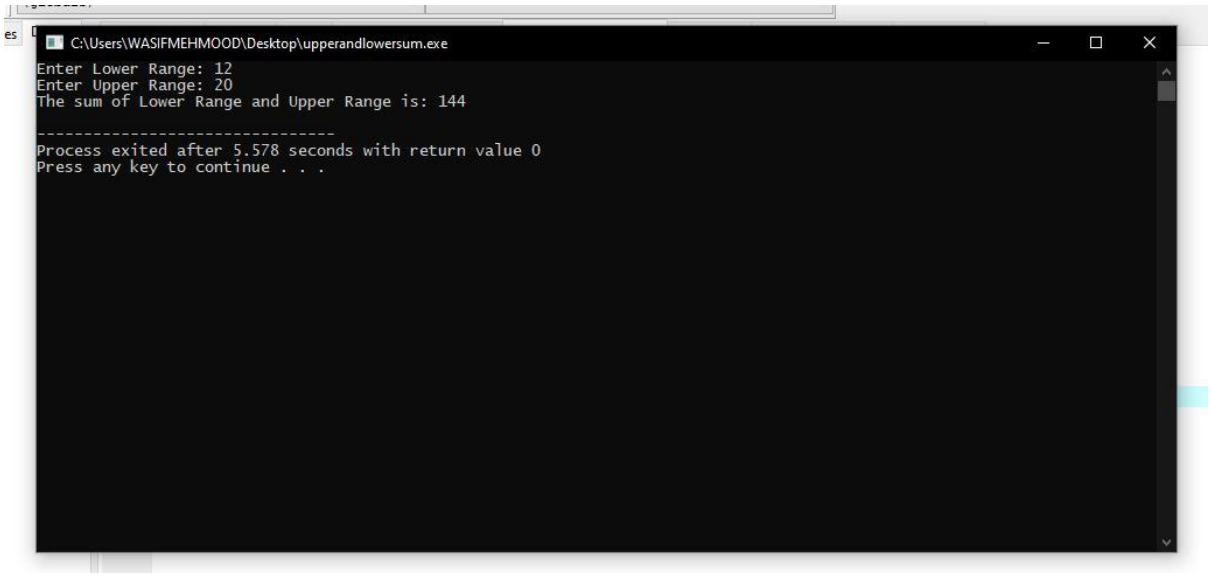
Q9. Input two numbers from the user (lowerBound, upperBound) and find the sum all numbers in the given range (both numbers included).

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:



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: