NAME – KHUSHI PANWAR, khushipanwar26@gmail.com
ROLL NO – 33
C++ PRACTICAL ASSIGNMENT – 16 DEC 2021

1. WAP including the logical operators & mixed data expressions:

```
#include<iostream>
#include<iomanip>
using namespace std;

int main(){

   int x;
   double y;
   char ch='A';
   double z;
   bool b=true;

    cout<<"\t* USING static_cast<int>(...)*"<<endl;
    cout<<"ASCII value of "<<ch<<" is "<<static_cast<int>(ch)<<endl;

   cout<<"Enter the value of x and y: ";
   cin>>x>>y;
   cout<<showpoint;

     cout<<setw(30)<<"\n * EVALUATING EXPRESSIONS *"<<endl;

     z=x++%4;
     cout<<"\nz=x++%4"<<endl;
     cout<<"\t -> NEW VALUE of z="<<z<<endl;

   z=x*y+ch;
     cout<<"\nz=x*y+ch"<<endl;
    cout<<"\t -> z="<<z<<endl;

     z=x/y+b;
     cout<<"- BOOL b="<<b<<endl;
     cout<<"- z=x/y+b"<<endl;
     cout<<"\t-> NEW VALUE of z="<<z<<endl;

     cout<<setw(30)<<"\n * EVALUATING LOGIC EXPRESSIONS *"<<endl;

     b=(x>y) || ++x;
     cout<<"-(x>y) || ++x"<<endl;
     cout<<"\t-> new value b="<<b<<" x= "<<x<<endl;

     b=(x<y) || x++;
```

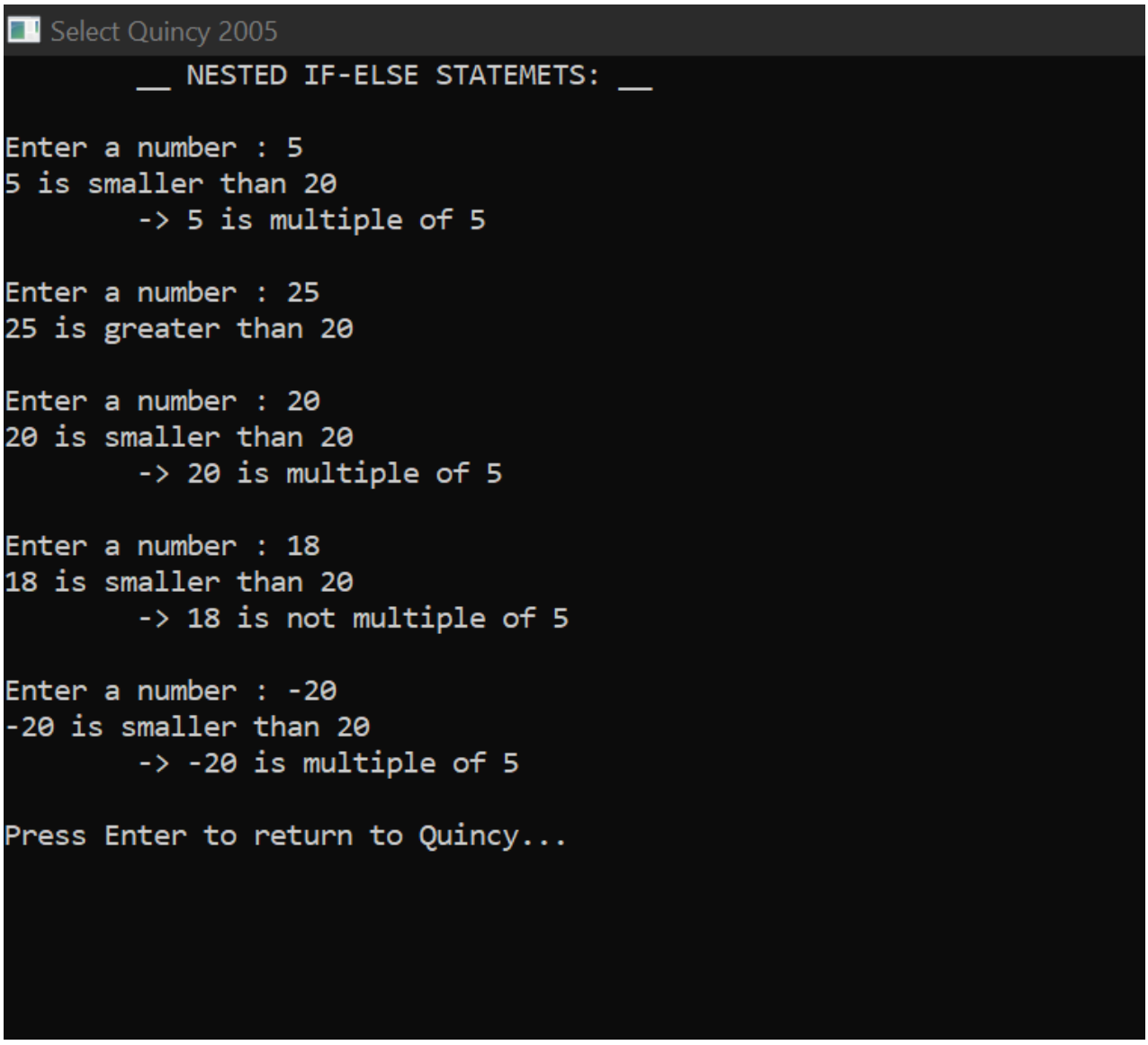
```
    cout<<"-(x<y) && x++"<<endl;
    cout<<"\t-> new value b="<<b<<" x= "<<x<<endl;

    b=(x<y) && ++x;
    cout<<"-(x<y) && ++x"<<endl;
    cout<<"\t-> new value b="<<b<<" x= "<<x<<endl;

    return 0;
}
```

```
Quincy 2005
        * USING static_cast<int>(...)*
ASCII value of A is 65
Enter the value of x and y: 12 14.5

 * EVALUATING EXPRESSIONS *

z=x++%4
         -> NEW VALUE of z=0.000000

z=x*y+ch
         -> z=253.500
- BOOL b=1
- z=x/y+b
        -> NEW VALUE of z=1.89655

 * EVALUATING LOGIC EXPRESSIONS *
-(x>y) || ++x
        -> new value b=1 x= 14
-(x<y) && x++
        -> new value b=1 x= 14
-(x<y) && ++x
        -> new value b=1 x= 15

Press Enter to return to Quincy...
```

2. WAP that shows if number is greater than or smaller than 20, also show if the number is divisible by 5 (nested if else statements):

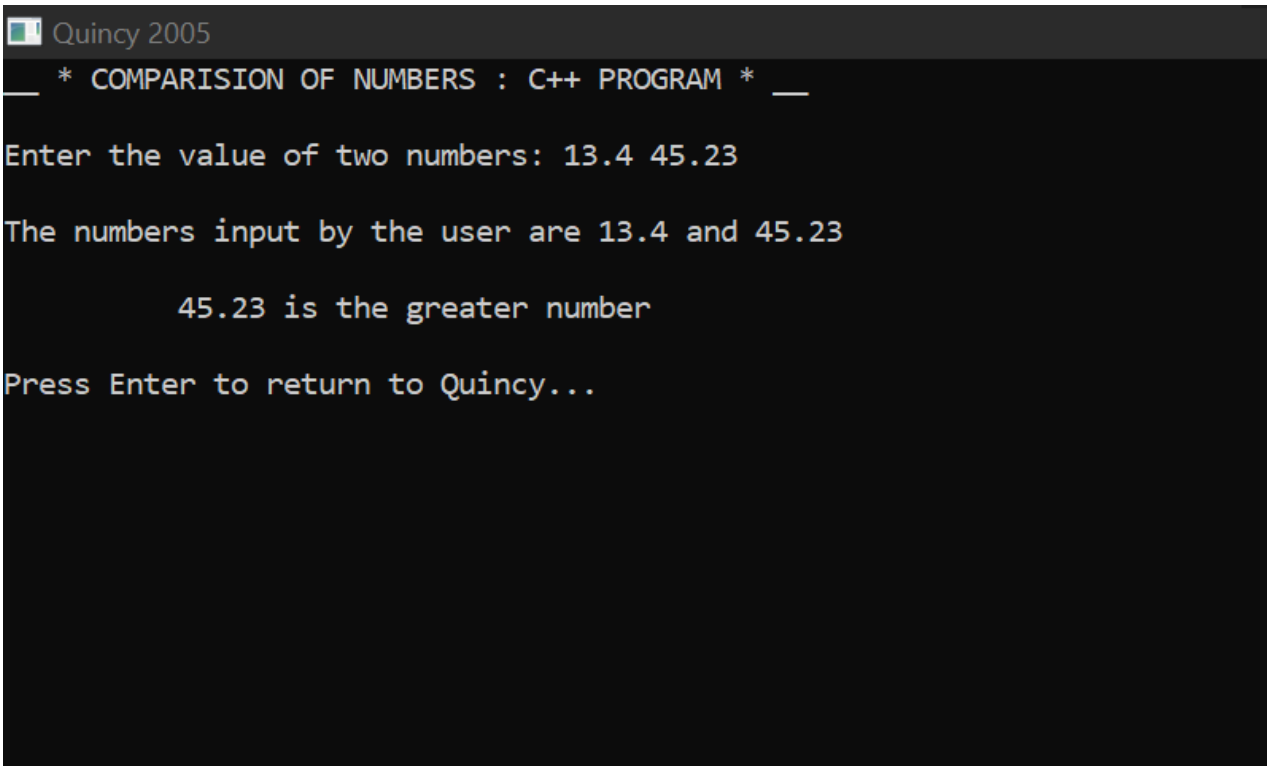
```
#include<iostream>
 using namespace std;

int main(){
    cout<<"\t__ NESTED IF-ELSE STATEMETS: __"<<endl;

    for (int i=0; i<5; i++) {
```

```
int x;
cout<<"\nEnter a number : ";
cin>>x;

if (x<=20){
        cout<<x<<" is smaller than 20"<<endl;
        if (x%5==0)    cout<<"\t-> "<<x<<" is multiple of 5"<<endl;
        else cout<<"\t-> "<<x<<" is not multiple of 5"<<endl;
}

else cout<<x<<" is greater than 20"<<endl;
}

return 0;
}
```



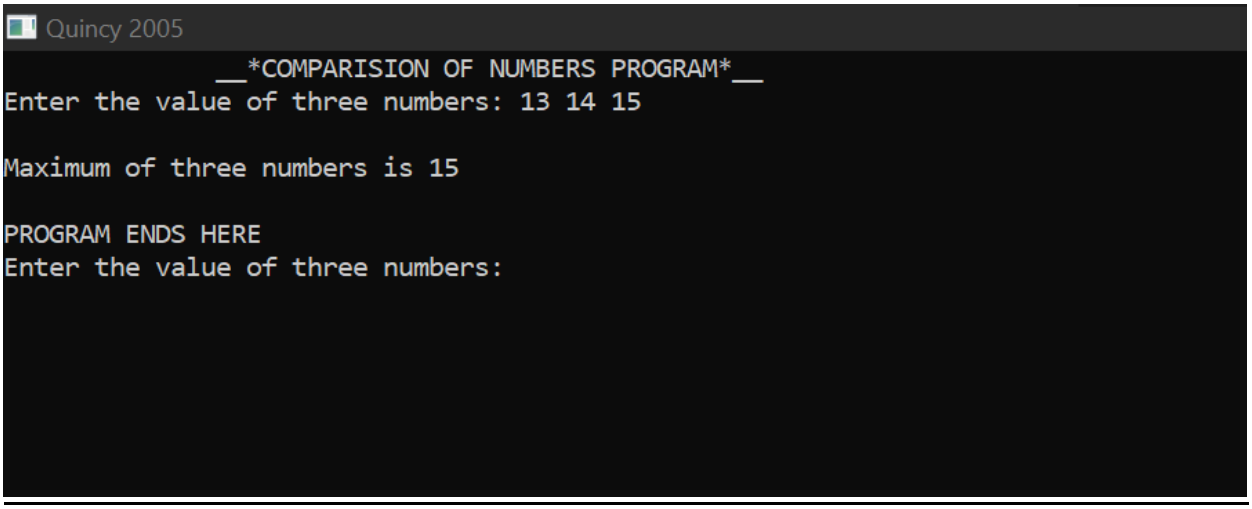
3. WAP that compares two numbers input by the user and prints the greatest number:

```
#include<iostream>
#include<iomanip>
using namespace std;

int main(){
	cout<<setw(40)<<"__ * COMPARISION OF NUMBERS : C++ PROGRAM * __"<<endl;

	float a,b;
	cout<<"\nEnter the value of two numbers: ";
	cin>>a>>b;

	cout<<"\nThe numbers input by the user are "<<a<<" and "<<b<<endl;
	cout<<setw(15)<<endl;

	if (a<b){
		cout<<b<<" is the greater number"<<endl;
	}
	else{
		cout<<a<<" is the greater number"<<endl;}
	}
	return 0;
}
```



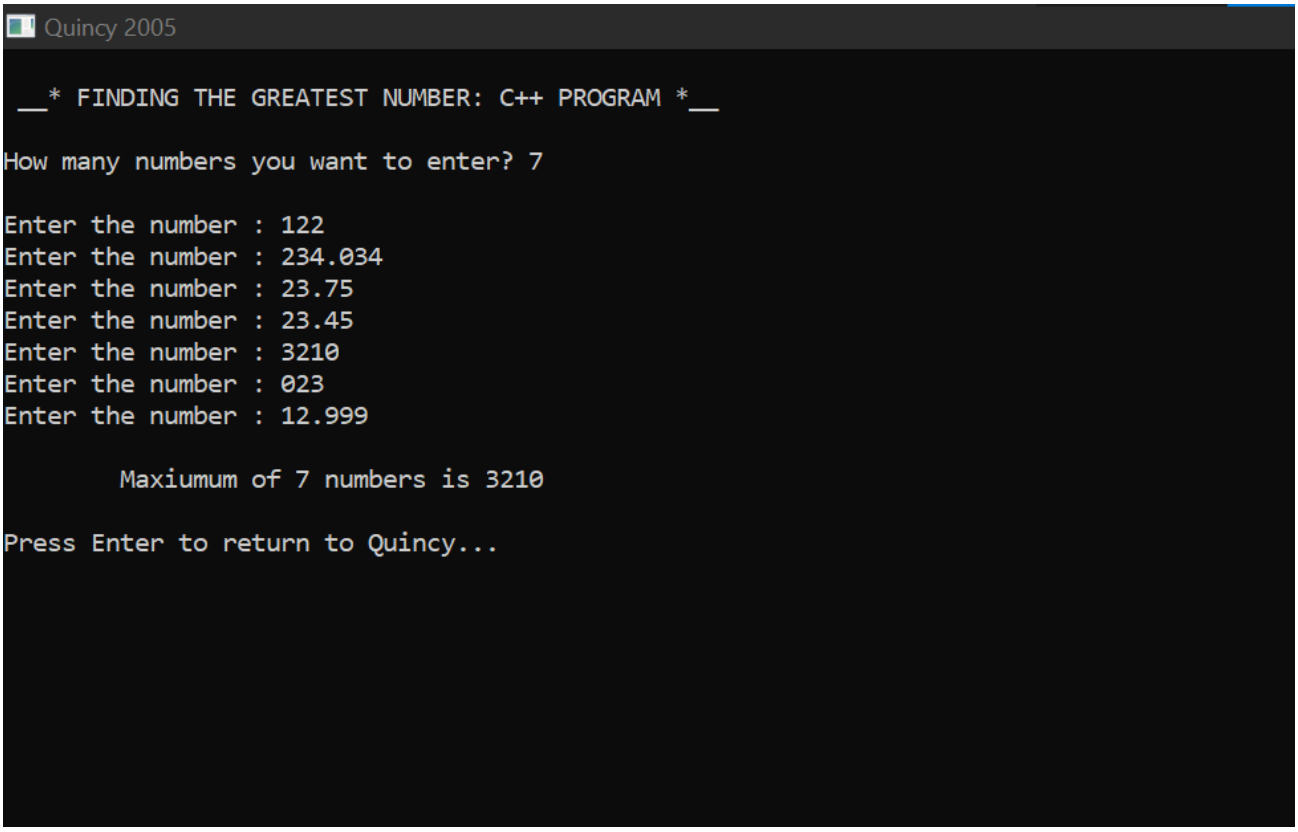
4. WAP that compares 3 input integers and prints the greatest integer:

```
#include<iostream>
#include<iomanip>
using namespace std;

int main(){
	cout<<setw(50)<< "__*COMPARISION OF NUMBERS PROGRAM*__"<<endl;

	char ch='p';
	while (ch=='p'){
		int a,b,c;
		cout<<"Enter the value of three numbers: ";
		cin>>a>>b>>c;
		cout<<endl;
		cout<<setw(25)<<"Maximum of three numbers is ";

		if (a>b){
			if (a>c) cout<<a;
		else cout <<c;
		}
		else{
			if (b>c) cout<< b;
			else  cout<<c;
		}
	cout<<"\n"<<endl<<"PROGRAM ENDS HERE"<<endl;
	}
}
```



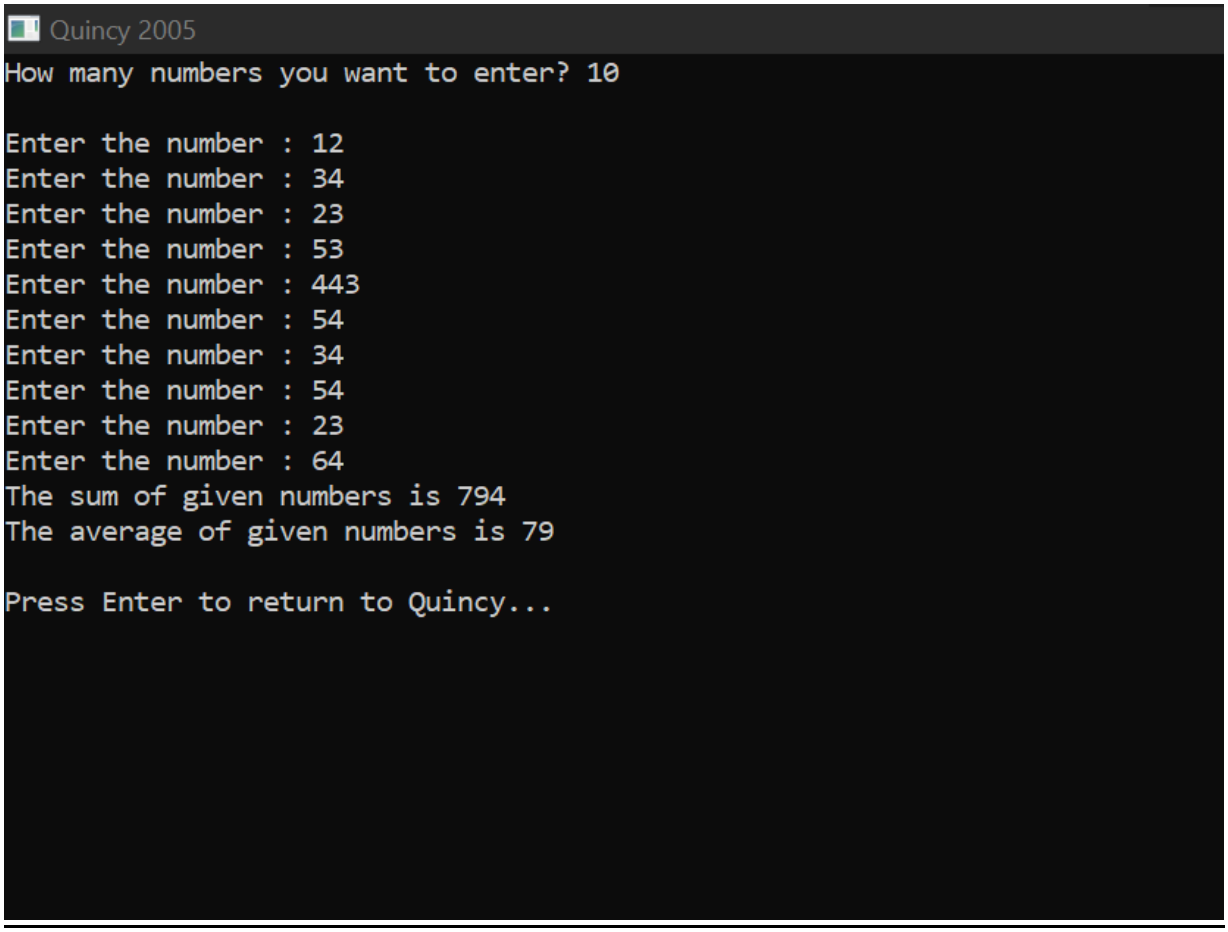
5. Write a program that displays the greatest number out of n numbers entered by the user:

```
#include<iostream>
#include<iomanip>
using namespace std;

int main(){
	cout<<setw(40)<<"\n __* FINDING THE GREATEST NUMBER: C++ PROGRAM *__"<<endl;

	float x;
	int i,n,max;
	cout<<"\nHow many numbers you want to enter? ";
	cin>>n;
	cout<<endl;
	i=1;
	max=-1;
	while (i<=n){
		cout<<"Enter the number : ";
		cin>>x;
		if (x>max) max=x;
		i++;
	}
	cout<<"\n\tMaxiumum of "<<n<<" numbers is "<<max<<endl;
	return 0;
}
```



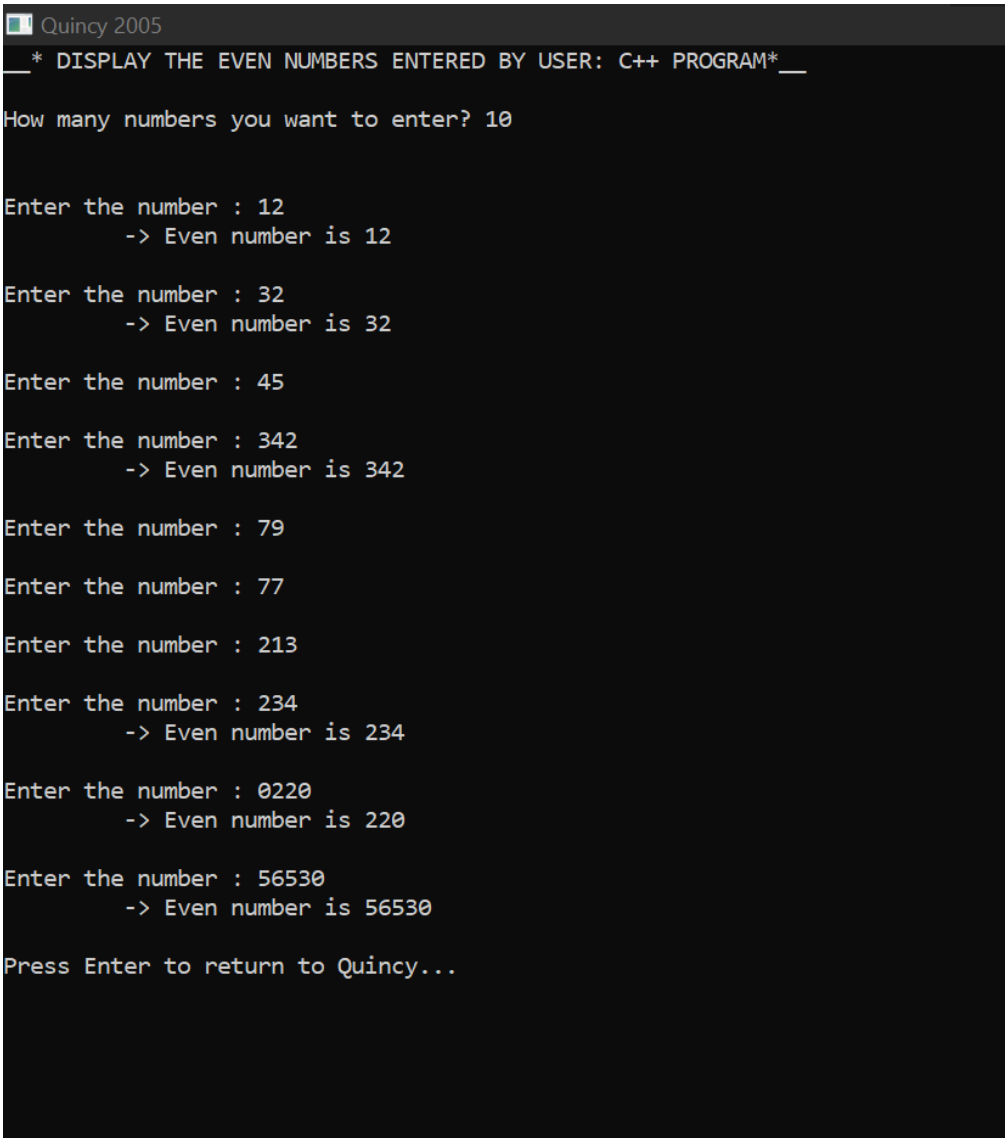
6. WAP that shows the average of the numbers input by the user:

```
#include<iostream>
using namespace std;

int main(){
	int i,nums,x,sum,avg;
	cout<<"How many numbers you want to enter? ";
	cin>>nums;
	cout<<endl;
	i=1;
	sum=0;
	while (i<=nums){
		cout<<"Enter the number : ";
		cin>>x;
		sum+=x;
	i++;
}
	avg=sum/nums;
	cout<<"The sum of given numbers is "<<sum<<endl;
	cout<<"The average of given numbers is "<<avg<<endl;

	return 0;
}
```



7. WAP that only displays the even numbers entered by the user:

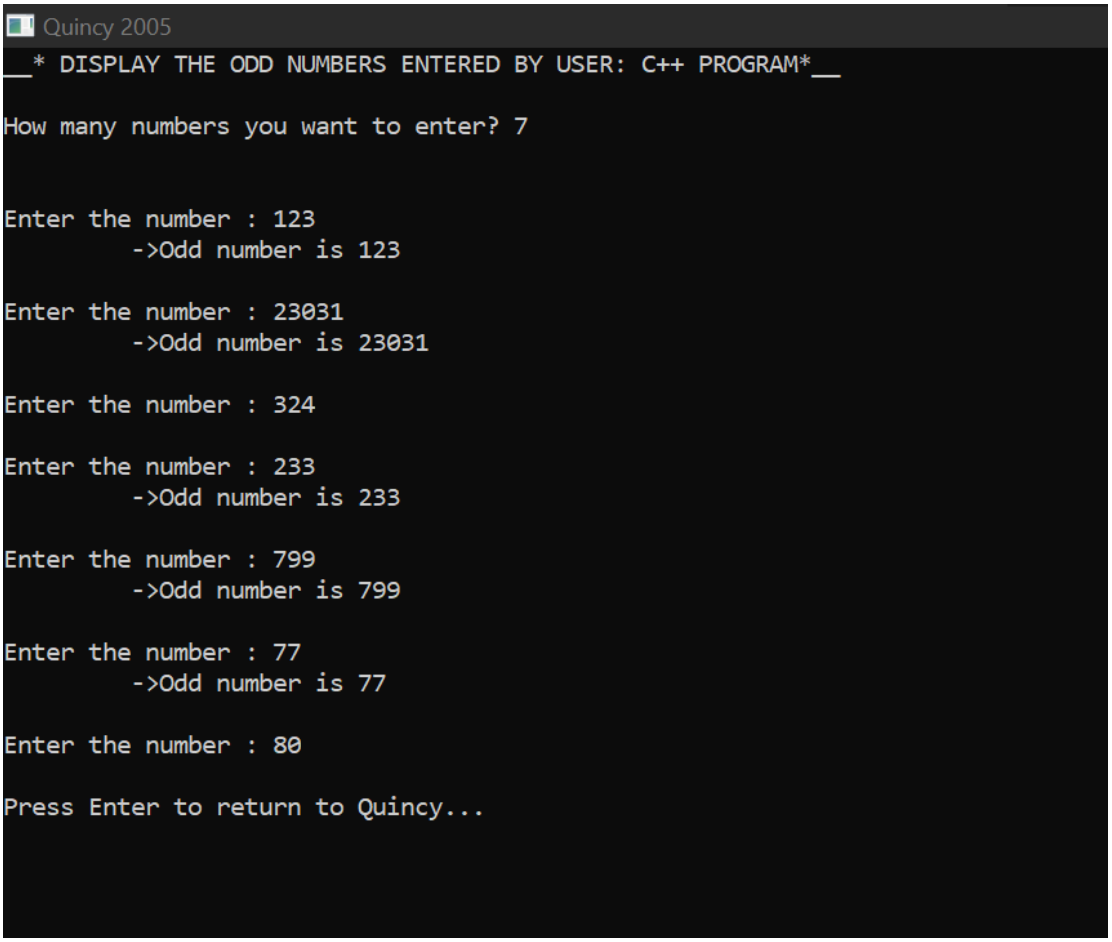
```
#include<iostream>
#include<iomanip>
using namespace std;

int main(){

        cout<<setw(50)<< "__* DISPLAY THE EVEN NUMBERS ENTERED BY USER: C++ PROGRAM
*__"<<endl;

                        int i,n,x;
                        cout<<"\nHow many numbers you want to enter? ";
                        cin>>n;
                        cout<<endl;
                        i=1;
                        while (i<=n){
                                cout<<"\nEnter the number : ";
                                cin>>x;

                        if (x%2==0) cout<<"\t -> Even number is "<<x<<endl;
                        i++;
}
                        return 0;
}
```



8. **WAP that only displays the odd numbers entered by the user:**

```
#include<iostream>
#include<iomanip>
using namespace std;

int main(){

	cout<<setw(50)<< "__* DISPLAY THE ODD NUMBERS ENTERED BY USER: C++ PROGRAM*__"<<endl;

int i,n,x;
	cout<<"\nHow many numbers you want to enter? ";
	cin>>n;
	cout<<endl;
	i=1;
	while (i<=n){
		cout<<"\nEnter the number : ";
		cin>>x;
```

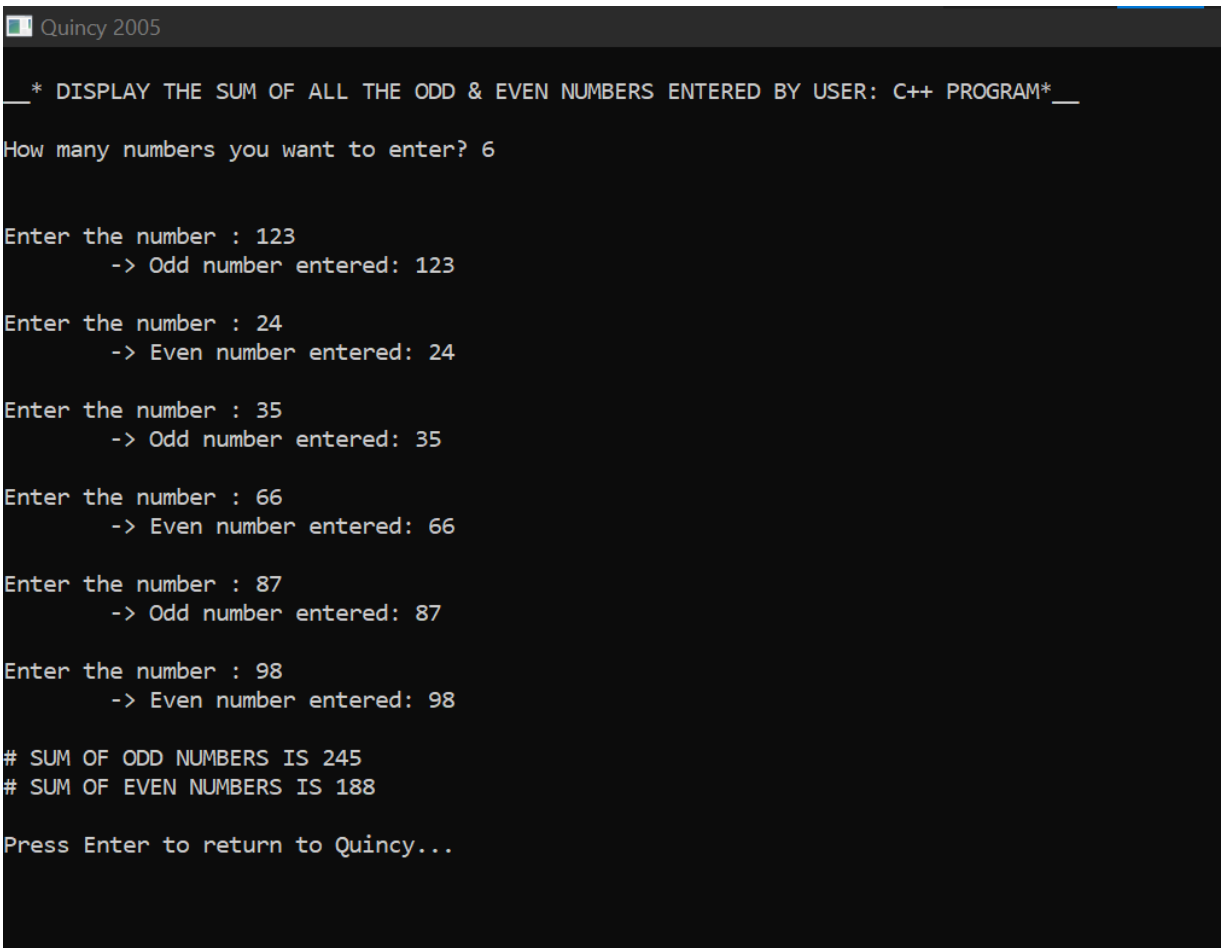
```
        if (x%2!=0) cout<<"\t ->Odd number is "<<x<<endl;
        i++;
}
        return 0;
}
```



9. **<u>WAP that only displays the sum of all the odd & even numbers entered by the user:</u>**

```
#include<iostream>
#include<iomanip>
using namespace std;

int main() {
        cout<<setw(60)<< "\n__* DISPLAY THE SUM OF ALL THE ODD & EVEN NUMBERS ENTERED BY USER: C++ PROGRAM*__"<<endl;

        int i,n,x, sumOdd, sumEven;
        sumOdd=sumEven=0;

        cout<<"\nHow many numbers you want to enter? ";
        cin>>n;
```

```
        cout<<endl;

        i=1;
        while (i<=n){
                cout<<"\nEnter the number : ";
                cin>>x;

        if (x%2!=0) {
         cout<<"\t-> Odd number entered: "<<x<<endl;
         sumOdd=sumOdd+x;
         }

         else{
         cout<<"\t-> Even number entered: "<<x<<endl;
         sumEven=sumEven+x;
         }
        i++;
}
        cout<<"\n# SUM OF ODD NUMBERS IS "<<sumOdd<<endl;
        cout<<"# SUM OF EVEN NUMBERS IS "<<sumEven<<endl;
        return 0;
}
```



10. **Write a program that only displays the prime numbers out of the list of number entered by the user:**

```
#include<iostream>
#include<iomanip>
using namespace std;

int main(){

	cout<<setw(40)<<"\n __* DISPLAY THE PRIME NUMBERS: C++ PROGRAM *__"<<endl;

	int i,n,x,max;
	cout<<"\nHow many numbers you want to enter? ";
	cin>>n;
	cout<<endl;
	i=1;
	while (i<=n){
		cout<<"Enter the number : ";
		cin>>x;

		int k=2;
		int flag=0;
		while(k<x){
			if (x%k==0) flag=1;
			k++;
		}
		if (flag!=1) cout<<"\t-> Prime number entered: "<<x<<endl;
		else cout<<endl;
		i++;
	}
	return 0;
}
```