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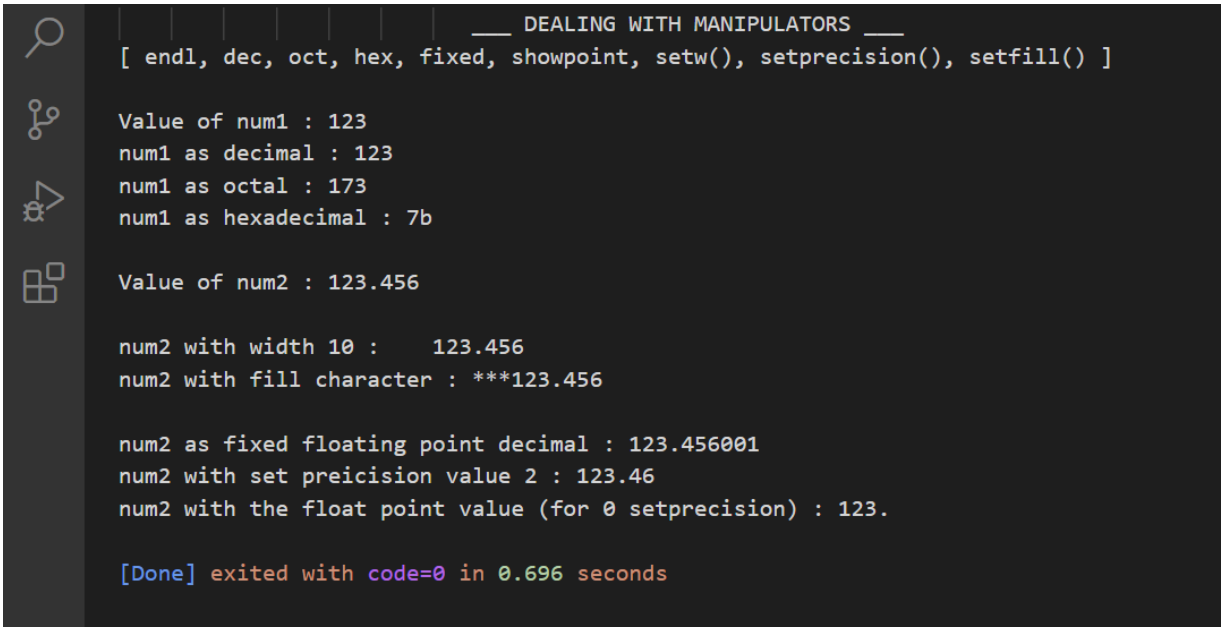
ROLL NO – 33
C++ PRACTICAL ASSIGNMENT – 09 DEC 2021

#1 WAP that uses Manipulators : endl,dec,oct,hex,fixed,showpoint,setw(),setprecision(), setfill():

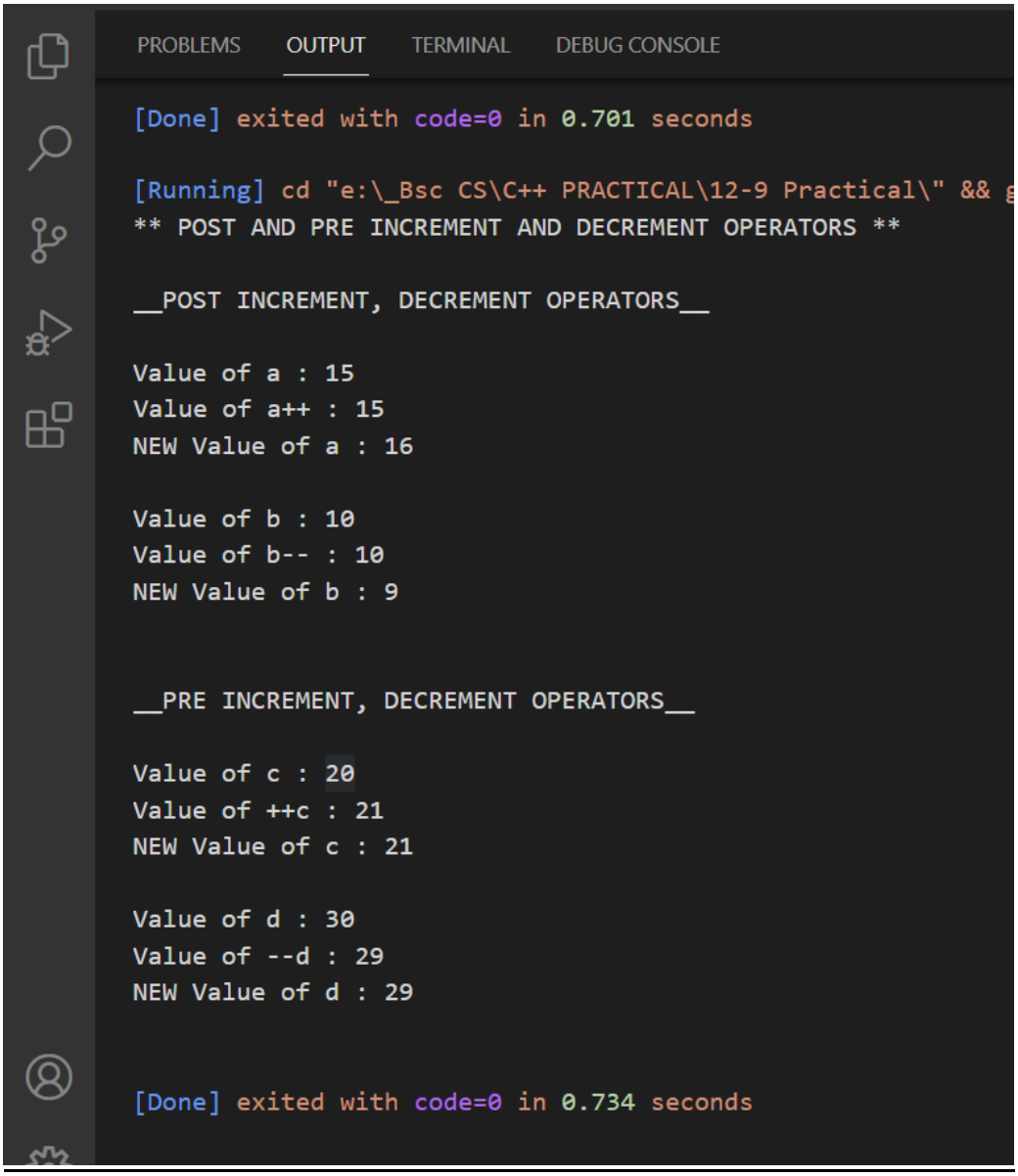
```
#include<iostream>
#include<iomanip>
using namespace std;

int main(){
   int num1=123;

   cout<<setw(60)<<"___ DEALING WITH MANIPULATORS ___"<<endl;
   cout<<setw(60)<<"[ endl, dec, oct, hex, fixed, showpoint, setw(), setprecision(), setfill() ]"<<endl;

   cout<<"\nValue of num1 : "<<num1<<endl;
   cout<<"num1 as decimal : "<<dec<<num1<<endl;
   cout<<"num1 as octal : "<<oct<<num1<<endl;
   cout<<"num1 as hexadecimal : "<<hex<<num1<<endl;

   float num2=123.456;

   cout<<"\nValue of num2 : "<<num2<<endl;

   cout<<"\nnum2 with width 10 : "<<setw(10)<<num2<<endl;
   cout<<"num2 with fill character : "<<setw(10)<<setfill('*')<<num2<<endl;

   cout<<"\nnum2 as fixed floating point decimal : "<<fixed<<num2<<endl;
   cout<<"num2 with set preicision value 2 : "<<setprecision(2)<<num2<<endl;
   cout<<"num2 with the float point value (for 0 setprecision) : “<< setprecision(0) << showpoint <<num2
   <<endl;

   return 0;
}
```



#2- WAP to test the Post and pre increment and decrement operators:

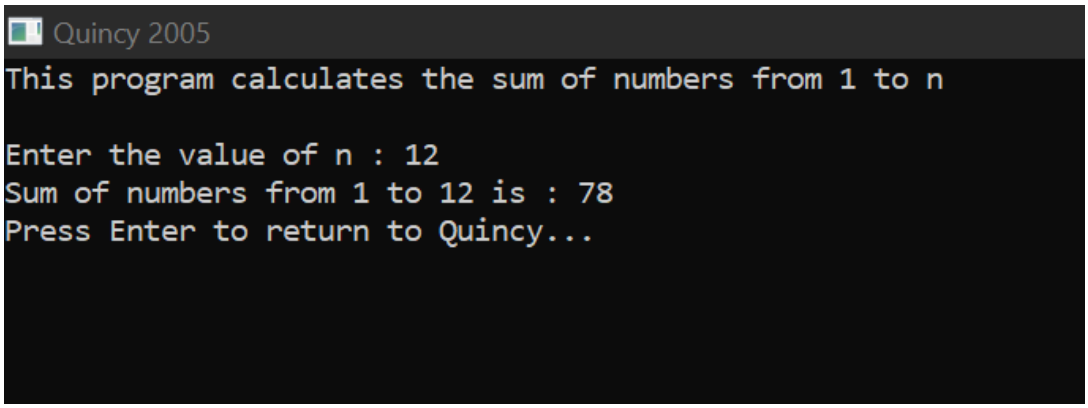
```
#include <iostream>
using namespace std;

int main(){
   cout<<"** POST AND PRE INCREMENT AND DECREMENT OPERATORS **"<<endl;

   cout<<endl<<"__POST INCREMENT, DECREMENT OPERATORS__"<<endl;
   cout<<endl;

   int a=15;
   cout<<"Value of a : "<<a<<endl;
   cout<<"Value of a++ : "<<a++<<endl;
   cout<<"NEW Value of a : "<<a<<endl;
   cout<<endl;

   int b=10;
   cout<<"Value of b : "<<b<<endl;
   cout<<"Value of b-- : "<<b--<<endl;
   cout<<"NEW Value of b : "<<b<<endl;
   cout<<endl;

   cout<<endl<<"__PRE INCREMENT, DECREMENT OPERATORS__"<<endl;
   cout<<endl;

   int c=20;
   cout<<"Value of c : "<<c<<endl;
   cout<<"Value of ++c : "<<++c<<endl;
```

```
    cout<<"NEW Value of c : "<<c<<endl;
    cout<<endl;

    int d=30;
    cout<<"Value of d : "<<d<<endl;
    cout<<"Value of --d : "<<--d<<endl;
    cout<<"NEW Value of d : "<<d<<endl;
    cout<<endl;

    return 0;
}
```



#3 Program to find sum of numbers from 1 to n using for loop:

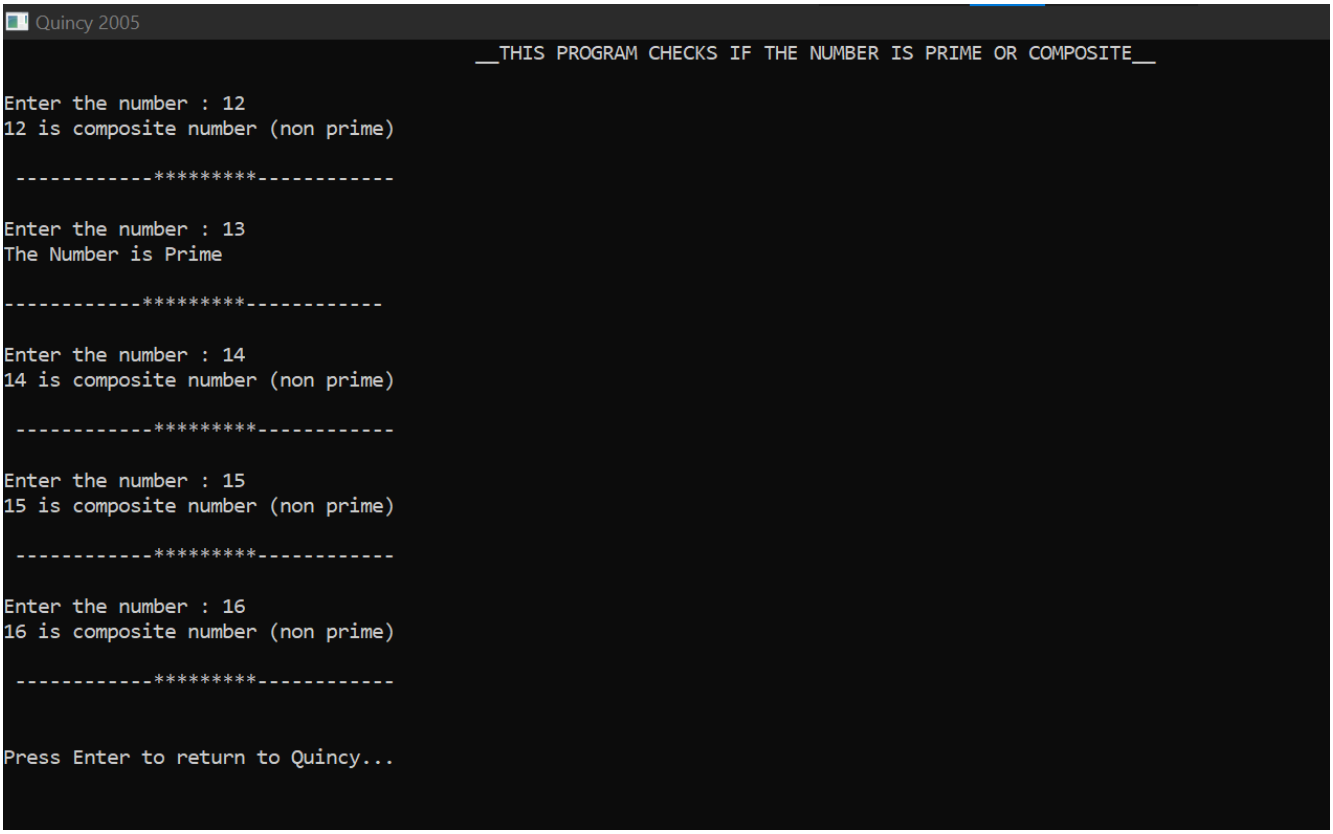
```
#include <iostream>
using namespace std;

int main(){

   int n, i ;
   int sum=0;
   cout<<"This program calculates the sum of numbers from 1 to n"<<endl;
   cout<<"\nEnter the value of n : ";
   cin>>n;

   for (i=1 ; i<=n; i++) {
      sum=sum+i;
   }
   cout<<"Sum of numbers from 1 to "<<n<<" is : "<<sum;
   return 0;
}
```



#4- Write a C++ program that check if the input is prime number or not:

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

int main(){
   cout<<setw(100)<<"__THIS PROGRAM CHECKS IF THE NUMBER IS PRIME OR COMPOSITE__"<<endl;
   cout<<endl;

  int k=0;
for (k=0;k<5;k++){
   int num;
   int flag=0;

   cout<<"Enter the number : ";
   cin>>num;
         int i=2;
```

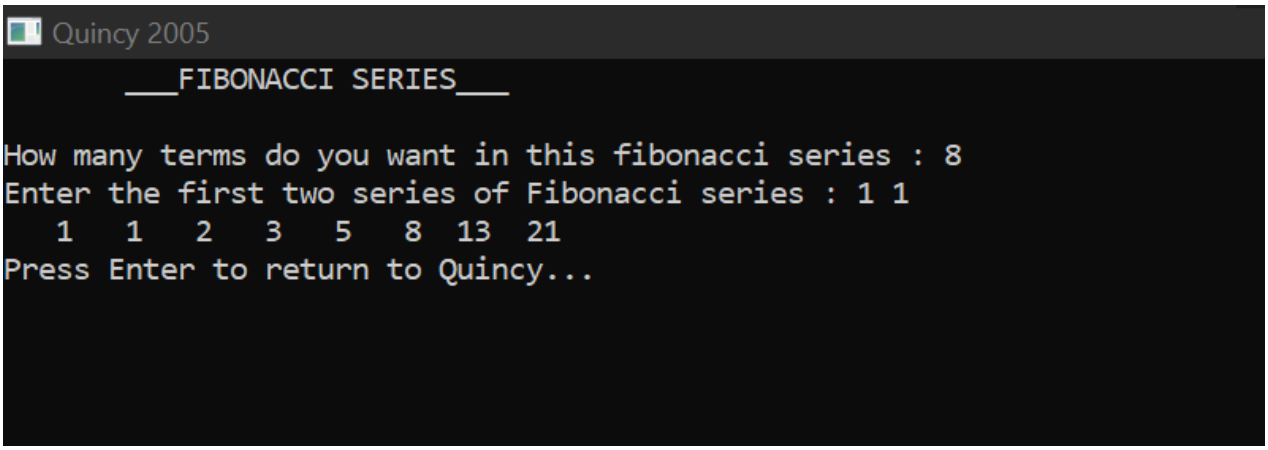
```
        while(i<num){
                if (num%i==0) {  flag=1;  }
                i++;
        }

if (flag==1)
        cout<<num<<" is composite number (non prime) "<<endl<<"\n ----------*********----------\n"<<endl;

else
        cout<<"The Number is Prime"<<endl<<"\n----------*********----------\n"<<endl;

}
        return 0;
}
```



#4- WAP to display the fibonacci series: 1 1 2 3 5 8…….n

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

int main(){

   cout<<setw(30)<<"___FIBONACCI SERIES___\n"<<endl;
```

```
    int num, t1, t2;

    cout<<"How many terms do you want in this fibonacci series : ";
    cin>>num;

    cout<<"Enter the first two series of Fibonacci series : ";
    cin>>t1>>t2;
    cout<<setw(4)<<t1<<setw(4)<<t2;

    int n=3;
    while (n<=num){
        int sum=t1+t2;
        cout<<setw(4)<<sum;
        t1=t2;
        t2=sum;
        n++;
    }

    return 0;
}
```



#5- WAP to display the sum of all even and odd numbers between 1 to n:

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

int main(){
    int num;
    int sumOdd=0;
    int sumEven=0;
```

```
    cout<<setw(50)<<"* CALCULATE THE SUM OF ODD AND EVEN NUMBERS *"<<endl;

    cout<<"\nThis program calculates the sum of all odd and even numbers from 1 to n."<<endl;

    cout<<"Enter the value of n : ";
    cin>>num;

    int i=0;
    while (i<=num){
        if (i%2==0){
            sumEven=sumEven+i;
        }
        else{
            sumOdd=sumOdd+i;
        }
        i++;
    }

    cout<<"\nThe SUM of EVEN NUMBERS from 1 to "<<num<<" is "<<sumEven<<endl;
    cout<<"\nThe SUM of ODD NUMBERS from 1 to "<<num<<" is "<<sumOdd<<endl;


    return 0;
}
```