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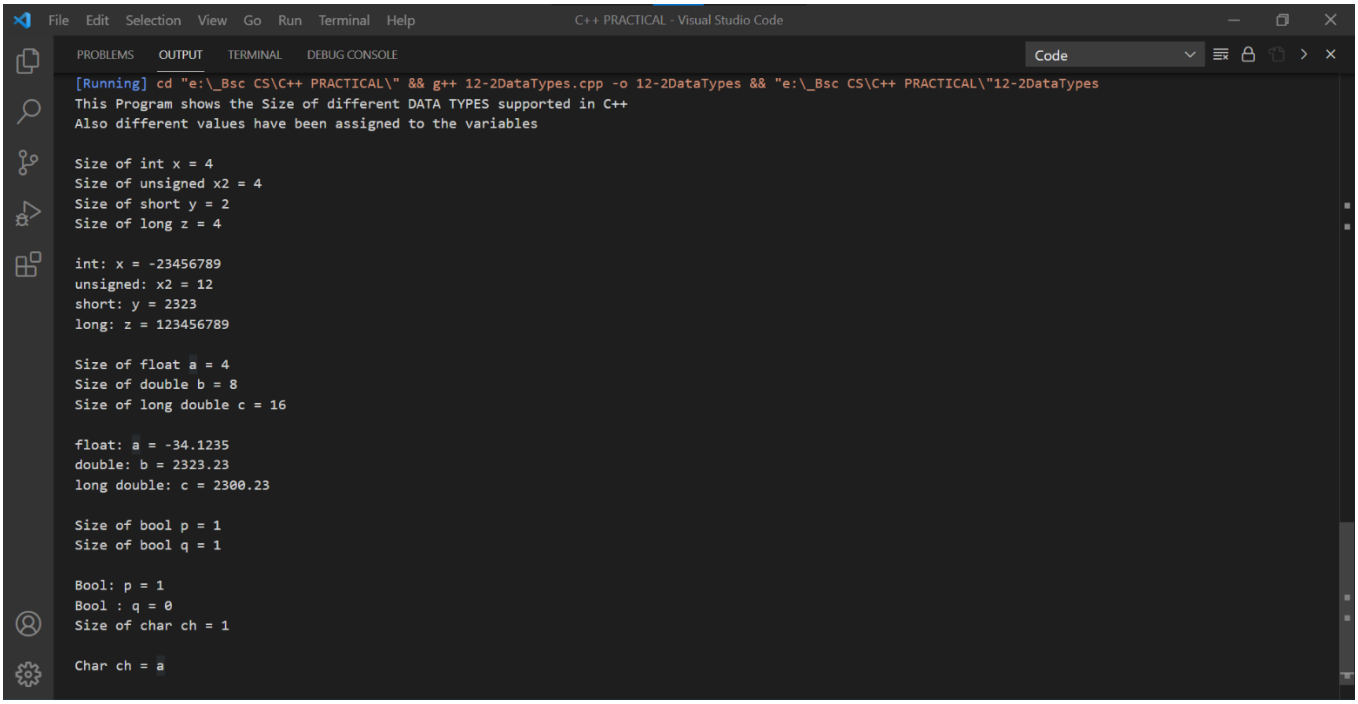
ROLL NO – 33
C++ PRACTICAL ASSIGNMENT – 02 DEC 2021

#1 WAP that displays the size of data types and different data values stored in variables:

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

int main(){

   cout<<"This Program shows the Size of different DATA TYPES supported in C++"<<endl;
   cout<<"Also different values have been assigned to the variables"<<endl;

   int x;
   unsigned int x2;
   short y;
   long z;
   cout<<"Size of int x = "<<sizeof(x)<<endl;
   cout<<"Size of unsigned x2 = "<<sizeof(x)<<endl;
   cout<<"Size of short y = "<<sizeof(y)<<endl;
   cout<<"Size of long z = "<<sizeof(z)<<endl;

   x=-23456789;
   x2=12;
   y=2323;
   z=123456789;

   cout<<"\nint: x = "<<x<<endl;
   cout<<"unsigned: x2 = "<<x2<<endl;
   cout<<"short: y = "<<y<<endl;
   cout<<"long: z = "<<z<<endl;

   float a;
   double b;
   long double c;

   cout<<"Size of float a = "<<sizeof(a)<<endl;
   cout<<"Size of double b = "<<sizeof(b)<<endl;
   cout<<"Size of long double c = "<<sizeof(c)<<endl;

   a=-34.12345;
   b=2323.2323;
   c=2300.2323;

   cout<<"\nfloat: a = "<<a<<endl;
   cout<<"double: b = "<<b<<endl;
   cout<<"long double: c = "<<c<<endl;

   cout<<endl;
```

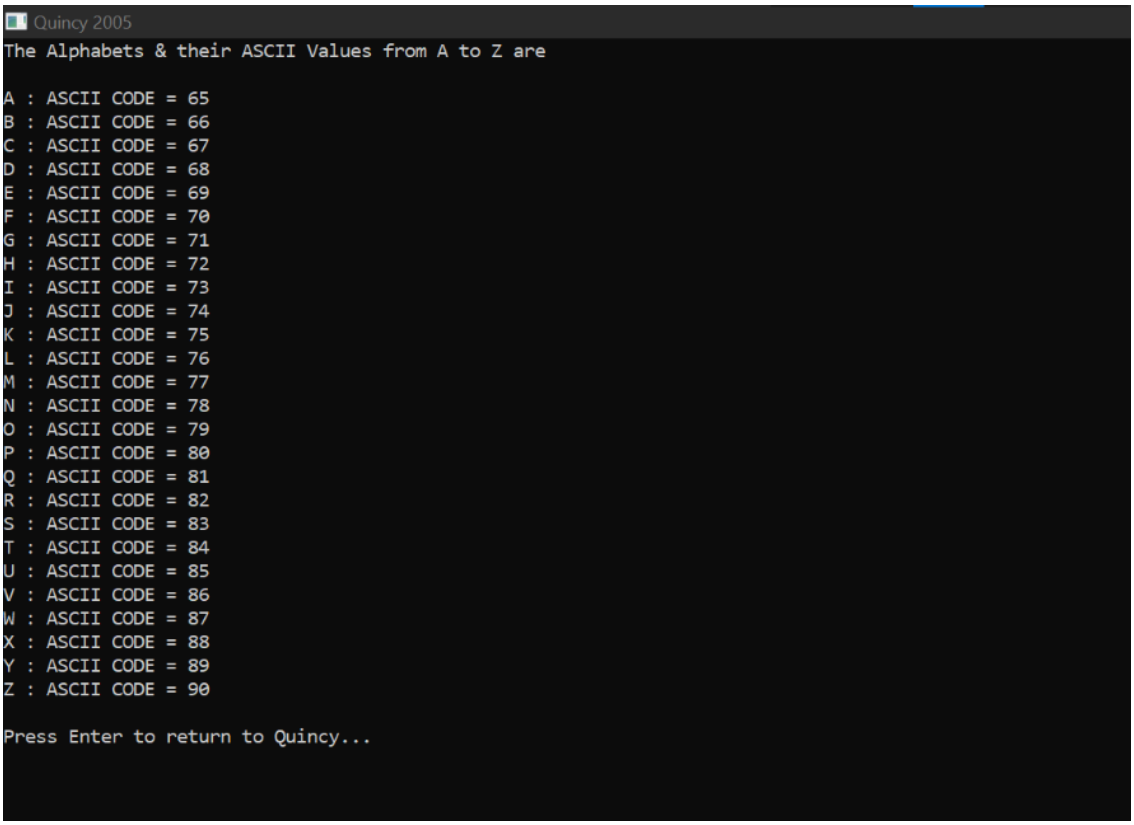
```
    bool p,q;
    cout<<"Size of bool p = "<<sizeof(p)<<endl;
    cout<<"Size of bool q = "<<sizeof(q)<<endl;

    p=true;
    q=false;
    cout<<"\nBool: p = "<<p<<endl;
    cout<<"Bool : q = "<<q<<endl;


    char ch;
    cout<<"Size of char ch = "<<sizeof(char)<<endl;
    ch='a';
    cout<<"\nChar ch = "<<ch<<endl;

    return 0;
}
```



#2 Program to print ASCII code of a character: input by the user, from A to Z:

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

int main(){
    char ch1,ch;
    cout<<"Enter any character here: ";
    cin>>ch;
```

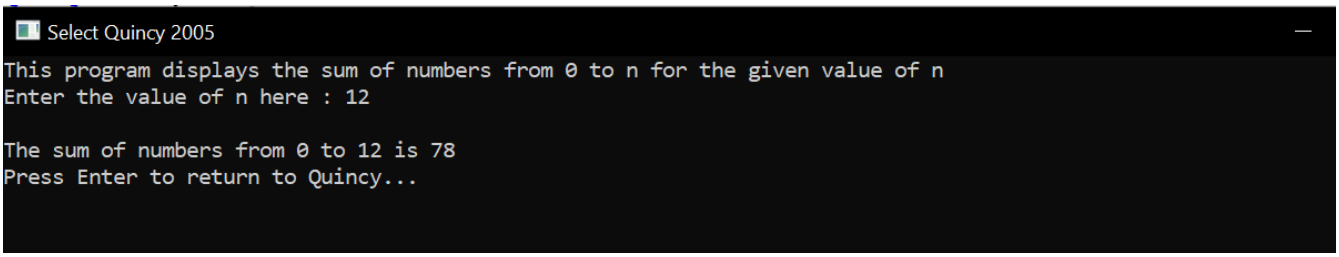
```
   cout<<"\nThe entered character is "<<ch1<<endl;
   cout<<"The ASCII Code of "<<ch1<<" is "<<(int)ch<<endl;

   cout<<"The Alphabets & their ASCII Values from A to Z are "<<endl;

   ch='A';
   while(ch<='Z') {
         cout<<ch<<" : ASCII CODE = "<<(int)ch<<endl;
         ch=ch+1;
         }
    return 0;
}
```



#3 Write a C++ program that prints the sum of numbers in a series given by the user (1 to n):

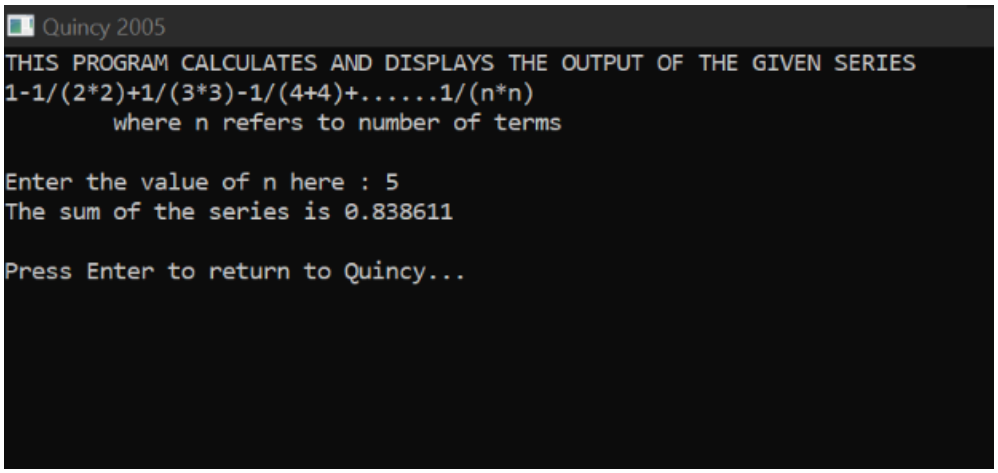
```
#include <iostream>
using namespace std;

int main(){
   int n, sum, i;
   cout<<"This program displays the sum of numbers from 0 to n for the given value of n"<<endl;
   cout<<"Enter the value of n here : ";
   cin>>n;
```

```
   sum=0;
   i=0;

   while (i<=n){
      sum=sum+i;
      i=i+1;
   }
   cout<<"\nThe sum of numbers from 0 to "<<n<<" is "<<sum;
   return 0;
}
```



#4- WAP to display the output of the series: 1-1/(2*2)+1/(3*3)-1/(4*4)+…….1/(n*n):

```
#include<iostream>
#include<math.h>
using namespace std;

int main() {
   int n;
   cout<<"THIS PROGRAM CALCULATES AND DISPLAYS THE OUTPUT OF THE GIVEN SERIES"<<endl;
   cout<<"1-1/(2*2)+1/(3*3)-1/(4+4)+.....1/(n*n)"<<endl;
   cout<<"\twhere n refers to number of terms"<<endl;

   cout<<"\nEnter the value of n here : ";
   cin>>n;

   float sum=0.0;
   float i=1;

   while (i<=n){
      sum=sum+pow(-1,i+1)*(1.0/(i*i));
      i=i+1;

   }
   cout<<"The sum of the series is "<<sum<<endl;
   return 0;
}
```



#5- WAP to display Factorial of a number entered by the user:

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

int main(){
        int num;
        cout<<"THIS PROGRAM FINDS THE FACTORIAL OF A GIVEN NUMBER"<<endl;
        cout<<"Enter the number here : ";
        cin>>num;

        int fact=1;
        int   i=1;
        while (i<=num){
                fact=fact*i;
              i=i+1;
        }

         cout<<"The factorial of "<<num<<" is "<<fact<<endl;
        return 0;
}
```