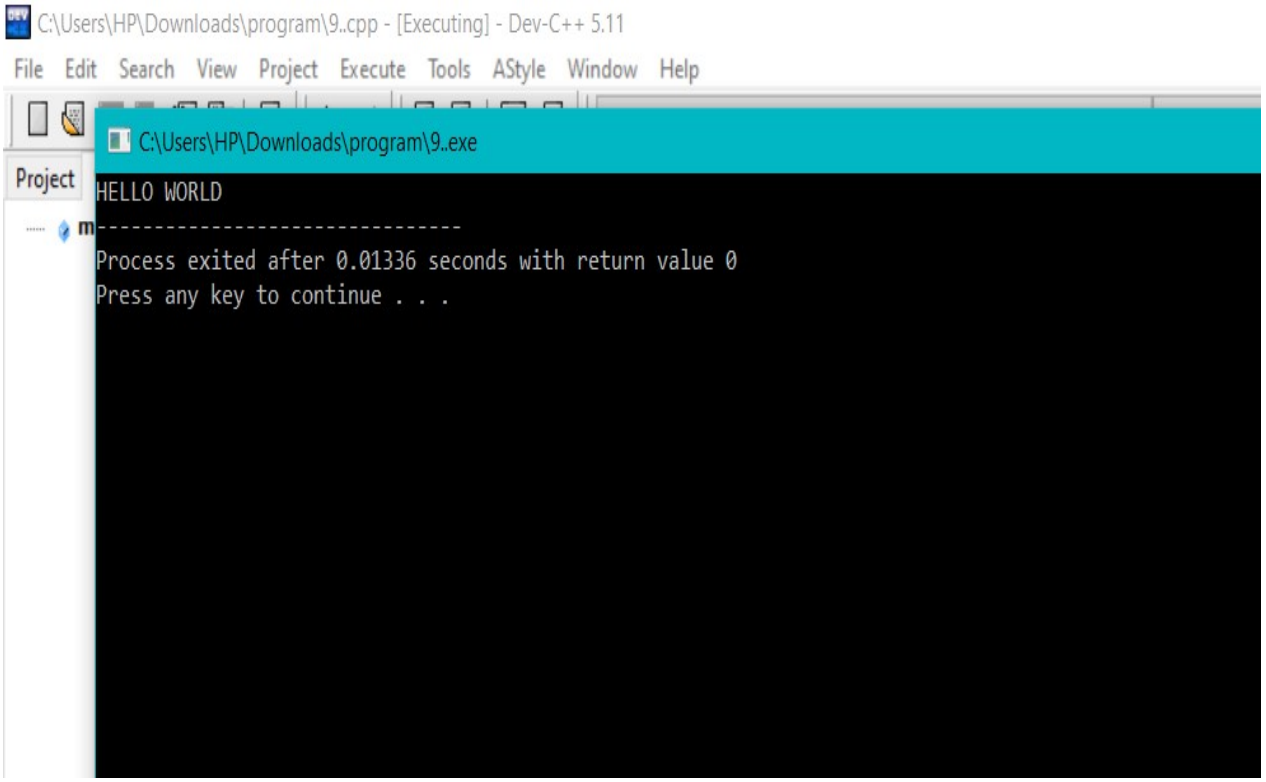
C++ ASSIGNMENT 1.1

1. Write a program to print “Hello World” on the screen.

INPUT

```
#include<iostream>
using namespace std;
int main()
{
cout<<"HELLO WORLD";
return 0;
}
```

OUTPUT



2. Write a program that generate the following output

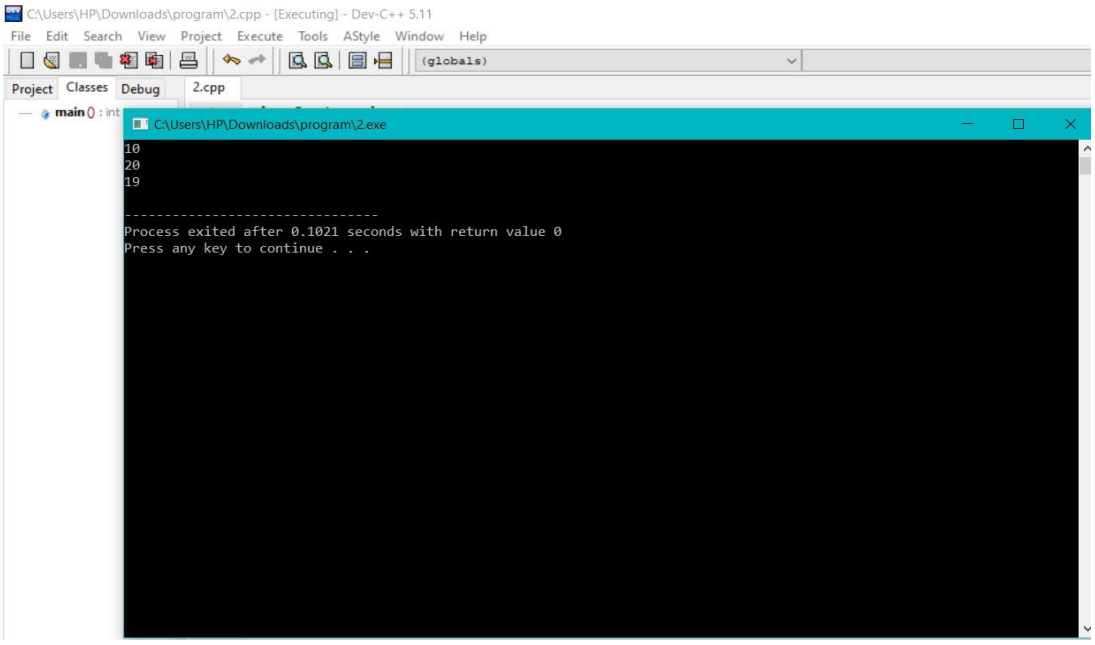
10, 20, 19

Use an integer constant for 10, an arithmetic C++ ASSIGNMENT operator to generate the 20, and a decrement operator to generate 19

Input

```
#include <iostream>

using namespace std;

int main()

{

    int a=10;

    cout <<a<< endl;

    a= (a*2);

    cout << a-- << endl;

    cout << a << endl;

    return 0;


}
```

Output

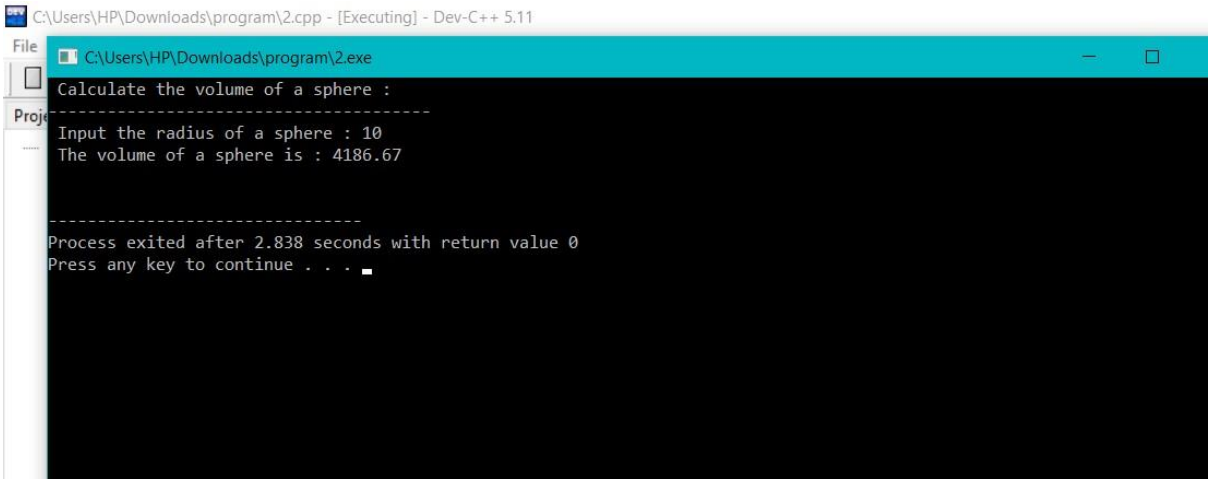


2. **Write a program that asks the user to enter a radius value and then compute the volume of a sphere with the input radius.**

INPUT

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


  int main()
  {
        int rad1;
        float volsphere;
              cout << " Calculate the volume of a sphere :"<<endl;
              cout << "---------------------------------------\n";
    cout<<" Input the radius of a sphere : ";
        cin>>rad1;
        volsphere=(4*3.14*rad1*rad1*rad1)/3;
    cout<<" The volume of a sphere is : "<< volsphere << endl;
    cout << endl;
    return 0;
  }
```

OUTPUT



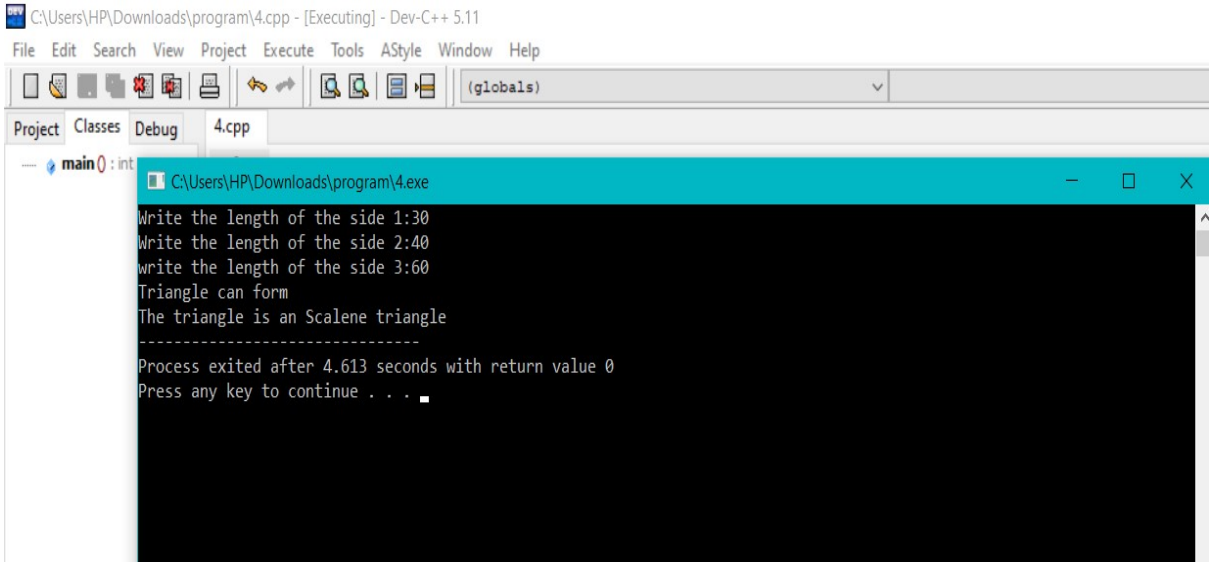
3. **Write a program that takes three input of sides of a triangle. The program should indicate whether the triangle would be formed or not. If it can be formed it also indicates the type.**

INPUT

```
#include <iostream>
using namespace std;
int main()
{
int a1, a2, a3;

 cout<< "Write the length of the side 1:";
  cin >> a1;

  cout<< "Write the length of the side 2:";
  cin >> a2;

  cout<< "write the length of the side 3:";
  cin >> a3;

  if (a1+a2>a3 || a2+a3>a1 || a1+a3>a2){

     cout<< "Triangle can form" << endl;
  }
  else {
    cout<<"Triangle cannot form" << endl;
  }
  if (a1 == a2 && a1 == a3)
{
   cout << "The triangle is an Equilateral triangle";
  }
  else if (a1==a2 && a1!=a3) {

     cout << "The triangle is an Isoceles triangle";

  }

  else if (a1!=a2 && a1!=a3) {
```

```
    cout << "The triangle is an Scalene triangle";


  }
  return 0;
}
```

OUTPUT



4. **Write a program that takes one input as number and it will display whether the number is +ve, -ve or zero. If the number is +ve, then it will display whether the number is odd or even.**

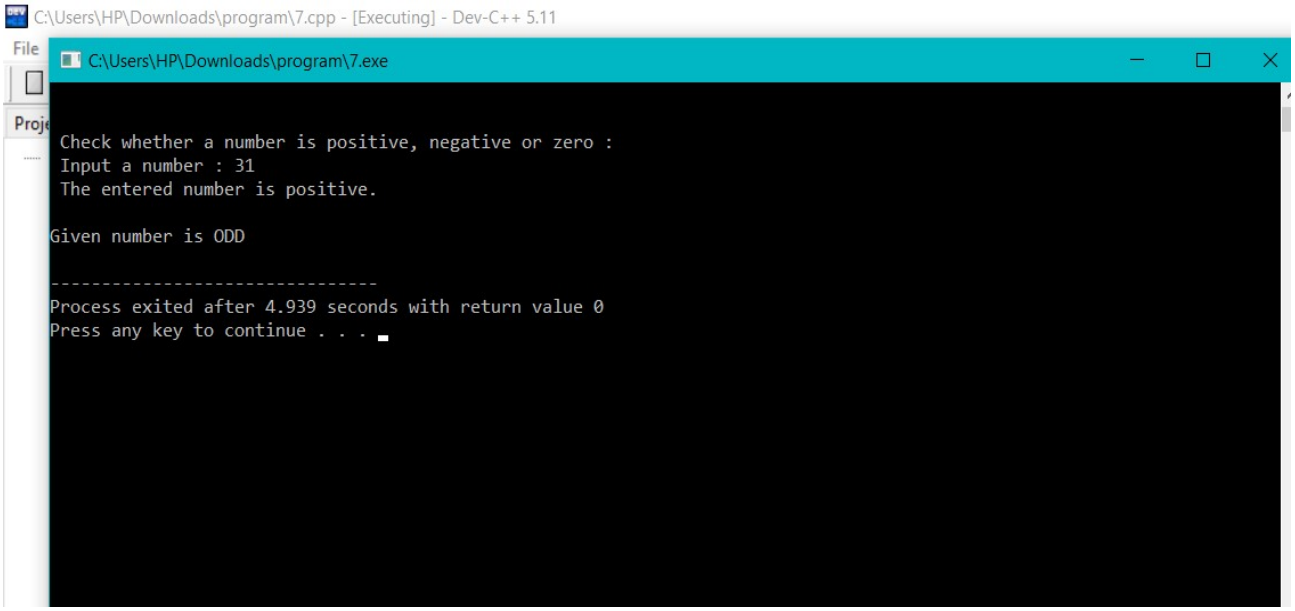
INPUT

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


int main()
```

```
{
   signed long num1 = 0;
        cout << "\n\n Check whether a number is positive, negative or zero
:\n";


        cout << " Input a number : ";
   cin >> num1;
   if(num1 > 0)


   {


       cout << " The entered number is positive.\n\n";
        if (num1 % 2 == 0)
  {
   cout << "Given number is EVEN" << endl;
  }
else
  {
   cout << "Given number is ODD" << endl;
  }
    }
   else if(num1 < 0)
   {
       cout << " The entered number is negative.\n\n";
   }
   else
```

```
    {
       std::cout << " The number is zero.\n\n";
      }
    return 0;
}
```

OUTPUT



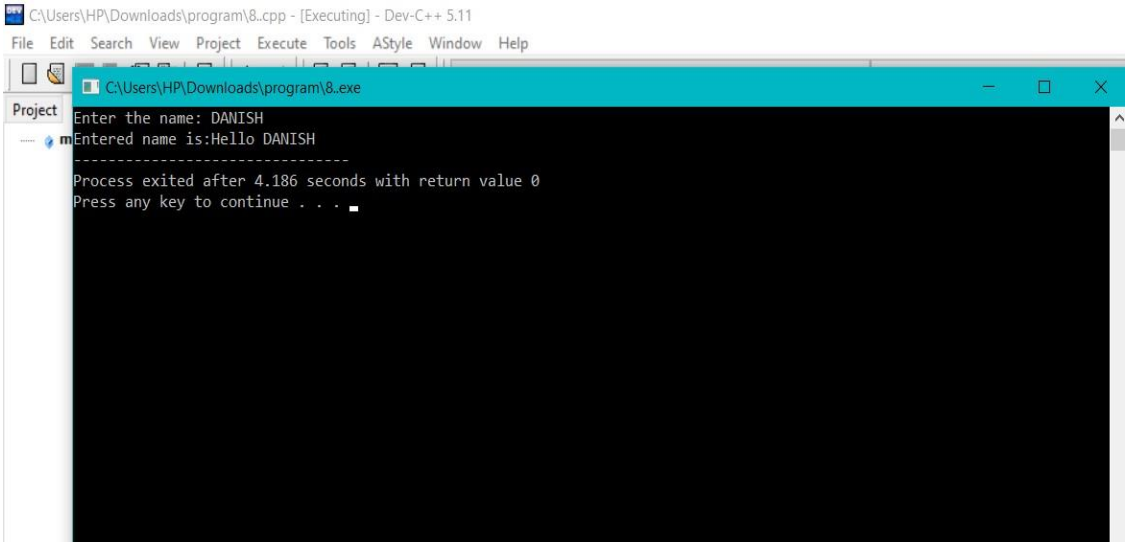
5. **Write a program which takes username as input and it greets to user with his name.**

INPUT

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


int main()
{
  string name;

  cout << "Enter the name: ";
  cin >> name;
```

```
 cout << "Entered name is: Hello " <<
        name;
   return 0;
}
```

OUTPUT



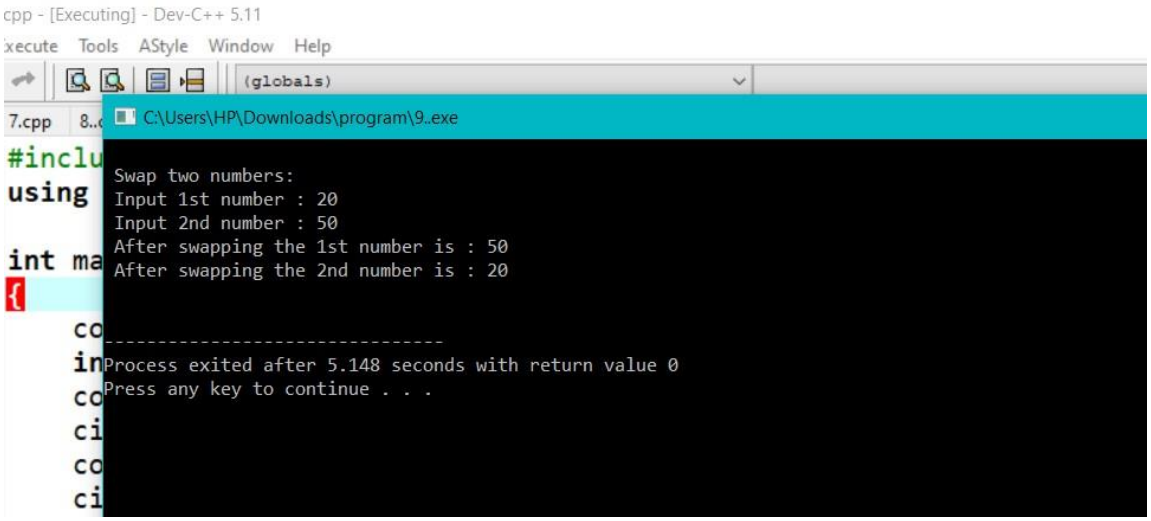
6. **Write a program, which takes two integer numbers as input and it shows their exchanged value. (Don't use third variable)**

INPUT

```
#include <iostream>
using namespace std;
 int main()
{
            cout << "\n Swap two numbers:\n";
            int num1, num2, temp;
            cout << " Input 1st number : ";
            cin >> num1 ;
            cout << " Input 2nd number : ";
            cin >> num2;
            num2=num2+num1;
            num1=num2-num1;
            num2=num2-num1;
   cout << " After swapping the 1st number is : "<< num1 <<"\n" ;
   cout << " After swapping the 2nd number is : "<< num2 <<"\n\n" ;
```

```
    return 0;
}
```

OUTPUT



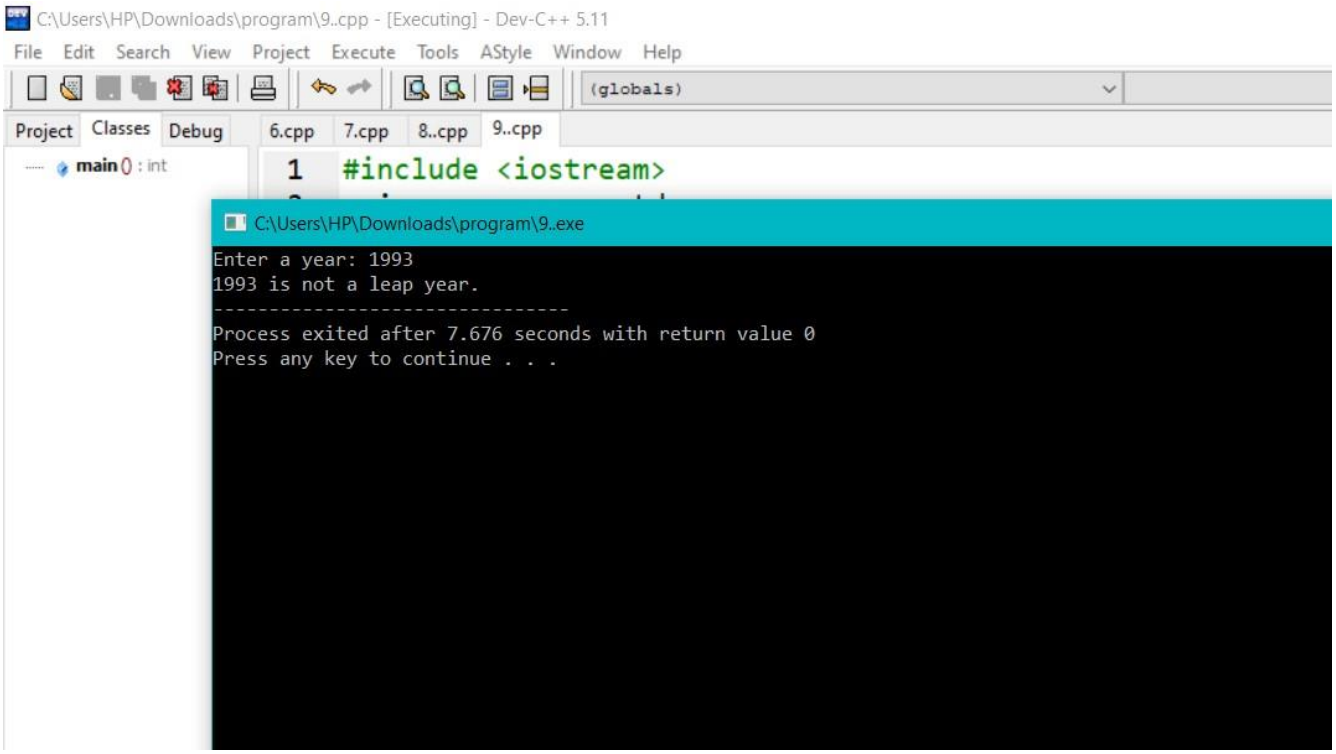
7. WAP to check Leap Year.

INPUT

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

int main() {

 int year;
 cout << "Enter a year: ";
 cin >> year;

 if (year % 400 == 0) {
  cout << year << " is a leap year.";
 }

 else if (year % 100 == 0) {
  cout << year << " is not a leap year.";
 }
```

```
  else if (year % 4 == 0) {
    cout << year << " is a leap year.";
  }

  else {
    cout << year << " is not a leap year.";
  }

  return 0;
}
```

OUTPUT

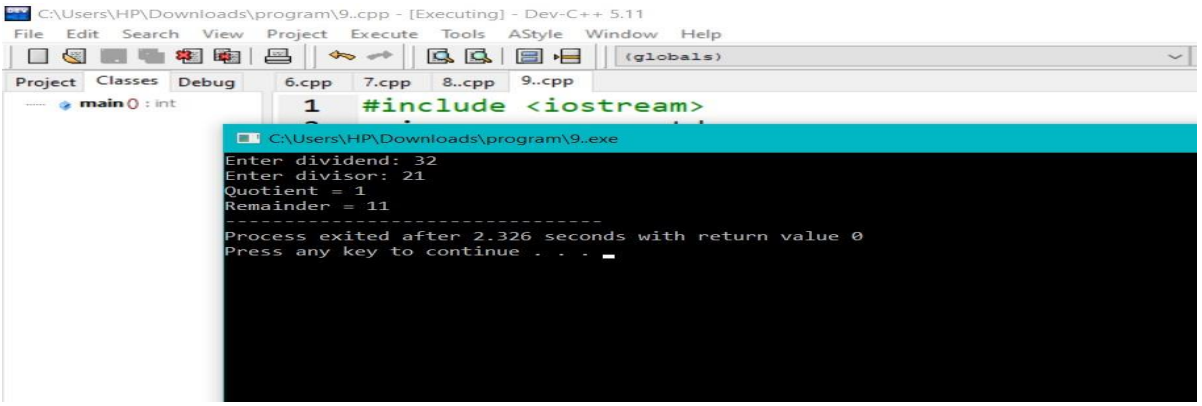


8. WAP for finding remainder of division of 2 numbers.

INPUT

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

int main()
{
   int divisor, dividend, quotient, remainder;

   cout << "Enter dividend: ";
   cin >> dividend;

   cout << "Enter divisor: ";
   cin >> divisor;

   quotient = dividend / divisor;
   remainder = dividend % divisor;

   cout << "Quotient = " << quotient << endl;
   cout << "Remainder = " << remainder;
 return 0;
}
```

OUTPUT

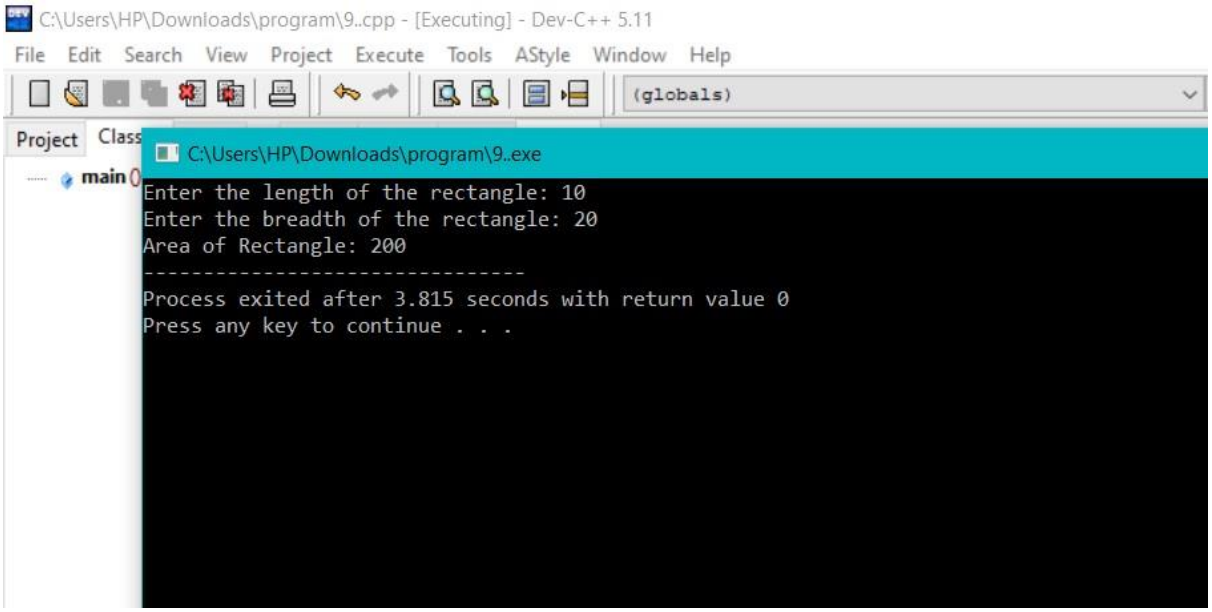


9. WAP to calculate Area of Rectangle

INPUT

```
#include <iostream>
using namespace std;
int main()
{

   int length, breadth, area;


   cout << "Enter the length of the rectangle: ";
   cin >> length;
   cout << "Enter the breadth of the rectangle: ";
   cin >> breadth;


   area = length * breadth;


   cout << "Area of Rectangle: " << area;
   return 0;
}
```

OUTPUT

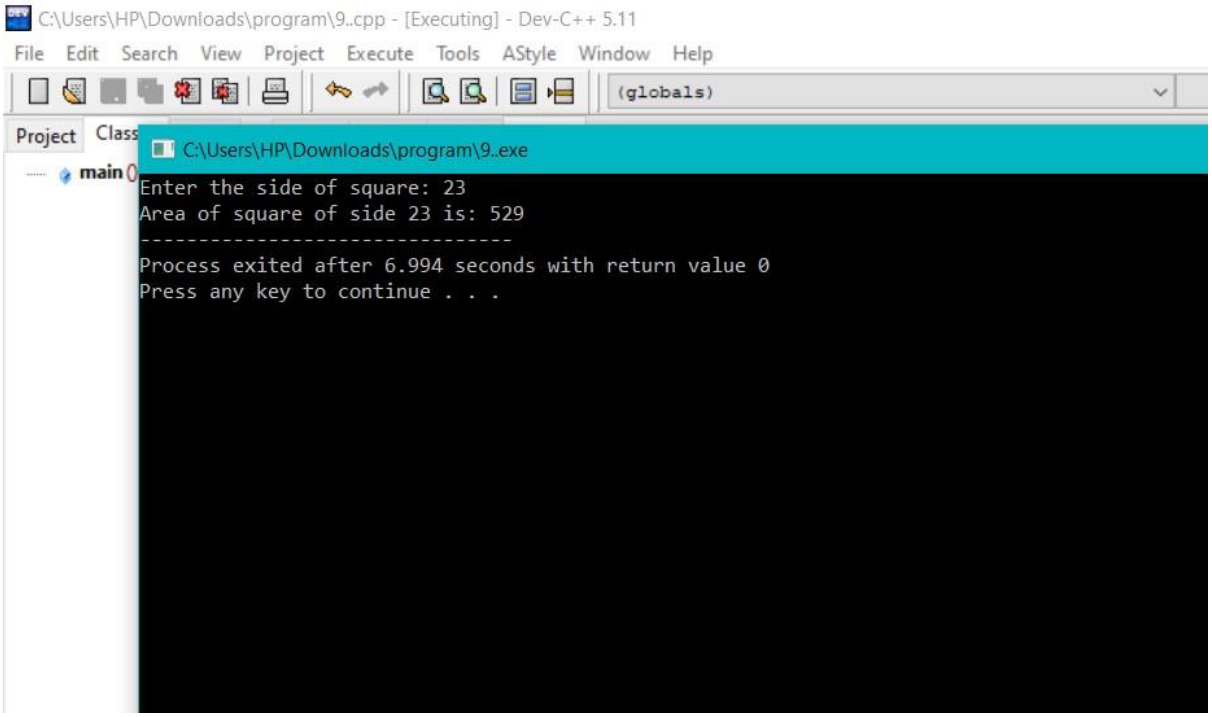


10. WAP to calculate Area of Square.

INPUT

```
#include <iostream>
using namespace std;
int main()
{
   int side, area;

   cout << "Enter the side of square: ";
   cin >> side;

   area = side * side;

   cout << "Area of square of side " << side << " is: " << area;
   return 0;
}
```

OUTPUT

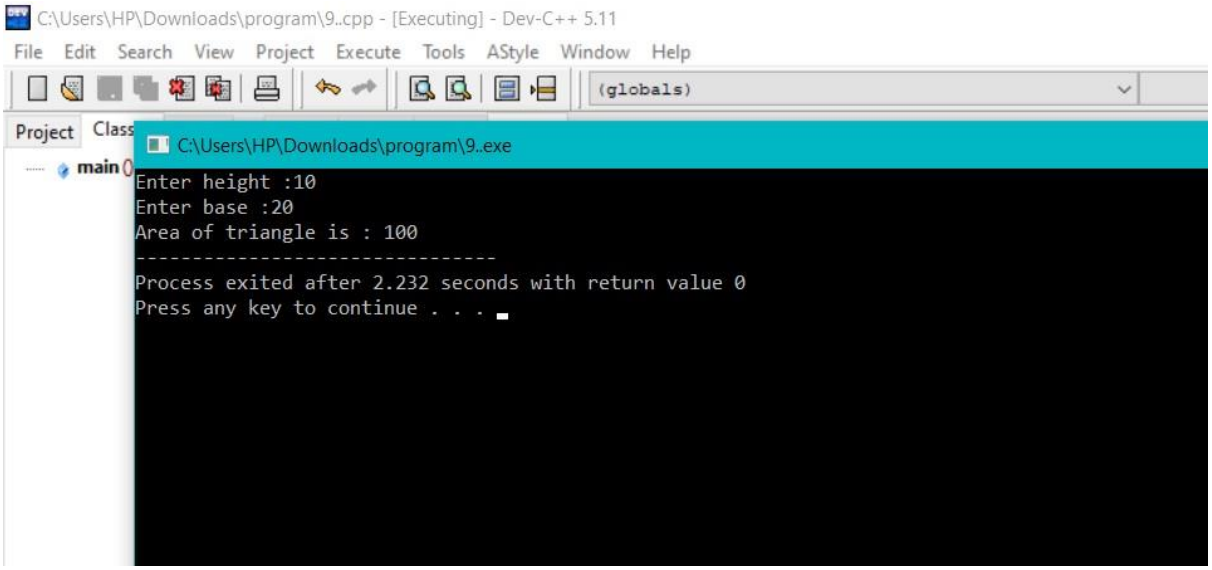


11. WAP to calculate the area of Triangle.

INPUT

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

int main()
 {
   int height, base;
   float ans;
   cout<<"Enter height :";
   cin>>height;
   cout<<"Enter base :";
   cin>>base;
   ans= (0.5)*height*base;

   cout<<"Area of triangle is : "<<ans;
     return 0;
}
```

OUTPUT

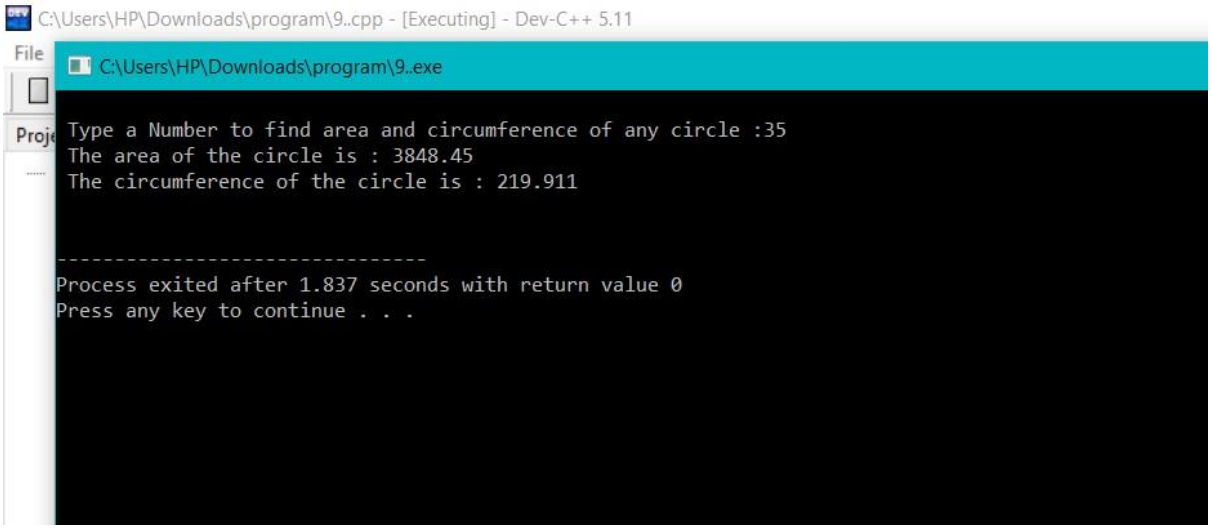


12. WAP to calculate Area and Circumference of Circle.

INPUT

```
#include <iostream>
#define PI 3.14159
using namespace std;

  int main()
  {
    float radius, area, circum;
            cout << "\n Type a Number to find area and circumference of any circle :";
    cin>>radius;

            circum = 2*PI*radius;
            area = PI*(radius*radius);
     cout<<" The area of the circle is : "<< area << endl;
     cout<<" The circumference of the circle is : "<< circum << endl;

     cout << endl;
     return 0;
  }
```

OUTPUT



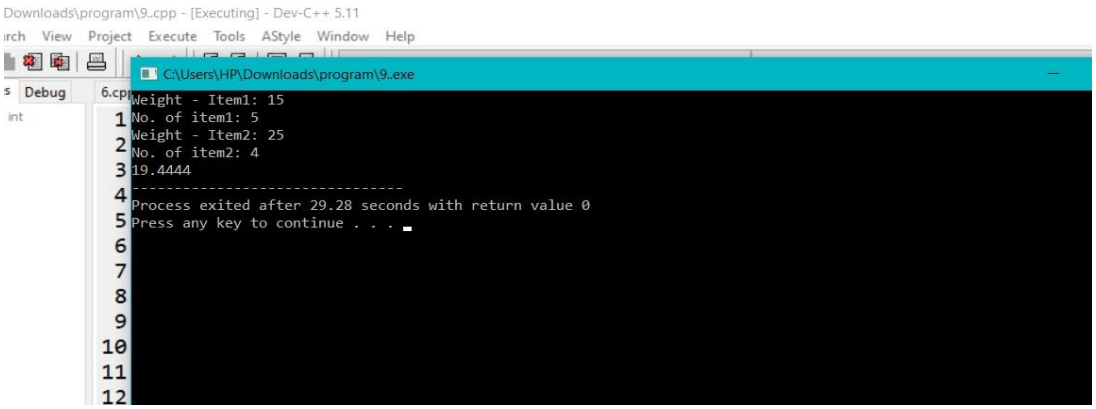
13. WAP for two item's weight (floating points' values) and number of purchase (floating points' values) and calculate the average value of the items.

Test Data:
Weight - Item1: 15
No. of item1: 5
Weight - Item2: 25
No. of item2: 4
Expected Output:
Average Value = 19.444444

INPUT

```
#include <iostream>

using namespace std;

int main()
  {
     double wi1, ci1, wi2, ci2, result;
   cout<<("Weight - Item1: ");
     cin>>wi1;
     cout<<("No. of item1: ");
     cin>>ci1;
     cout<<("Weight - Item2: ");
     cin>>wi2;
     cout<<("No. of item2: ");
     cin>>ci2;
     result = ((wi1 * ci1) + (wi2 * ci2)) / (ci1 + ci2);
     cout<<("Average Value = %f\n", result);
     return 0;
}
```

OUTPUT



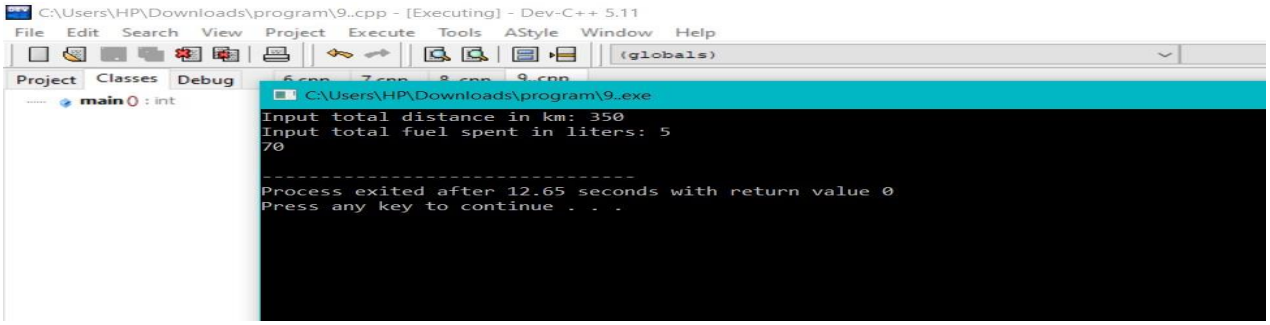
14. WAP to calculate a bike's average consumption from the given total distance (integer value) travelled (in km) and spent fuel.

Test Data:
Input total distance in km: 350
Input total fuel spent in litres: 5
Expected Output:
Average consumption (km/lt) 70.00

INPUT

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



int main()

{

int x;

float y;

cout<<("Input total distance in km: ");

cin>>x;

cout<<("Input total fuel spent in liters: ");

cin>>y;

cout<<("Average consumption (km/lt) %.3f ",x/y);

cout<<("\n");

return 0;

}
```

OUTPUT



15. **Write a program that will give the grade of the student based on the percentage he got in the course.**

Use the following criteria for assigning grades:

Grade = A (when percentage >= 60)

Grade = B (when percentage >= 50 and percentage < 60)

Grade = C (when percentage >= 40 and percentage < 50)

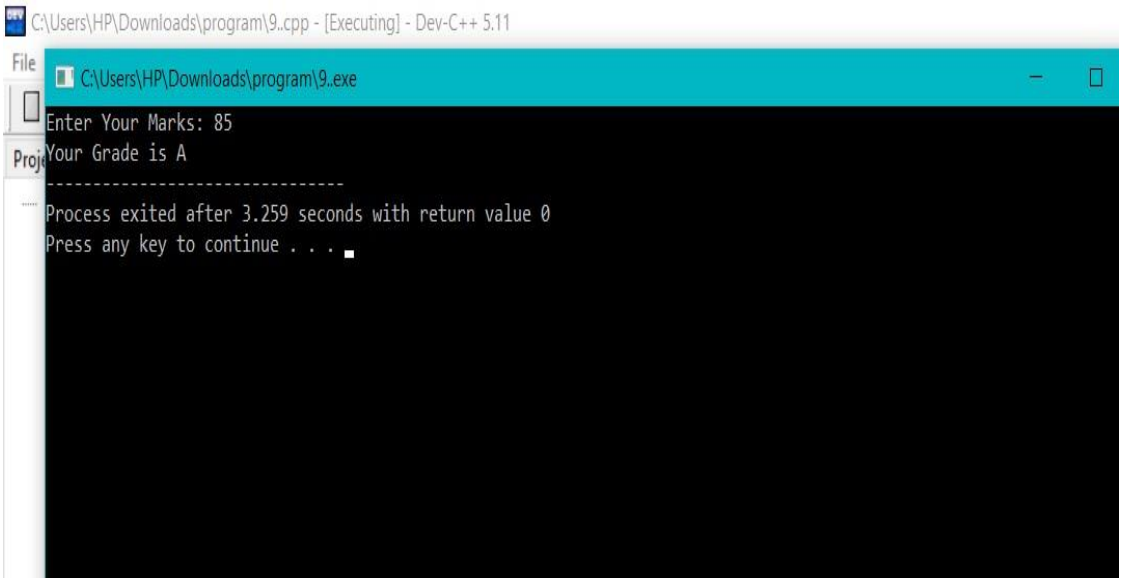
Grade = D (when percentage >= 30 and percentage < 40)

INPUT

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


int main()
{
   int marks;
   cout<<"Enter Your Marks: ";
   cin>>marks;
   if (marks >= 90){
      cout<<"Your Grade is A+";
   }
   else if (marks >= 80){
      cout<<"Your Grade is A";
   }
   else if (marks >= 70){
      cout<<"Your Grade is B+";
   }
```

```
    else if (marks >= 60){
        cout<<"Your Grade is B";
    }
    else if (marks >= 50){
        cout<<"Your Grade is C";
    }
    else if (marks >= 40){
        cout<<"Your Grade is D";
    }
    else if (marks >= 30){
        cout<<"Your Grade is E";
    }
    else if (marks <= 30){
        cout<<"Your Grade is F";
    }
    else{
        cout<<"Enter Valid Marks";
    }
    return 0;
}
```

OUTPUT

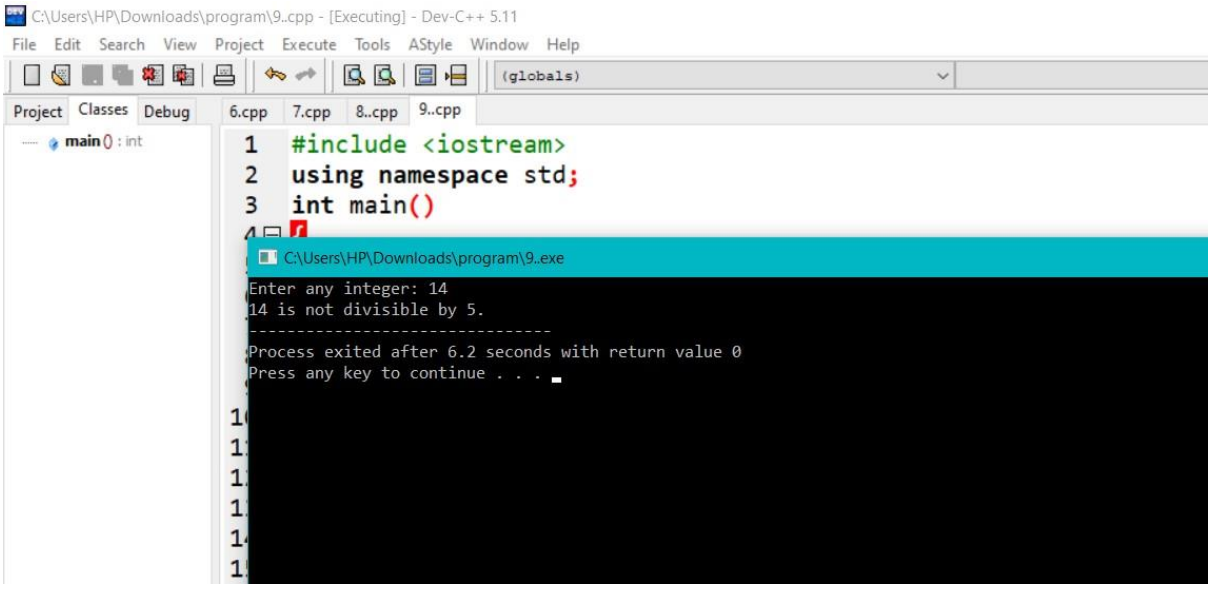


16. WAP to check whether a number is divisible by 5.

INPUT

```
#include <iostream>
using namespace std;
int main()
{
   int num;


   cout << "Enter any integer: ";
   cin >> num;


   if (num % 5 == 0){
      cout << num << " is divisible by 5.";
   }
   else {
      cout << num  << " is not divisible by 5.";
   }
   return 0;
}
```

OUTPUT



17. WAP to input basic salary of an employee and calculate its Gross salary according to following:

Basic Salary <= 10000 : HRA = 20%, DA = 80%

Basic Salary <= 20000 : HRA = 25%, DA = 90%

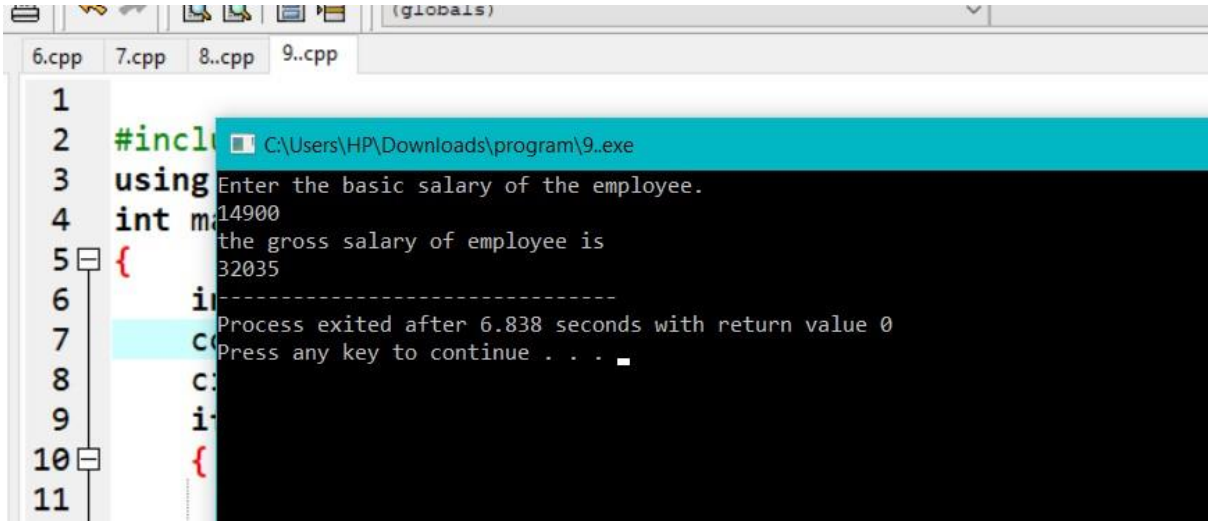
Basic Salary > 20000 : HRA = 30%, DA = 95%

INPUT

```
#include<iostream>
using namespace std;
int main ()
{
     int salary,gross,hra,da;
     cout<<"Enter the basic salary of the employee."<<endl;
     cin>>salary;
     if(salary<= 10000)
     {
          da=salary*20/100;
          hra=salary*80/100;
          gross=salary+da+hra;
     cout<<"the gross salary of the employee is"<<endl<<gross;
     }
if(salary<= 20000)
     {
          da=salary*25/100;
          hra=salary*90/100;
          gross=salary+da+hra;
     cout<<"the gross salary of employee is"<<endl<<gross;
     }
     else if(salary>20000)
     {
          da=salary*30/100;
          hra=salary*95/100;
          gross=salary+da+hra;
     cout<<"the gross salary of employee is"<<endl<<gross;
     }
     else
     {
          cout<<"you have no salary"<<endl;
```

```
    }
}
```

OUTPUT


6.cpp
7.cpp
8..cpp
9..cpp
C:\Users\HP\Downloads\program\9..exe
Enter the basic salary of the employee.
14900
the gross salary of employee is
32035

Process exited after 6.838 seconds with return value 0
Press any key to continue . . .

18. WAP to input electricity unit charges and calculate total electricity bill according to the given condition:

For first 50 units Rs. 0.50/unit

For next 100 units Rs. 0.75/unit

For next 100 units Rs. 1.20/unit

For unit above 250 Rs. 1.50/unit

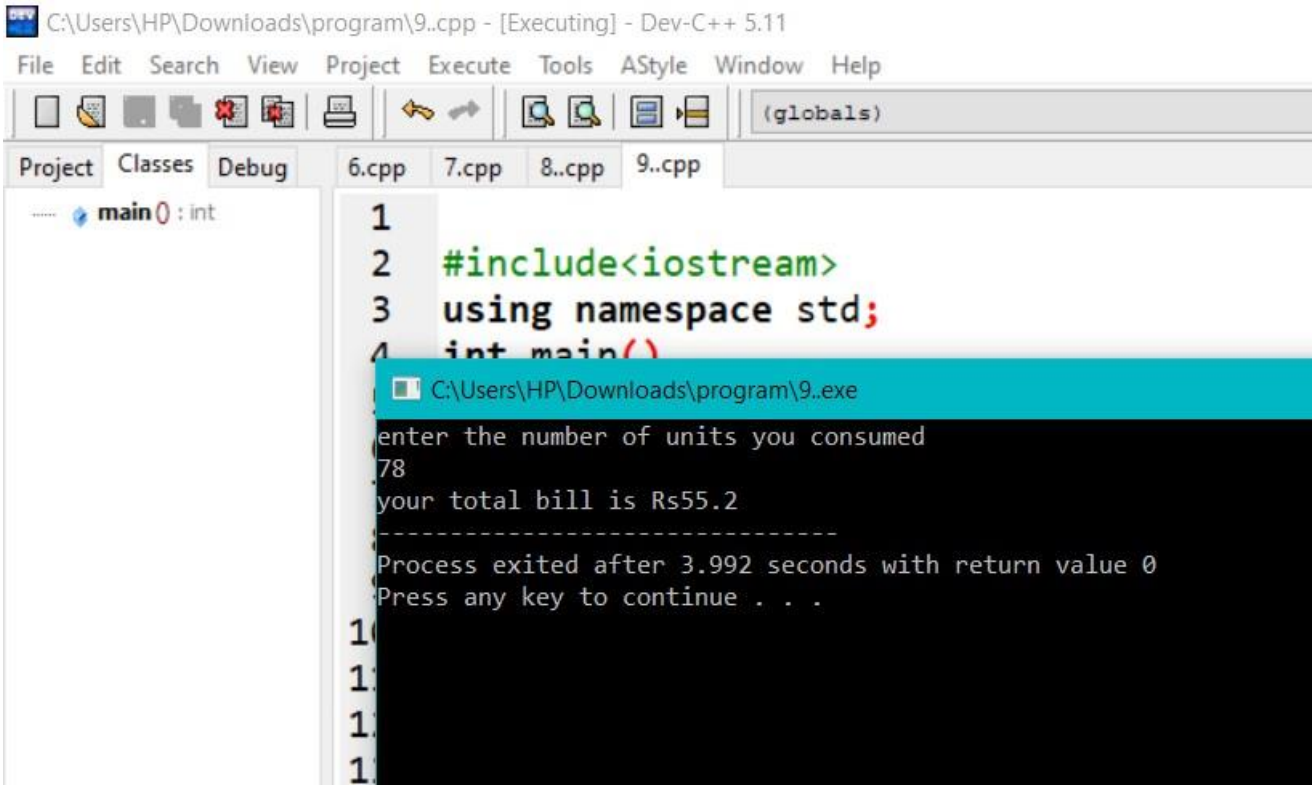
An additional surcharge of 20% is added to the bill

INPUT

```
#include<iostream>
using namespace std;
int main()
{
    int unit;
    float amount,total_amount,s_charge;
    cout<<"enter the number of units you consumed"<<endl;
    cin>>unit;
    switch(unit<=50)
    {
    case 1:
    amount=unit*0.50;
    break;
    case 0:
    switch(unit<=150)
    {
    case 1:
    amount=25+(unit-50)*0.75;
    break;
    case 0:
    switch(unit<=250)
    {
    case 1:
    amount=100+(unit-150)*1.20   ;
    break;
    case 0:
    amount=220+(unit-250)*1.50;
    break;
```

```
        }
        break;
        }
        break;
        }
        s_charge=amount*0.20;
        total_amount=amount+s_charge;
        cout<<"your total bill is Rs"<<total_amount;
    }
```

OUTPUT



C++ ASSIGNMENT 1.2

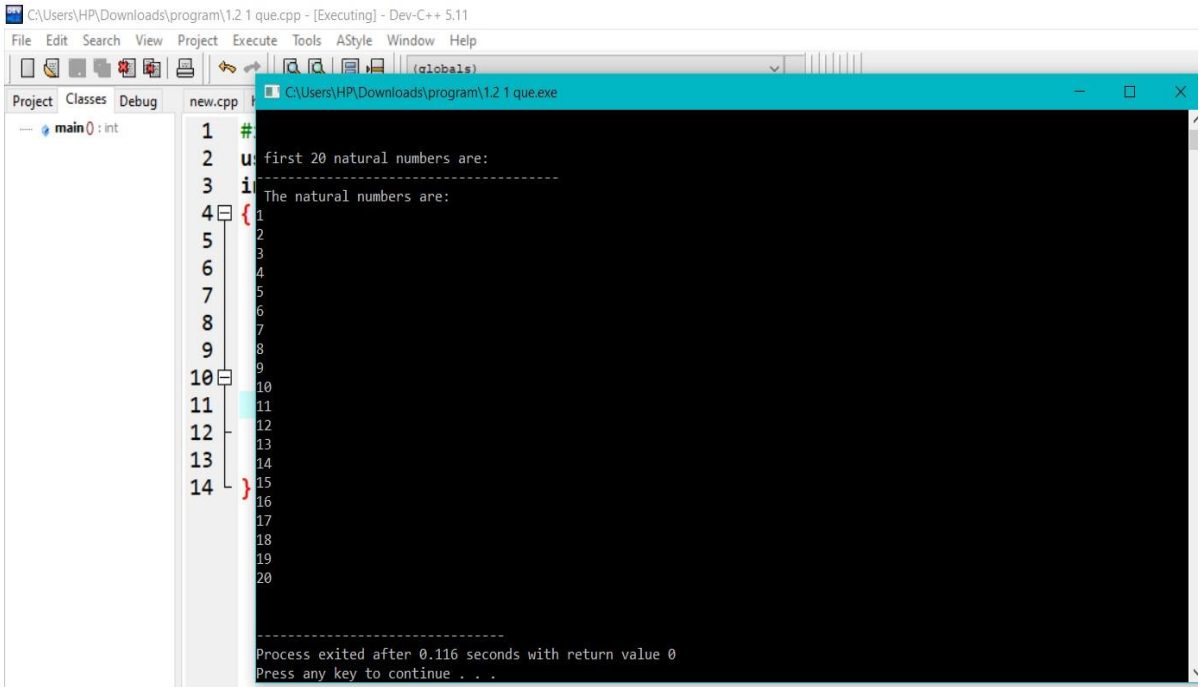
1. WAP for printing all natural numbers till 20.

   INPUT

```
#include <iostream>
```

```
using namespace std;
int main()
{
   int i;
   cout << "\n\n first 20 natural numbers are:\n";
   cout << "--------------------------------------\n";
   cout << " The natural numbers are: \n";
   for (i = 1; i <= 20; i++)
   {
      cout << i <<endl;
   }
   cout << endl;
}
```

OUTPUT



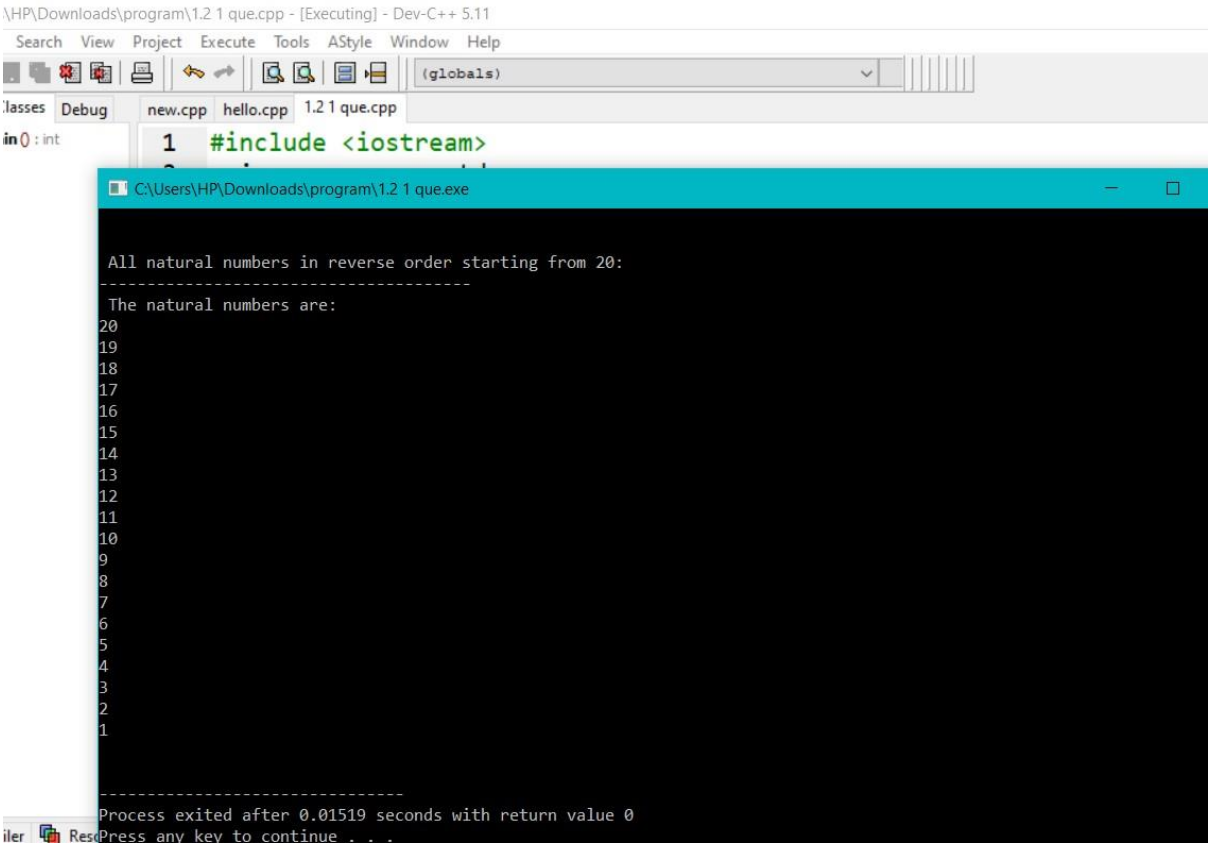
2. WAP for printing all natural numbers in reverse order starting from 20.

   INPUT

```
#include <iostream>
using namespace std;
int main()
{
   int i;
```

```
    cout << "\n\n All natural numbers in reverse order starting from 20:\n";
    cout << "-------------------------------------\n";
    cout << " The natural numbers are: \n";
    for (i = 20; i >= 1; i--)
    {
       cout << i <<endl;
    }
    cout << endl;
}
```

OUTPUT



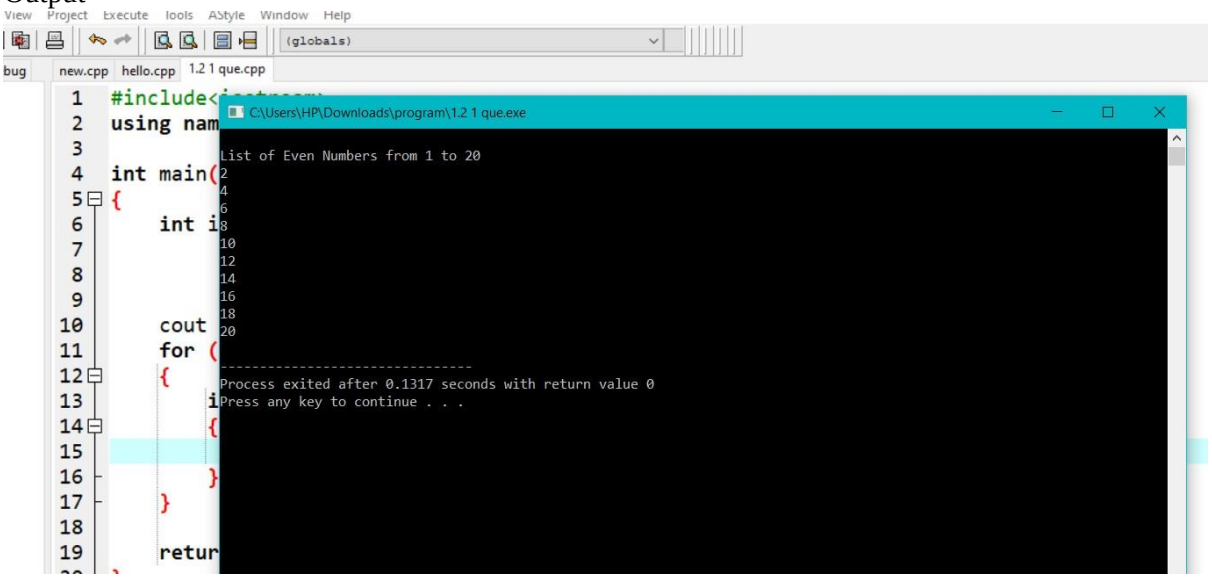
3. WAP for printing all even numbers from 1 to 20.

Input

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

int main()
{
        int i;



        cout << "\nList of Even Numbers from 1 to 20 "<<endl;
        for (i = 1; i <= 20; i++)
        {
```

```
        if ( i % 2 == 0 )
        {
            cout << i <<endl;
        }
    }

    return 0;
}
```

Output



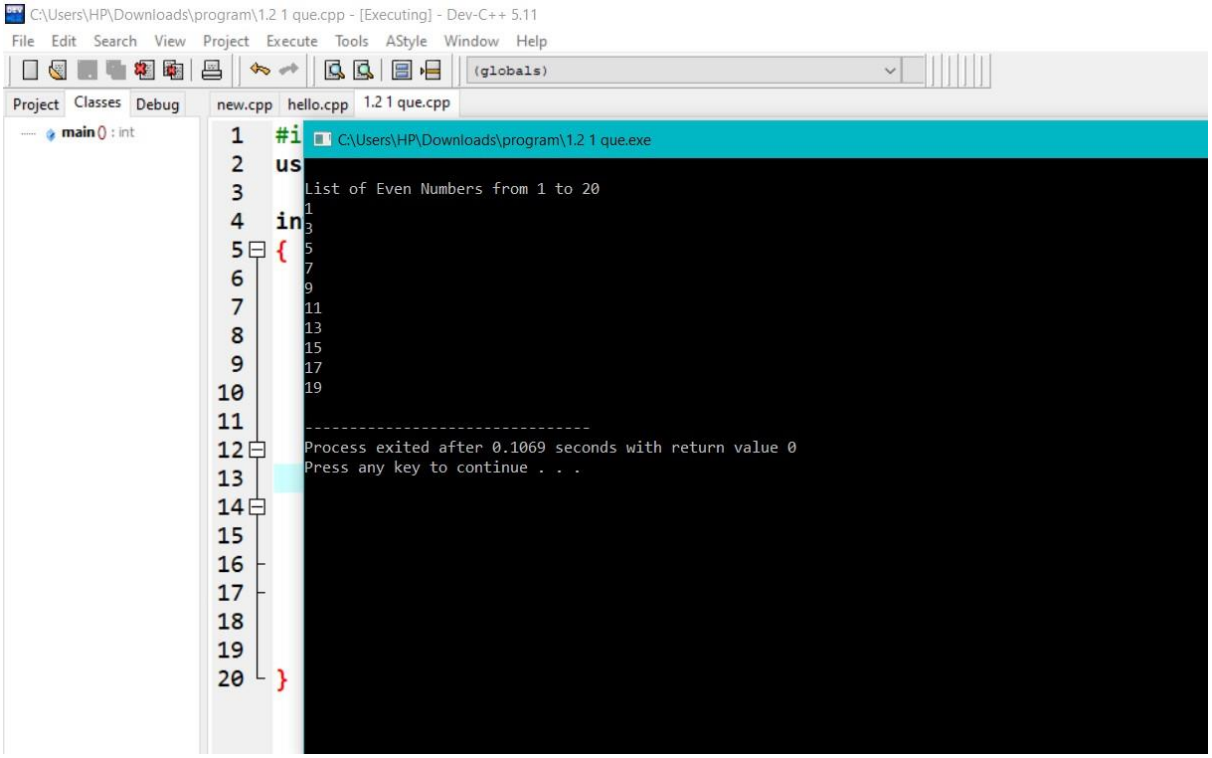
4. WAP for printing all odd numbers from 1 to 20.

INPUT

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

int main()
{
    int i;



    cout << "\nList of Even Numbers from 1 to 20 "<<endl;
    for (i = 1; i <= 20; i++)
    {
        if ( i % 2 != 0 )
        {
            cout << i <<endl;
        }
    }
```

```
        return 0;
}
```

OUTPUT

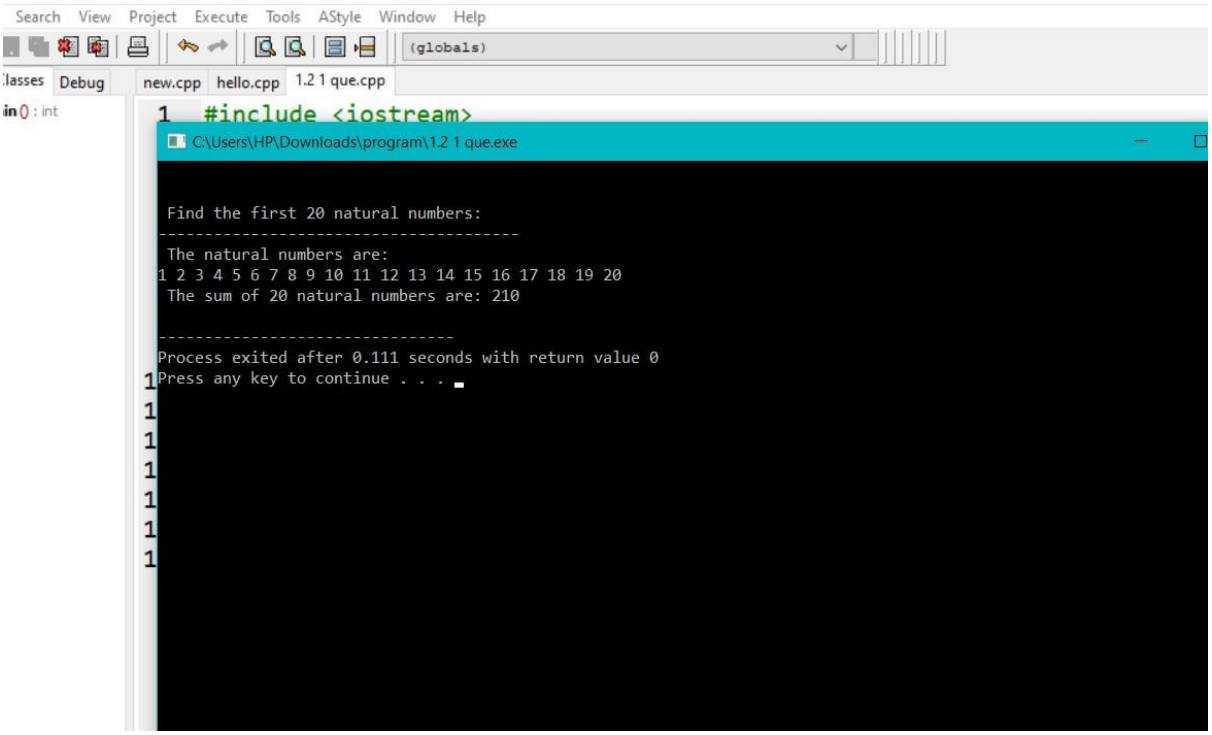


5. WAP for adding all numbers from 1 to 20.

INPUT

```
#include <iostream>
using namespace std;
int main()
{
   int i,sum=0;
   cout << "\n\n Find the first 20 natural numbers:\n";
   cout << "---------------------------------------\n";
   cout << " The natural numbers are: \n";
   for (i = 1; i <= 20; i++)
   {
      cout << i <<" ";
                  sum=sum+i;

   }
    cout << "\n The sum of 20 natural numbers are: "<<sum << endl;
}
```

OUPUT

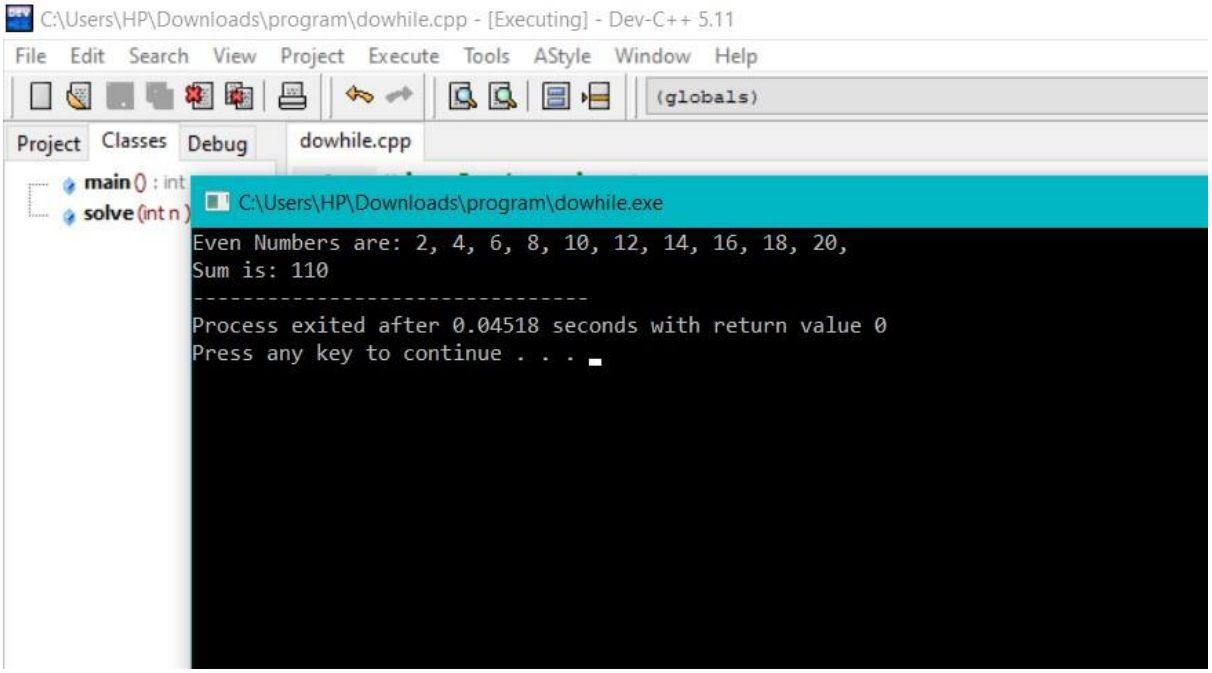


6. WAP for finding sum of all even numbers till 20.

INPUT

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

int solve( int n ) {
  int i;
  int sum = 0;
  cout << "Even Numbers are: ";
  for( i = 1; i <= n; i++ ) {
    if( i % 2 == 0 ) {
      cout << i << ", ";
      sum = sum + i;
    }
  }

  cout << endl;
  return sum;
}
int main(){
  int sum = solve( 20 );
  cout << "Sum is: " << sum;
}
```

OUTPUT

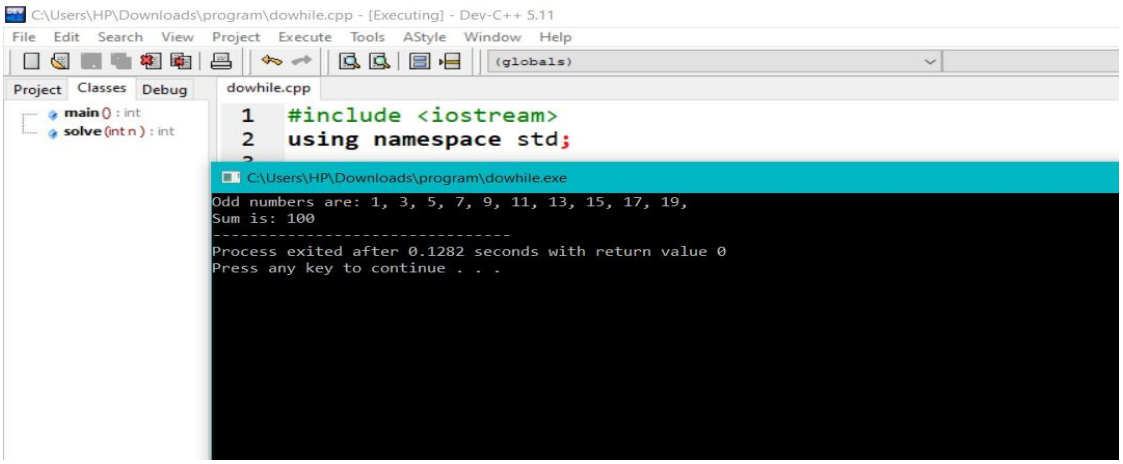


7. WAP for finding sum of all odd numbers till 20.

INPUT

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

int solve( int n )
{
  int i;
  int sum = 0;
  cout << "Odd numbers are: ";
  for( i = 1; i <= n; i++ )
{
    if( i % 2 == 1 ) {
      cout << i << ", ";
      sum = sum + i;
    }
  }

  cout << endl;
  return sum;
}
int main(){
  int sum = solve( 20 );
  cout << "Sum is: " << sum;
}
```

OUTPUT

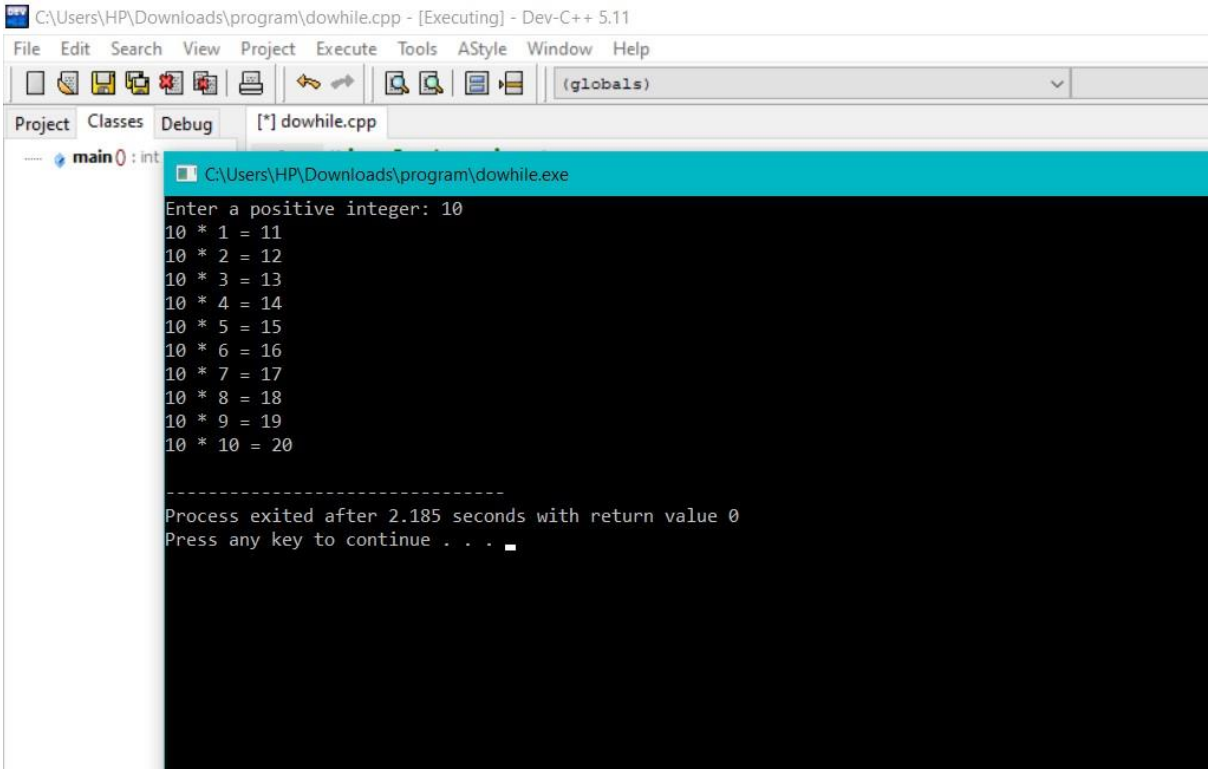


8. WAP for printing multiplication table of a number. For eg. Display should be " 2 X 1 = 2"

INPUT

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

int main() {

   int n;

   cout << "Enter a positive integer: ";
   cin >> n;

   for (int i = 1; i <= 10; ++i)
         {
      cout << n << " * " << i << " = " << n * i << endl;
   }

   return 0;
}
```

OUTPUT

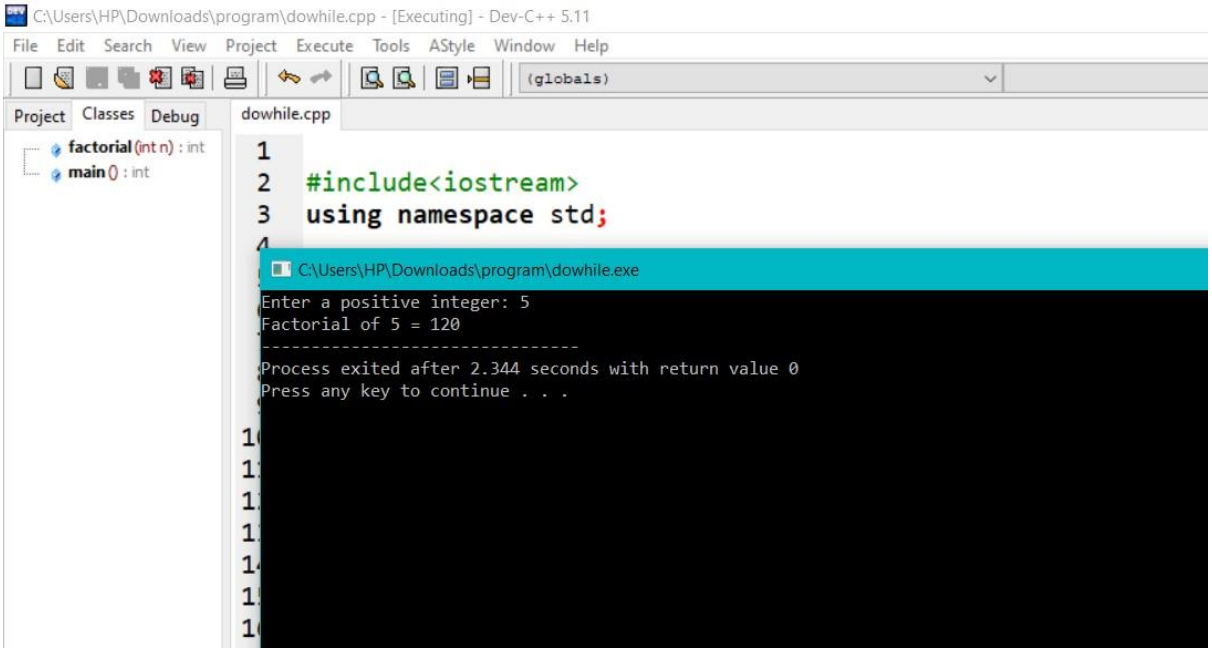


9. WAP to calculate factorial of a number.

INPUT

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

int factorial(int n);

int main() {

  int n;

  cout << "Enter a positive integer: ";
  cin >> n;

  cout << "Factorial of " << n << " = " << factorial(n);

  return 0;
}

int factorial(int n) {
  if(n > 1)
    return n * factorial(n - 1);
  else
    return 1;
}
```

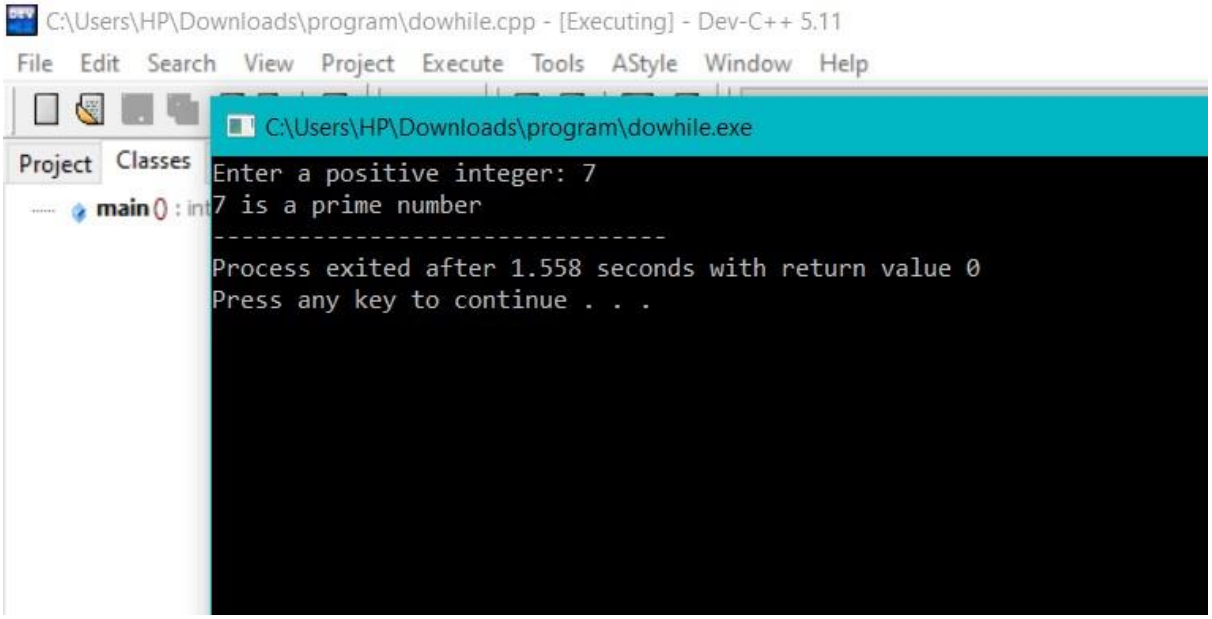
OUTPUT



10. WAP to check whether a number is prime or not.

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

int main() {

 int i, n;
 bool is_prime = true;

 cout << "Enter a positive integer: ";
 cin >> n;

 if (n == 0 || n == 1) {
  is_prime = false;
 }

 for (i = 2; i <= n/2; ++i) {
  if (n % i == 0) {
   is_prime = false;
   break;
  }
 }

 if (is_prime)
  cout << n << " is a prime number";
 else
  cout << n << " is not a prime number";

 return 0;
}
```

OUTPUT

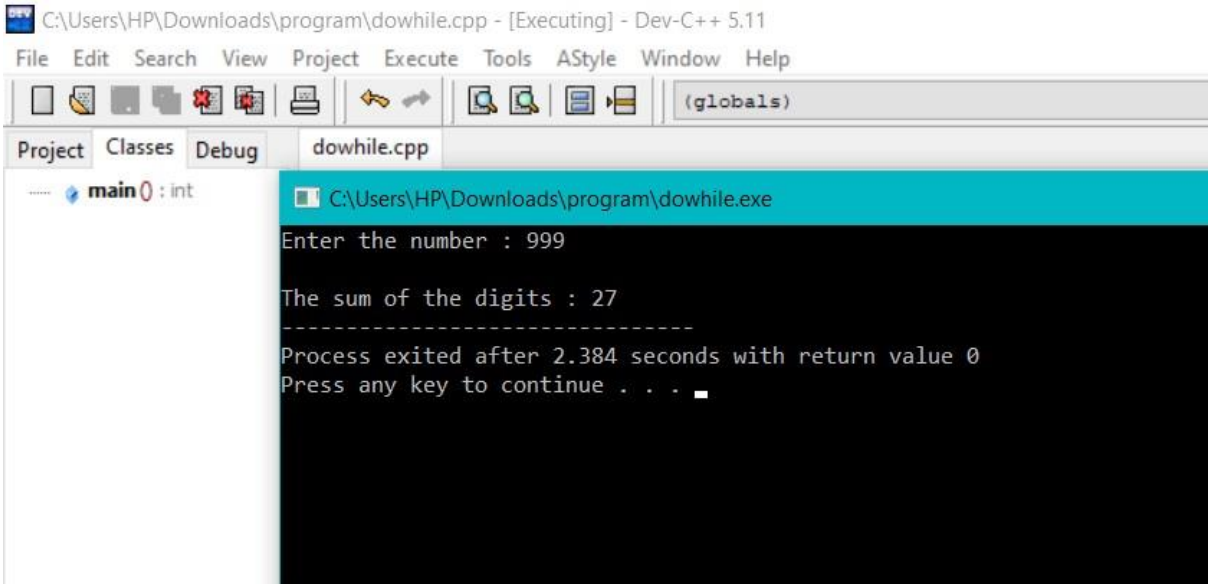


11. WAP to print all digits of a number and their sum.

INPUT

```
#include<iostream>
using namespace std;
int main()
 {
   int x, s = 0;
   cout << "Enter the number : ";
   cin >> x;
   while (x != 0) {
      s = s + x % 10;
      x = x / 10;
   }
   cout << "\nThe sum of the digits : "<< s;
}
```

OUTPUT

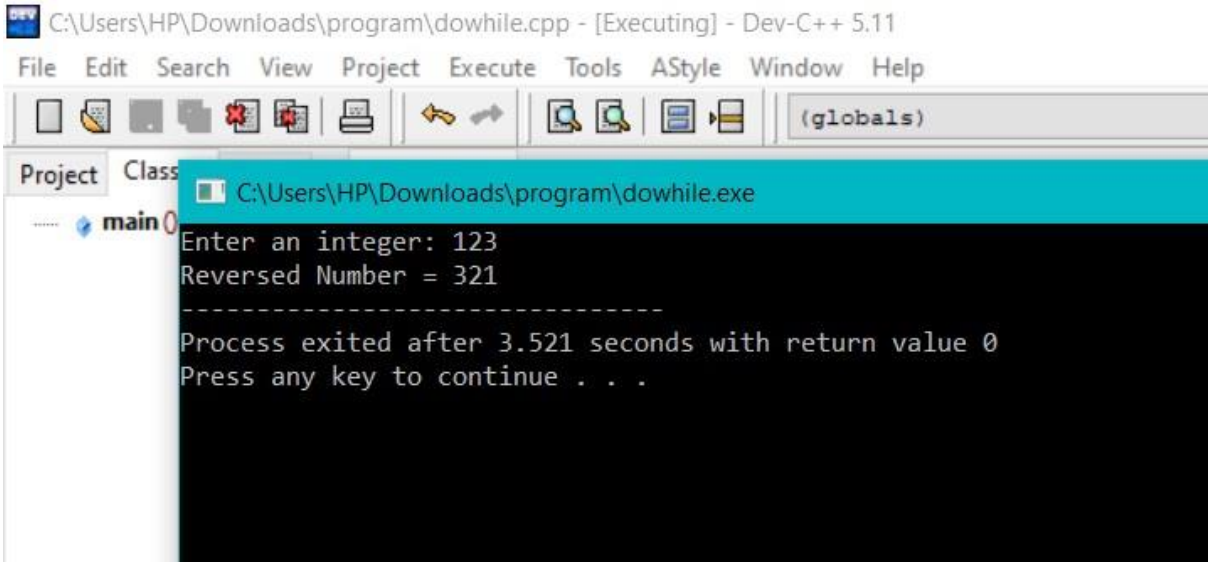


12. WAP to print reverse of a number.

INPUT

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

int main()
{

 int n, reversed_number = 0, remainder;

 cout << "Enter an integer: ";
 cin >> n;

 while(n != 0) {
  remainder = n % 10;
  reversed_number = reversed_number * 10 + remainder;
  n /= 10;
 }

 cout << "Reversed Number = " << reversed_number;

 return 0;
}
```

OUTPUT

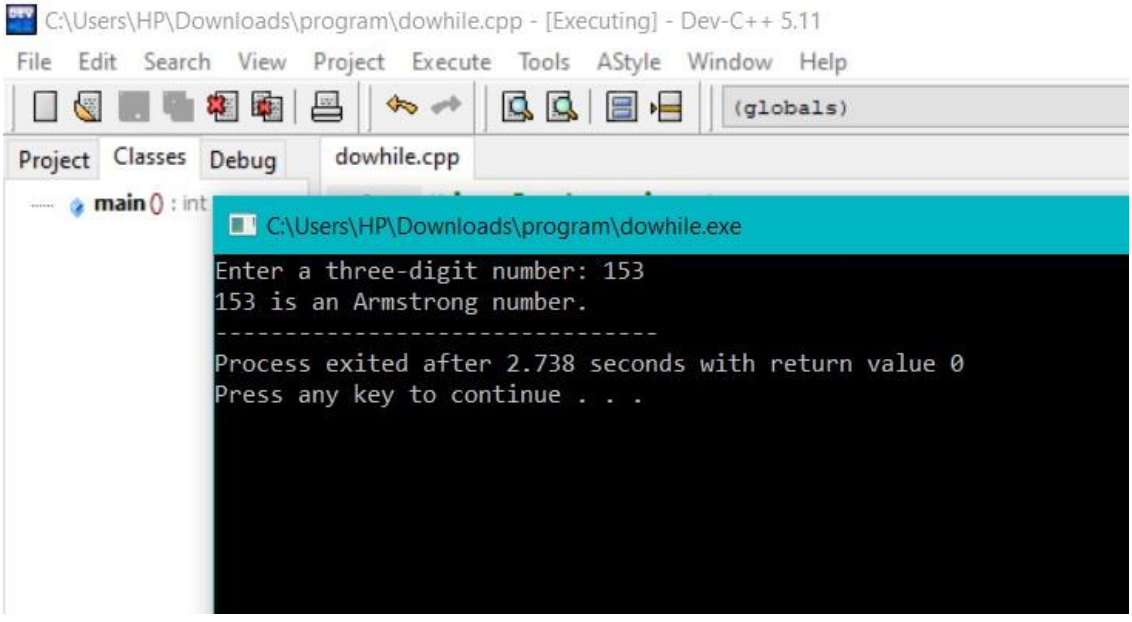


13. WAP to check whether the number is Armstrong or not.

INPUT

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

int main() {
   int num, originalNum, remainder, result = 0;
   cout << "Enter a three-digit number: ";
   cin >> num;
   originalNum = num;

   while (originalNum != 0)
{

      remainder = originalNum % 10;

      result += remainder * remainder * remainder;


      originalNum /= 10;
   }

   if (result == num)
      cout << num << " is an Armstrong number.";
   else
      cout << num << " is not an Armstrong number.";

   return 0;
}
```

OUTPUT

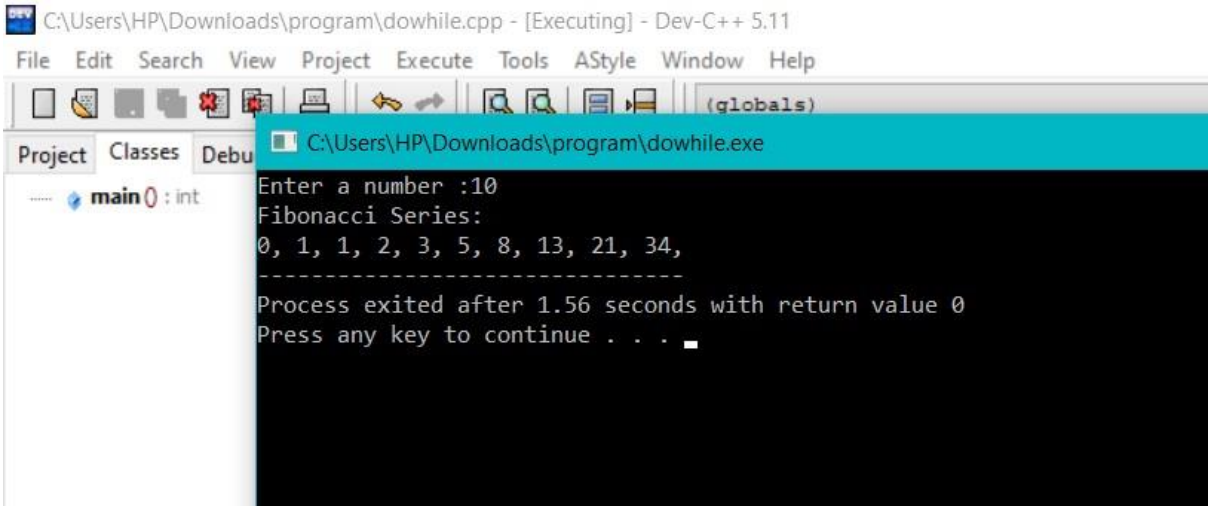


14. WAP to print the Fibonacci series in a given range.

INPUT

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

int main() {
   int n, t1 = 0, t2 = 1, nextTerm = 0;

   cout << "Enter a number :";
   cin >> n;

   cout << "Fibonacci Series: \n";

   for (int i = 1; i <= n; ++i) {

      if(i == 1) {
         cout << t1 << ", ";
         continue;
      }
      if(i == 2) {
         cout << t2 << ", ";
         continue;
      }
      nextTerm = t1 + t2;
      t1 = t2;
      t2 = nextTerm;

      cout << nextTerm << ", ";
   }
   return 0;
}
```

OUTPUT



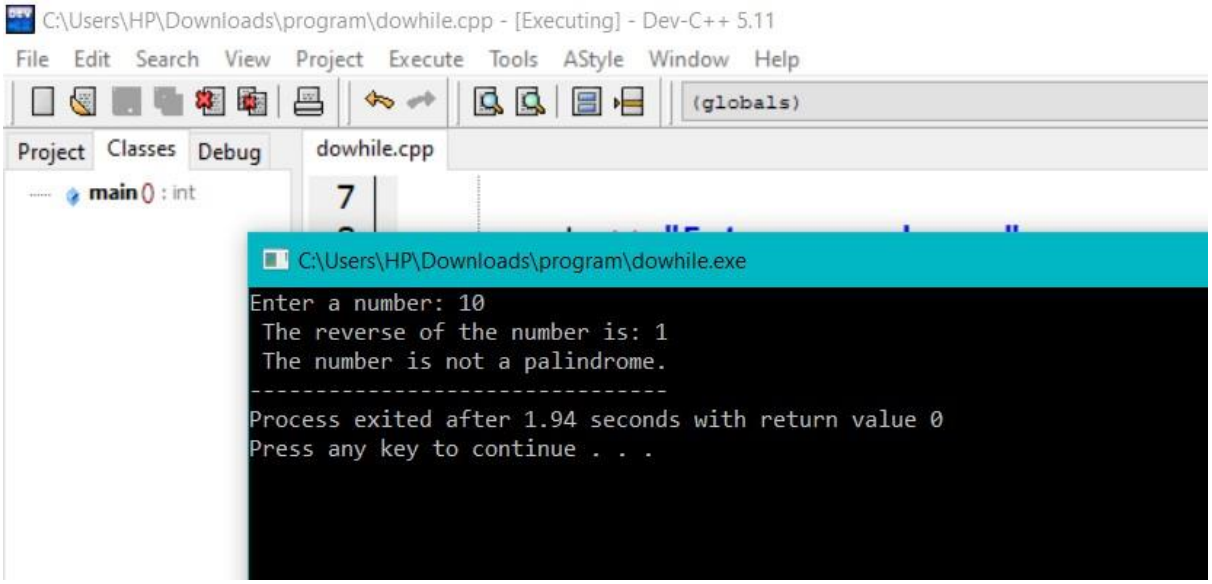
15. WAP to check whether the number entered is palindrome or not.

INPUT

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

int main()
{
    int n, num, digit, rev = 0;
```

```
    cout << "Enter a number: ";
    cin >> num;

    n = num;

    do
    {
       digit = num % 10;
       rev = (rev * 10) + digit;
       num = num / 10;
    } while (num != 0);

    cout << " The reverse of the number is: " << rev << endl;

    if (n == rev)
       cout << " The number is a palindrome.";
    else
       cout << " The number is not a palindrome.";

   return 0;
}
```

OUTPUT



C++ ASSIGNMENT 1.3

1. WAP to print following kind of pattern

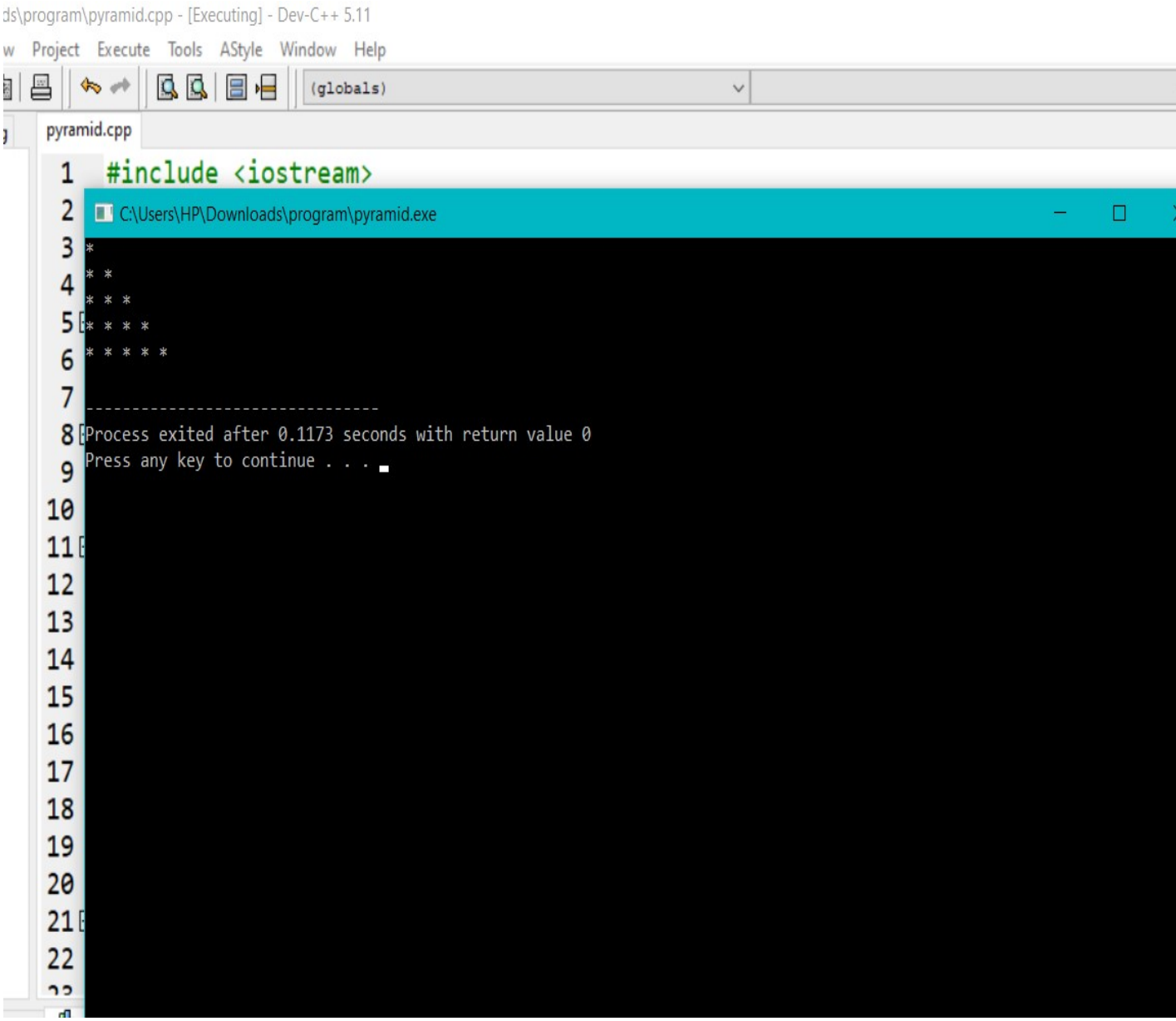
```
*
**
***
****
*****
```

INPUT

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

void star(int n)
{

   for (int i = 0; i < n; i++)
            {

            for (int j = 0; j <= i; j++)
            {

            cout << "* ";
}

            cout << endl;
```

```
    }
}

        int main()
{
    int n = 5;
    star(n);
    return 0;
}
```

OUTPUT



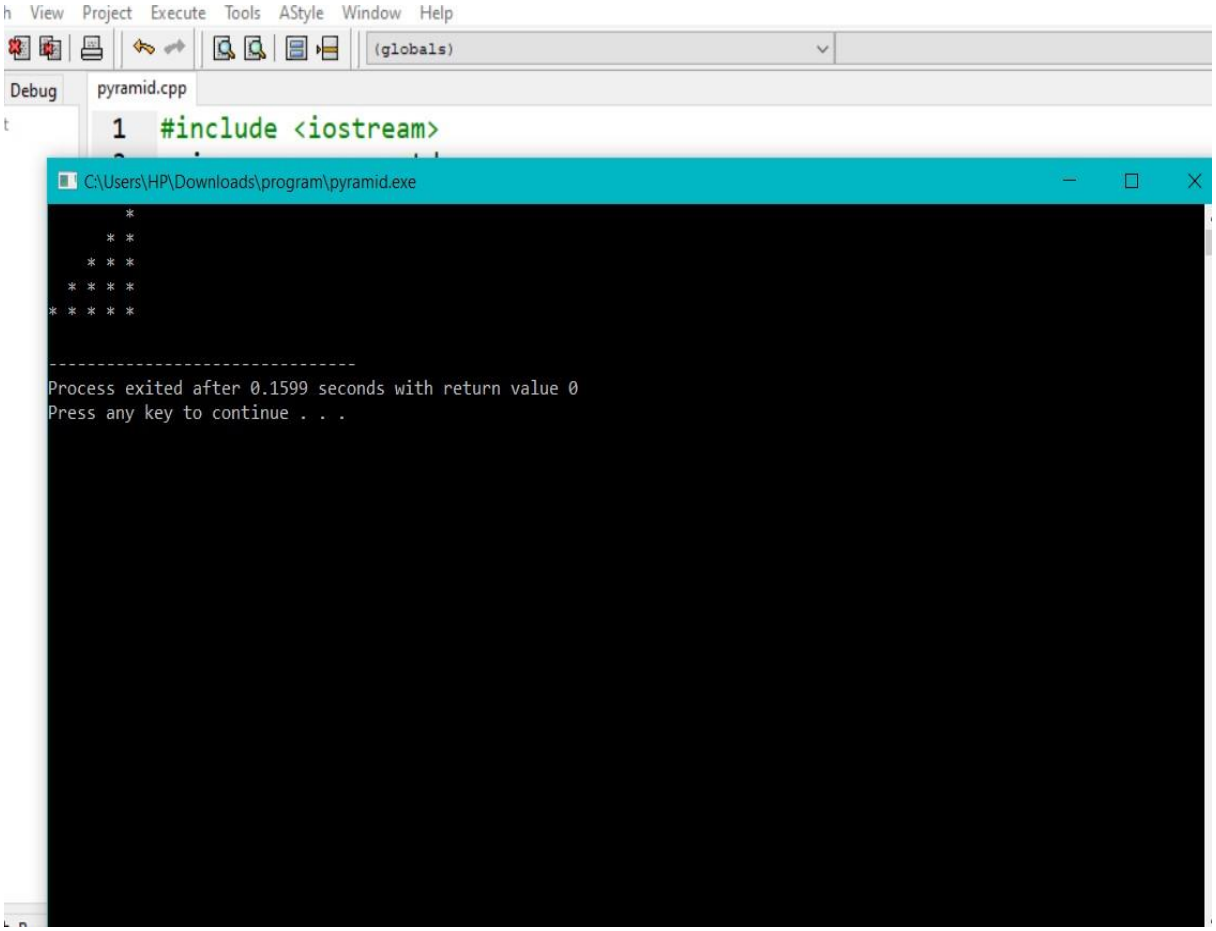
2.
```
    *
   **
  ***
 ****
******
```

INPUT

```
#include <iostream>
using namespace std;
int main()
{
   int n = 5;
     for (int i = n; i > 0; i--)
          {
      for (int j = 1; j <= n; j++)
      {
         if (j >= i) {
            cout << "* ";
         }
         else {
            cout << "  ";
```

```
            }
        }
        cout << endl;
    }
    return 0;
}
```

OUTPUT


View Project Execute Tools AStyle Window Help
(globals)
Debug
pyramid.cpp
1 #include <iostream>
C:\Users\HP\Downloads\program\pyramid.exe
*
* *
* * *
* * * *
* * * * *
Process exited after 0.1599 seconds with return value 0
Press any key to continue . . .

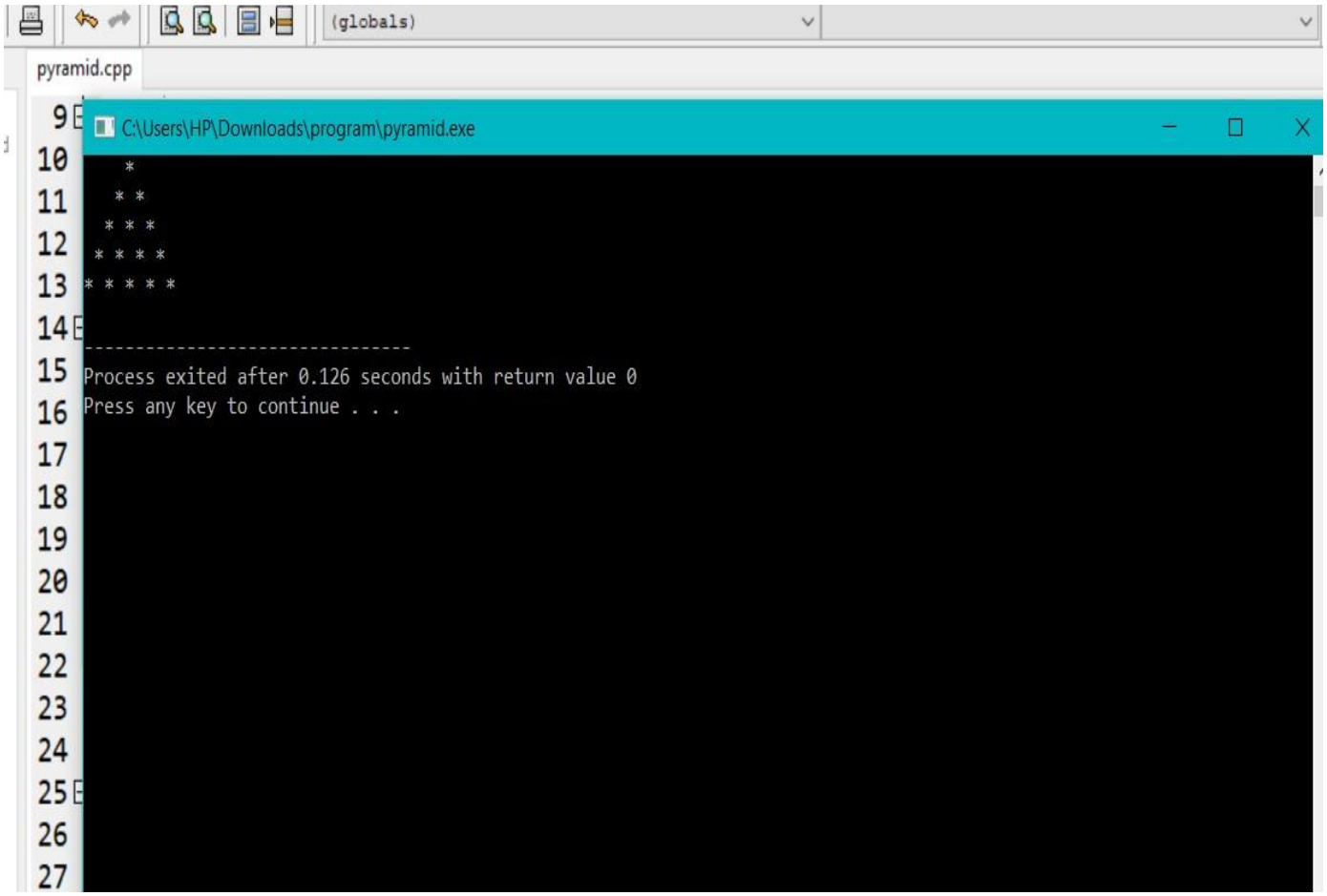
3.
```
    *
   ***
  *****
 *******
*********
```

INPUT

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

void pyramid(int n)
{
   int i = 0, j = 0, k = 0;
   while (i < n) {

      while (k <= n - i - 2) {
         cout << " ";
         k++;
      }
      k = 0;
       while (j <= i) {
         cout << "* ";
         j++;
      }
      j = 0;
      i++;
      cout << endl;
   }
}

int main()
{
   int n = 5;

   pyramid(n);
```

```
    return 0;
}
```

OUTPUT

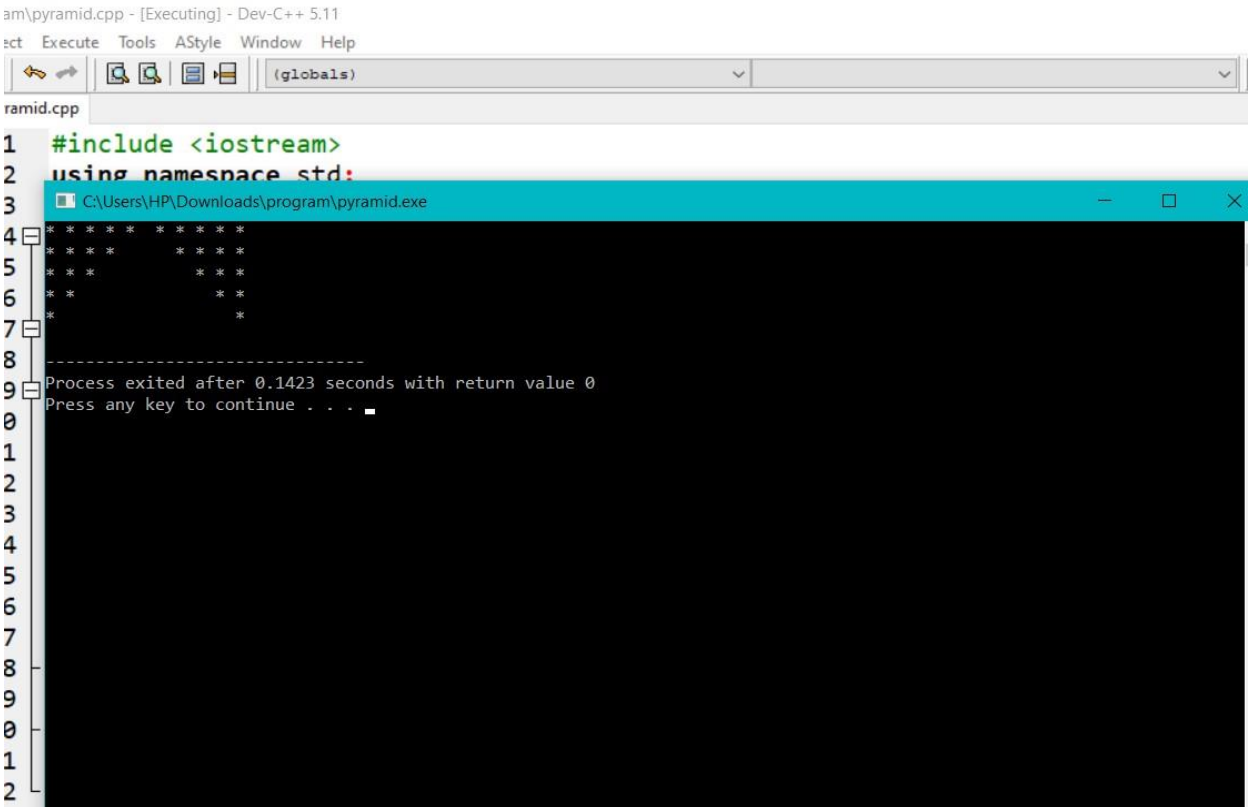


4. **********
   **** ****
   *** ***
   ** **
   * *

   INPUT

```
#include <iostream>
using namespace std;
int main()
{
   int i, j, n=5;
   for(i = 0; i < n; i++)
   {
      for(j = 0; j < (2 * n); j++)
      {
         if(i + j <= n - 1)
            cout << "*";
         else
            cout << " ";
         if((i + n) <= j)
            cout << "*";
         else
            cout << " ";
      }
      cout << "\n";
   }
                    return 0;
          }
```

   OUTPUT

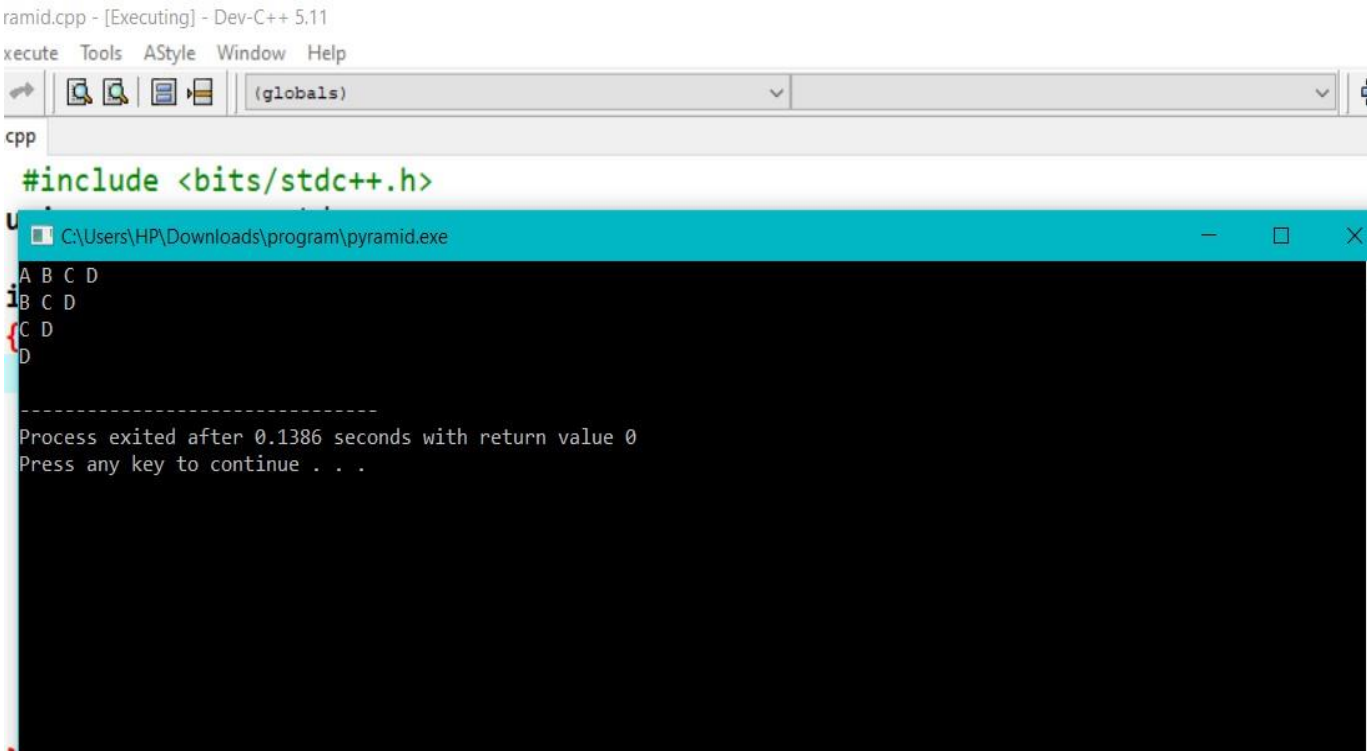


5. ABCD
   ABC
   AB
   A

INPUT

```
#include <bits/stdc++.h>
using namespace std;

int main()
{
   int i, j, n = 4;
   for (i = 1; i <= n; i++)
   {
      for (j = i; j <= n; j++)
      {
         cout << (char)('A' - 1 + j) << " ";
      }
      cout << endl;
   }
   return 0;
}
```

OUTPUT



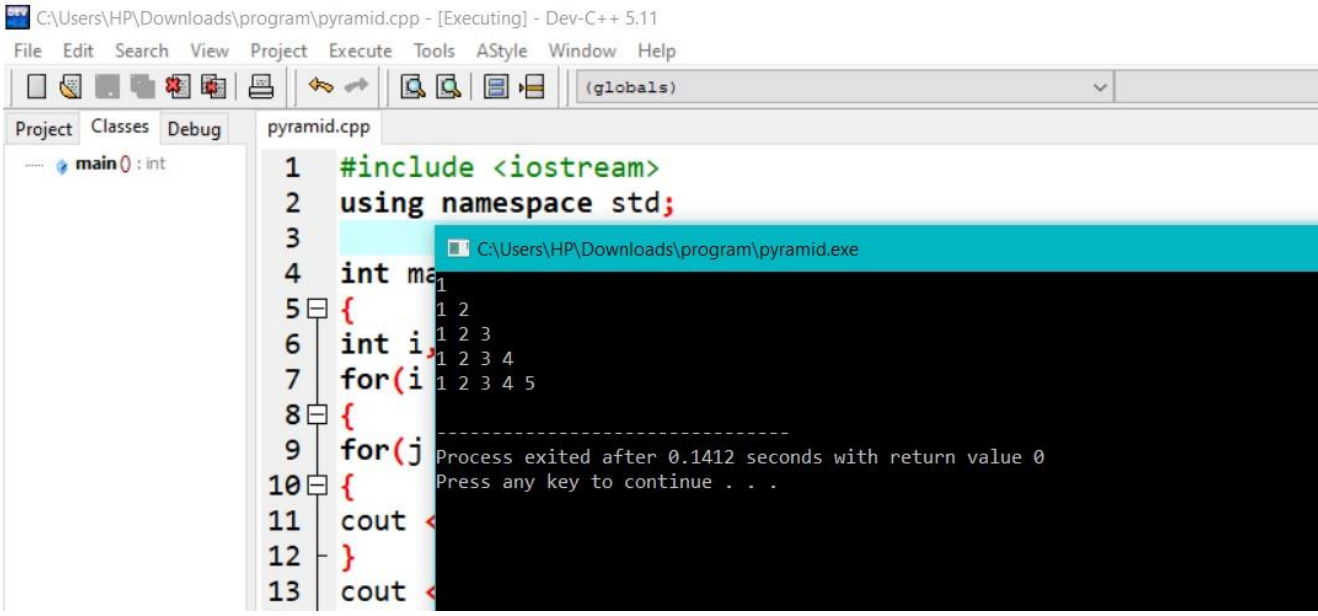
6. 1
   12
   123
   1234
   12345
   123456

   INPUT

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

int main()
{
int i, j,n=5;
for(i = 1; i <= n; i++)
{
for(j = 1; j <= i; j++)
{
cout << j <<  " ";
}
cout << endl;
}
```

return 0;
}

OUTPUT



7. ABCDEEDCBA
ABCD DCBA
ABC CBA
AB BA
A A

INPUT

#include<iostream>

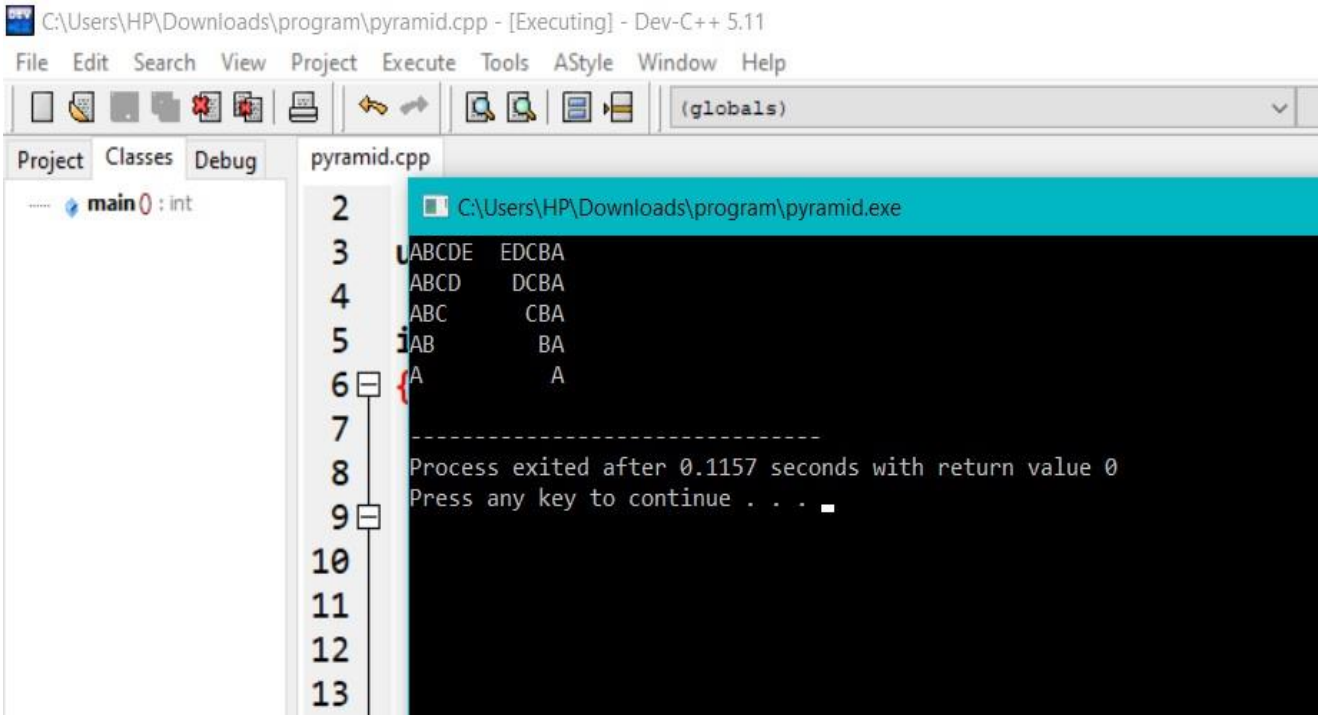
using namespace std;

int main()
{
int i,j,k,l,m;
for(i=2;i<=6;i++)
{
for(k=65;k<=71-i;k++)
cout<<(char)k;

for(j=2;j<=i*2-1;j++)

```
            cout<<" ";

        for(l=71-i;l>=65;l--)
            if(l!=71)
                cout<<(char)l;
        cout<<" "<<endl;
    }

    return 0;
}
```

OUTPUT



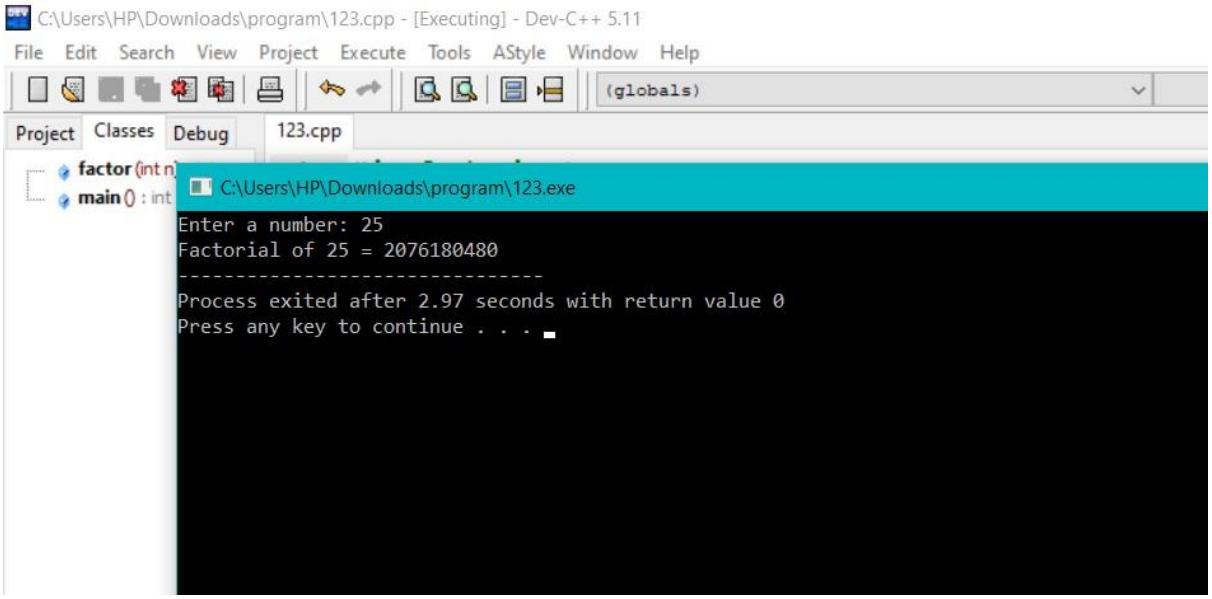
C++ ASSIGNMENT 3 (RECURSION)

1. WAP to calculate factorial of a number.

INPUT

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

int factor(int n);

int main()
{

  int n;

  cout << "Enter a number: ";
  cin >> n;

  cout << "Factorial of " << n << " = " << factor(n);

  return 0;
}

int factor(int n) {
  if(n > 1)
    return n * factor(n - 1);
  else
    return 1;
}
```

OUTPUT

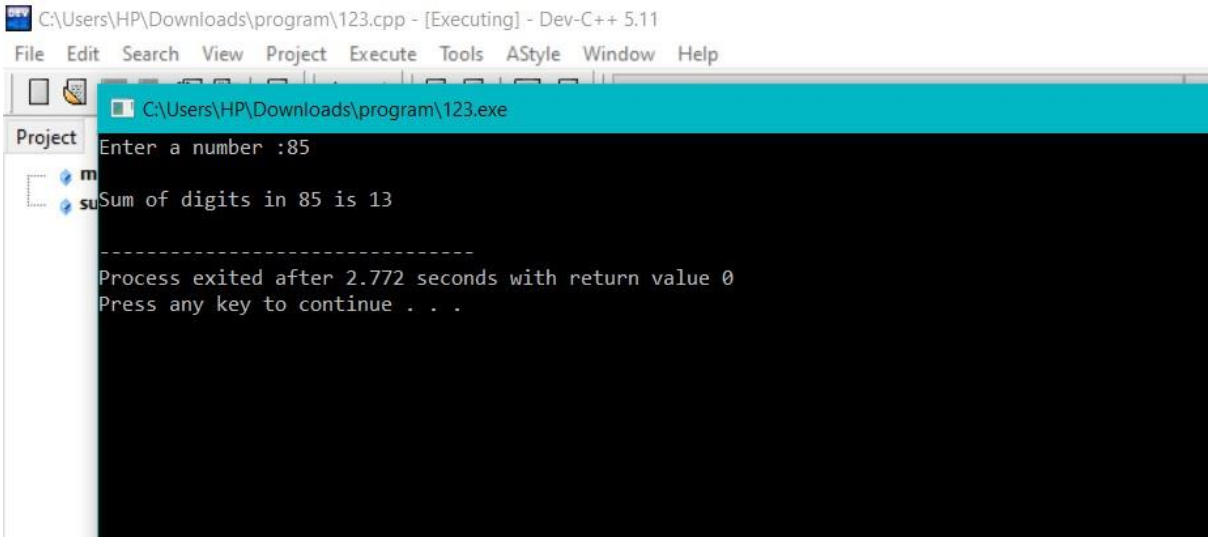


2. WAP to print all digits of a number and their sum.

INPUT

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

int sum_of_digit(int n)
{
   if (n == 0)
   return 0;
   return (n % 10 + sum_of_digit(n / 10));
}

int main()
{
   int num;
   cout<<"Enter a number :";
   cin>>num;
   int result = sum_of_digit(num);
   cout << endl<<"Sum of digits in "<< num
     <<" is "<<result << endl;
   return 0;
}
```

OUTPUT



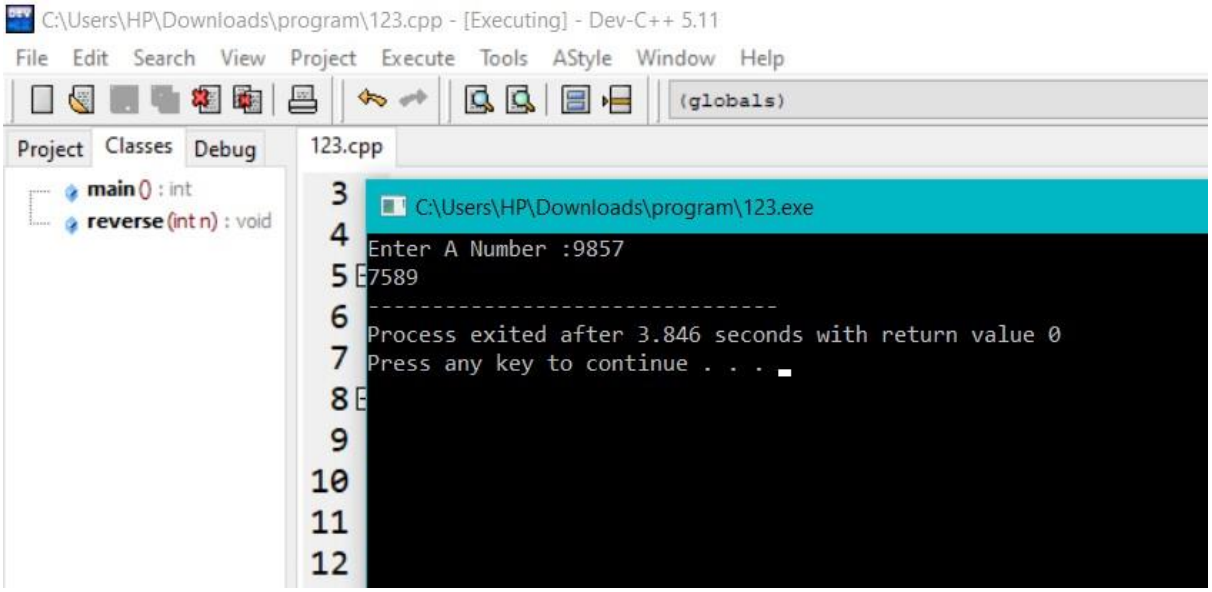
3. WAP to print reverse of a number.

INPUT

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

void reverse(int n)
{

  if (n < 10)
  {
    cout<<n;
    return;
  }

  else{
    cout<<n%10;
    reverse(n/10);
  }
}

int main()
{
```

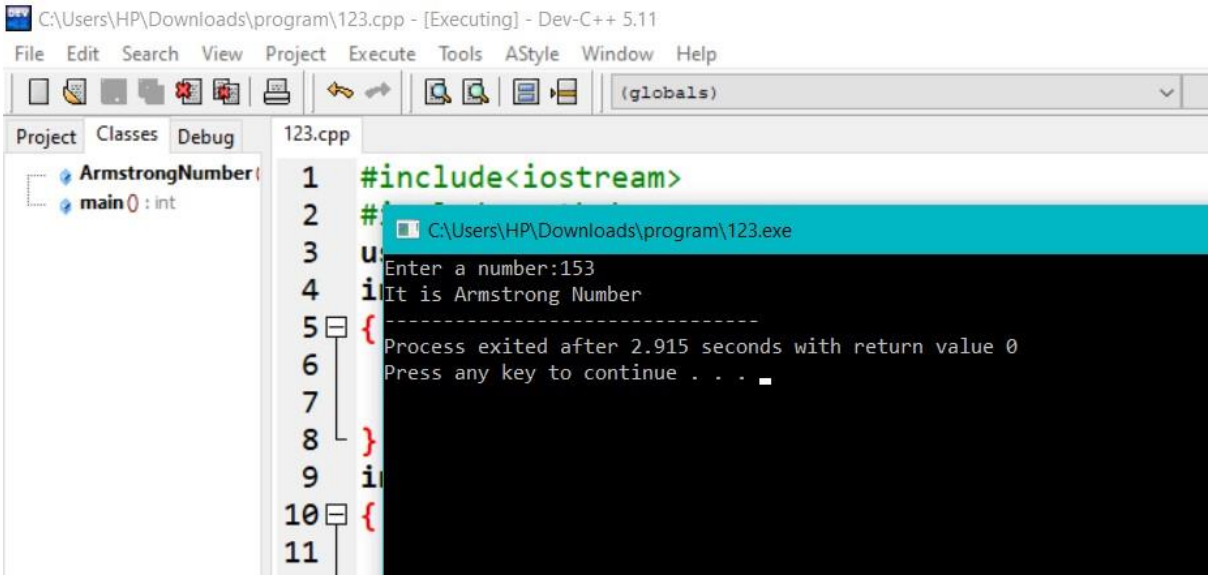
```
  int n;
  cout<<"Enter A Number :";
  cin>>n;
  reverse(n);
  return 0;
}
```

OUTPUT



4. WAP to check whether the number is Armstrong or not.

```
INPUT
#include<iostream>
#include<math.h>
using namespace std;
int ArmstrongNumber(int num)
{
    if(num>0)
   return (pow(num%10,3) +ArmstrongNumber(num/10));
}
int main()
{
   int num;
   cout<<"Enter a number:";
   cin>>num;
  if(ArmstrongNumber(num)==num)
   cout<<"It is Armstrong Number";
  else
   cout<<"It is not Armstrong Number";
}
OUTPUT
```

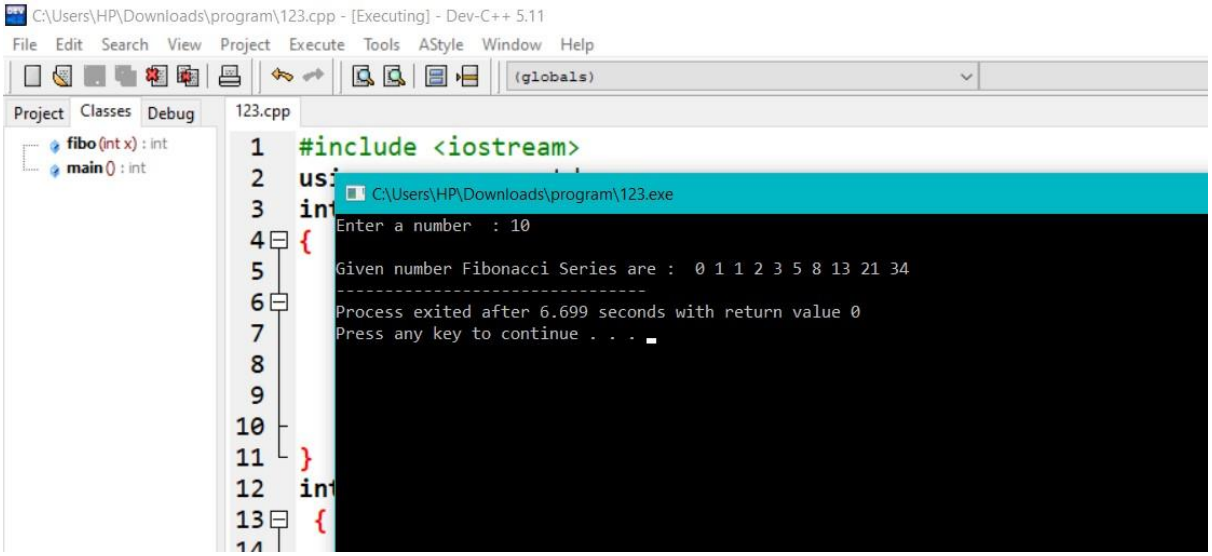


5. WAP to print the Fibonacci series in a given range.

INPUT

```
#include <iostream>
using namespace std;
int fibo(int x)
{
  if((x==1)||(x==0))
  {
    return(x);
  }else {
    return(fibo(x-1)+fibo(x-2));
  }
}
int main()
 {
  int x , i=0;
  cout << "Enter a number  : ";
  cin >> x;
  cout << "\nGiven number Fibonacci Series are : ";
  while(i < x)
  {
    cout << " " << fibo(i);
    i++;
  }
  return 0;
}
```

OUTPUT

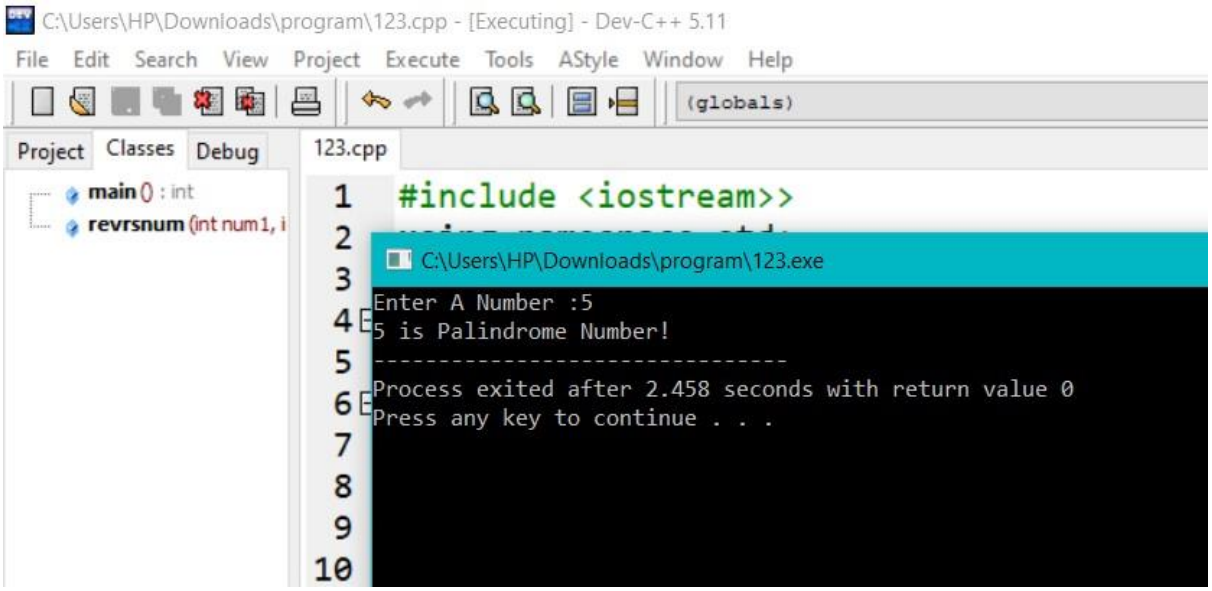


6. WAP to check whether the number entered is palindrome or not.

INPUT

```
#include <iostream>>
using namespace std;
int revrsnum(int num1, int num2)
{
  if (num1 == 0)
  {
    return num2;
  }
  num2 *= 10;
  num2 += (num1 % 10);
  num1 = num1/10;
  return revrsnum(num1, num2);
}
int main()
{
  int num;
  cout<<"Enter A Number :";
  cin>>num;
  int num2 = revrsnum(num,0);
  if (num == num2)
  {
    cout <<num<<" is Palindrome Number!";
  }
  else
  {
        cout <<num<<" is not a Palindrome Number!";
  }
  return 0;
}
```

OUTPUT


C:\Users\HP\Downloads\program\123.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug
main () : int
revrsnum (int num1, i
123.cpp
1 #include <iostream>>
C:\Users\HP\Downloads\program\123.exe
Enter A Number :5
5 is Palindrome Number!
Process exited after 2.458 seconds with return value 0
Press any key to continue . . .

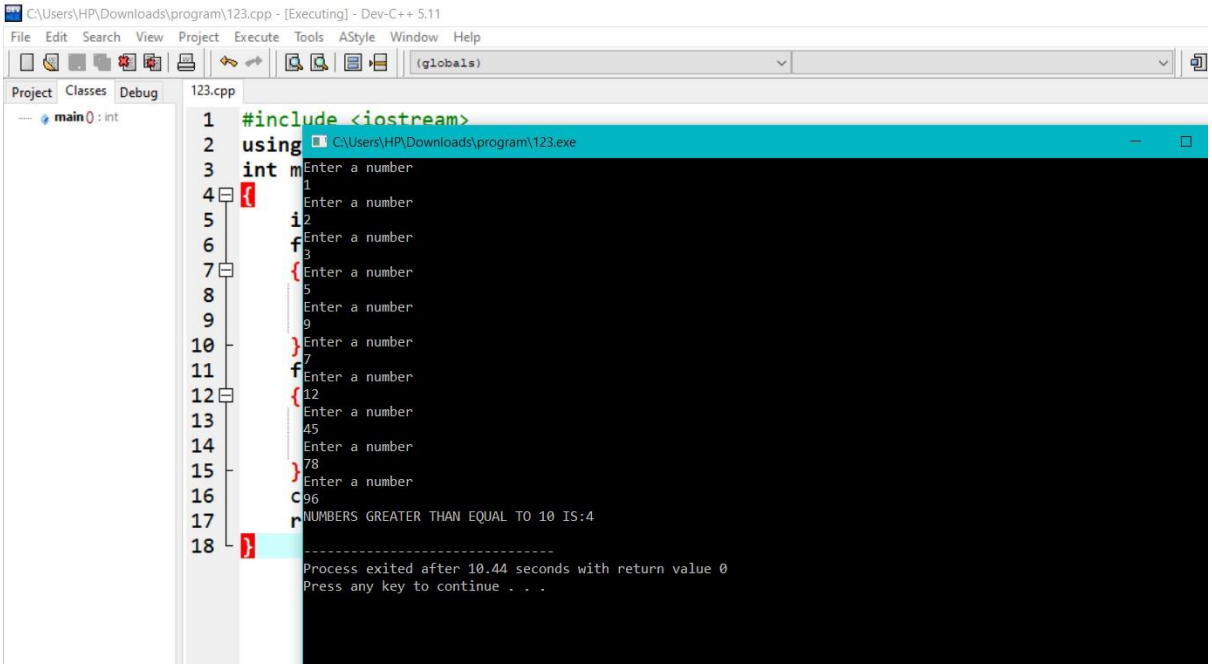
C++ ASSIGNMENT 4 (ARRAYS)

1. Write a program that asks the user to take array of 10 integers. The program must compute and write how many integers are greater than or equal to 10

INPUT

```
#include <iostream>
using namespace std;
int main()
{
	int a[10], min=0;
	for(int i=0; i<10; i++)
	{
		cout<<"Enter a number"<<endl;
		cin>>a[i];
	}
	for(int j=0; j<10; j++)
	{
		if(a[j]>=10)
		min++;
	}
	cout<<"NUMBERS GREATER THAN EQUAL TO 10 IS:"<<min<<endl;
	return 0;
}
```

OUTPUT



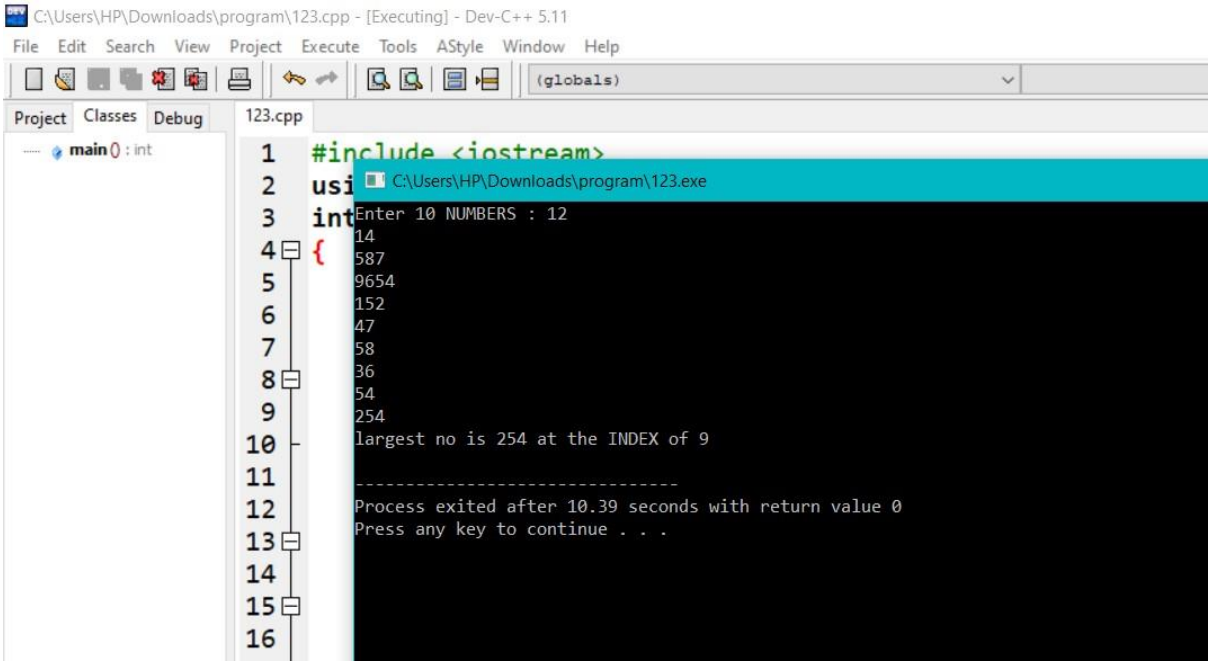
1. Write a program that asks the user to take array of 10 integers. The program must output the largest element in the array, and the index at which that element was found.

INPUT

```
#include <iostream>
```

```
using namespace std;
int main()
{
	int a[10],i,b,l,I;
	cout<<"Enter 10 NUMBERS :"<<' ';
	for(int i=0; i<10; i++)
	{
		cin>>a[i];
	}
	l=a[0];
	for( b=0; b<10; b++)
	{
		if(a[b]>1)
		{
			l=a[b];
			I=b;
		}
	}
	cout<<"largest no is"<<' '<<l<<' '<<"at the INDEX of"<<' '<<I<<endl;
	return 0;
}
```

OUTPUT



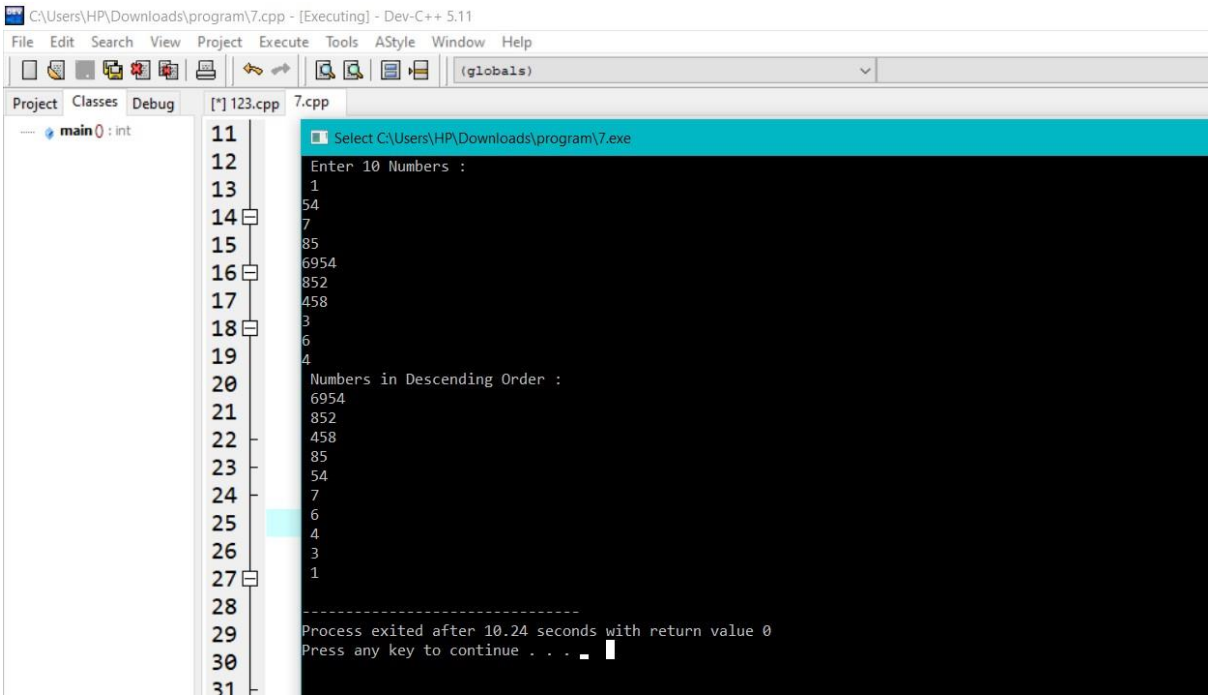
3. Write a program that asks the user to take array of 10 integers. The program will then sort the array in descending order and display it.

INPUT

```
#include<iostream>
using namespace std;
int main ()
{
   int a[10];
```

```
   int i, j, desc;

   cout<<" Enter 10 Numbers :"<<endl;
   cout<<" ";
   for (i = 0; i < 10; ++i)
   cin>>a[i];

   for (i = 0; i < 10; ++i)
   {
      for (j = i + 1; j < 10; ++j)
      {
         if (a[i] < a[j])
         {
            desc = a[i];
            a[i] = a[j];
            a[j] = desc;
         }
      }
   }
   cout<<" Numbers in Descending Order :"<<endl ;
   for (i = 0; i < 10; ++i)
   {
      cout<<" ";
      cout<<a[i];
      cout<<"\n";
   }
}
```

OUTPUT

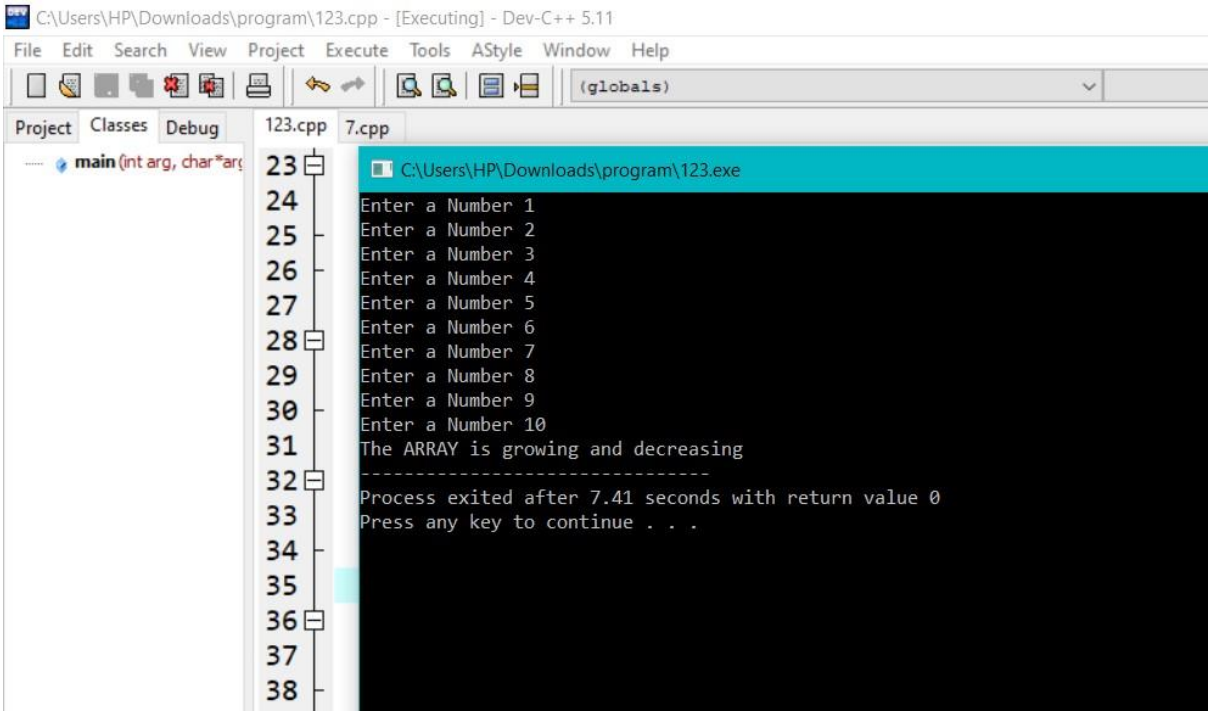


4. Write a program that asks the user to take array of 10 integers. The program will then display either "the array is growing", "the array is decreasing", "the array is constant", or "the array is growing and decreasing."

INPUT

```
#include <iostream>
using namespace std;
int main(int arg,char*argv[])
{
	int a[10],i,grow=0,decrease=0,constant=0;
	for(i=0; i<10; i++)
	{
		cout<< "Enter a Number"<<' ';
		cin>>a[i];
	}
		for(i=0; i<10; i++)
		{

		if(a[i]<a[i+1])
		{
			grow++;
		}
		if(a[i]>a[i+1])
		{
			decrease++;
		}
		if(a[i]==a[i+1])
		{
			constant++;
		}
	}
	if(grow==9)
	{
		cout<<"The ARRAY is growing";
	}
	else if(decrease==9)
	{
		cout<<"The ARRAY is decreasing";
	}
	else if(constant==9)
	{
		cout<<"The ARRAY is Constant";
	}
	else
	{
		cout<<"The ARRAY is growing and decreasing";
	}
	return 0;
}
```

OUTPUT

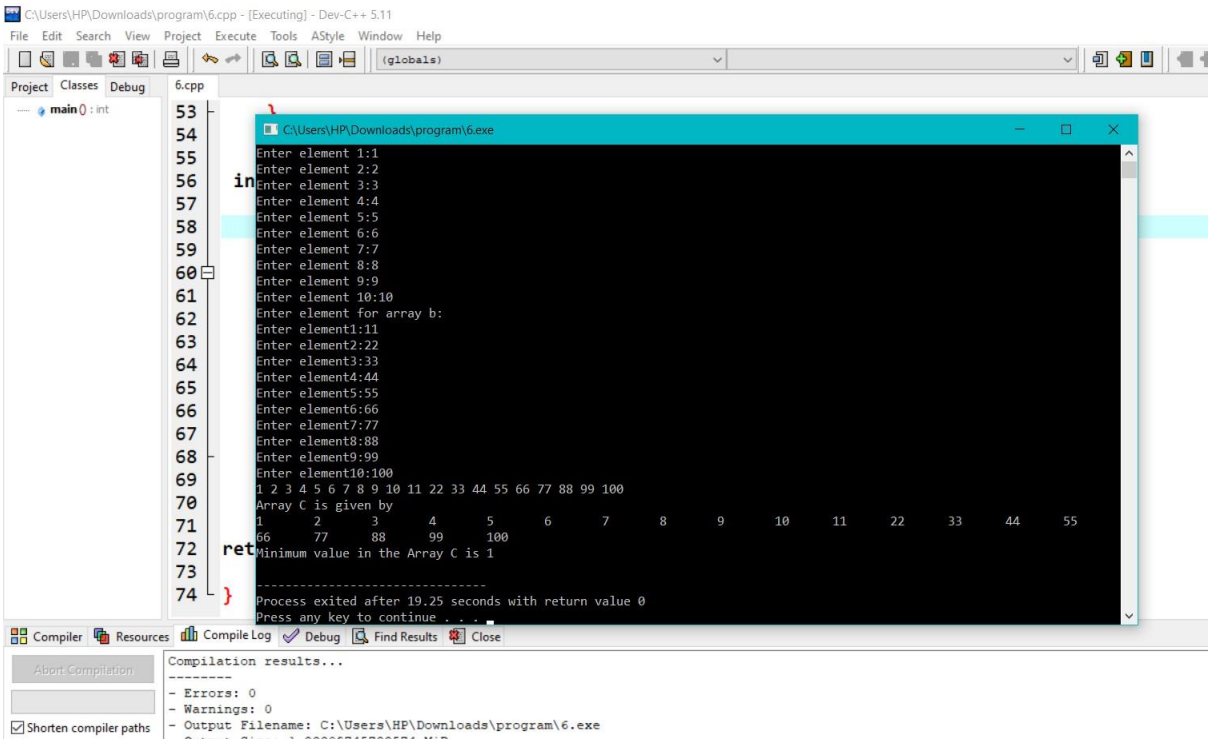


5. Write a program which takes 2 arrays of 10 integers each, a and b. c is an array with 20 integers. The program should put into c the appending of b to a, the first 10 integers of c from array a, the latter 10 from b. Then the program should display c
INPUT

```
#include <iostream>
using namespace std;
int main()
{

int a[10], b[10], c[20];
int sizeOfa = sizeof(a)/sizeof(a[0]);
int sizeOfb = sizeof (b)/sizeof (b[0]);
int sizeOfc = sizeof(c)/sizeof (c[0]);


for (int i = 0; i < sizeOfa; ++i)
{
cout <<"Enter element " << i+1 << ":";
cin >> a[i];
c[i] = a[i];
}

cout << "Enter element for array b:" << endl;
for (int i = 0; i < sizeOfb; ++i)
{
cout <<"Enter element"<< i+1 << ":";
cin >> b[i];
}
for (int x = 0; x < 20; x++)

  {
```

```
      if (x < 10)
                    {

         c[x] = a[x];

      }



      else
                    {

         c[x] = b[x- 10];

      }

   }


   for (int x = 0; x < 20; x++)
          {

      cout << c[x] << ' ';

   }


 int minimum = c[0];

  cout<<"\nArray C is given by\n";

  for(int i=0; i<20; ++i) {

     cout<<c[i]<<"\t";

     if (c[i]<minimum)

        minimum = c[i];

  }

  cout<<"\nMinimum value in the Array C is "<<minimum<<endl;

return 0 ;

}
```

OUTPUT



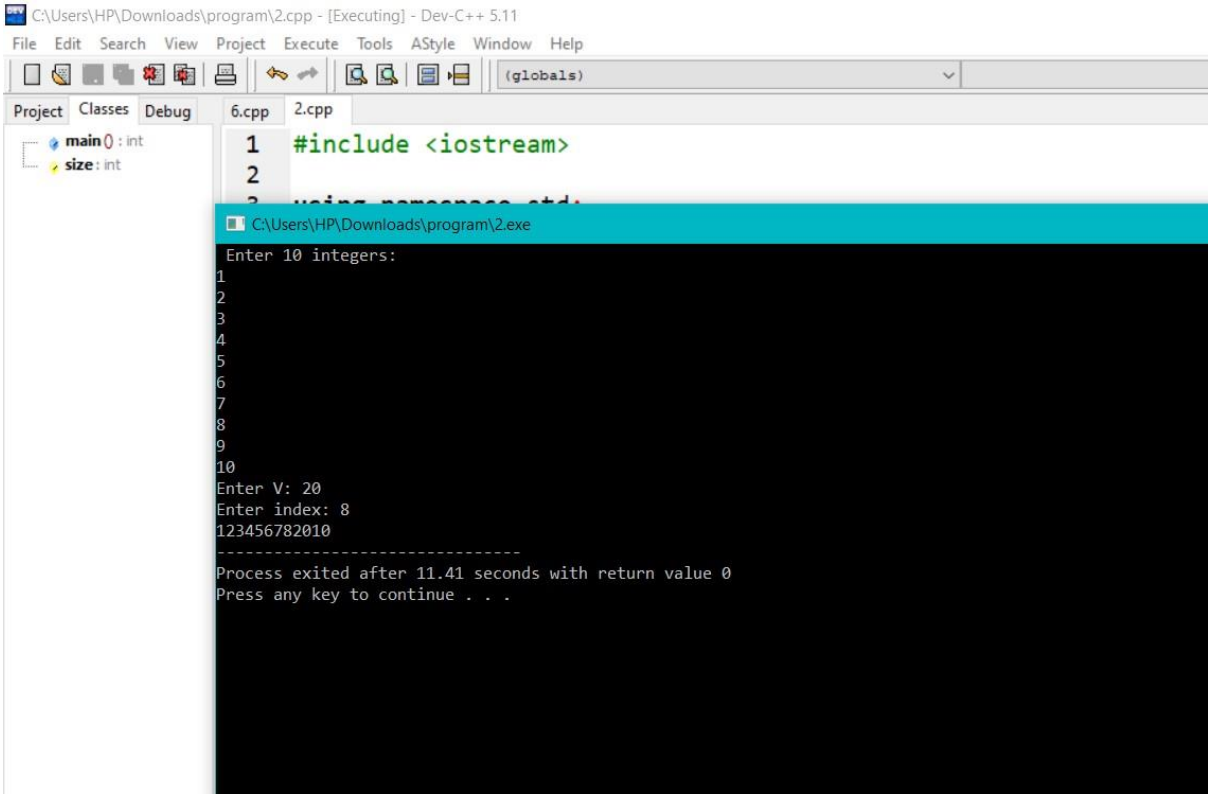
6. Write a program that asks the user to take an array of 10 integer and an integer value V and an index value i between 0 and 9. The program must put the value V at the place i in the array, shifting each element right and dropping off the last element. The program must then write the final array.

INPUT

```
#include <iostream>

using namespace std;
const int size = 10;

int main()
{
int arr[size];
int V;
int index;
cout << " Enter 10 integers: " << endl;
for (int i = 0; i < size; i++)
{
cin >> arr[i];
}
cout << "Enter V: ";
cin >> V;
cout<< "Enter index: ";
cin>>index;


for (int i = size; i > index+1; i--)
{

arr[i]=arr[i-1];
```

```
}
arr[index]=V;
for (int i = 0; i < size; i++)
{
cout<<arr[i];
}
return 0;
}
```

OUTPUT

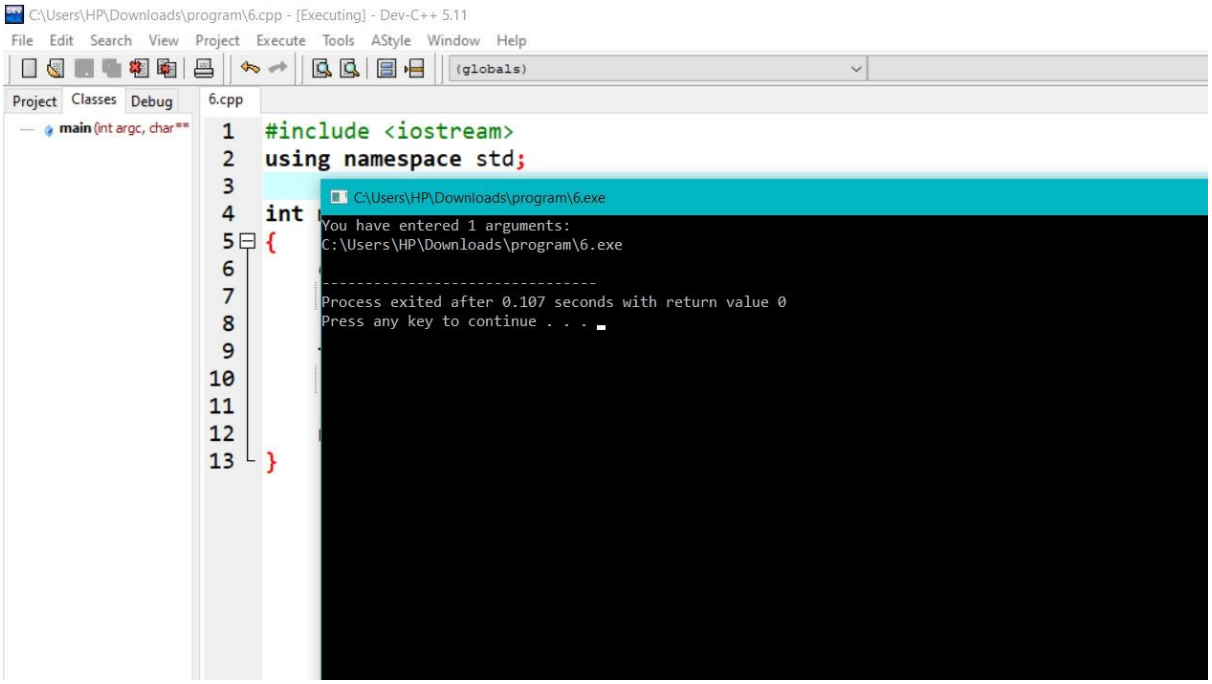


7. Write a program to handle the command line arguments entered by the user.

INPUT

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

int main(int argc, char** argv)
{
   cout << "You have entered " << argc << " arguments:"
        << "\n";

   for (int i = 0; i < argc; ++i)
      cout << argv[i] << "\n";

   return 0;
}
```

OUTPUT



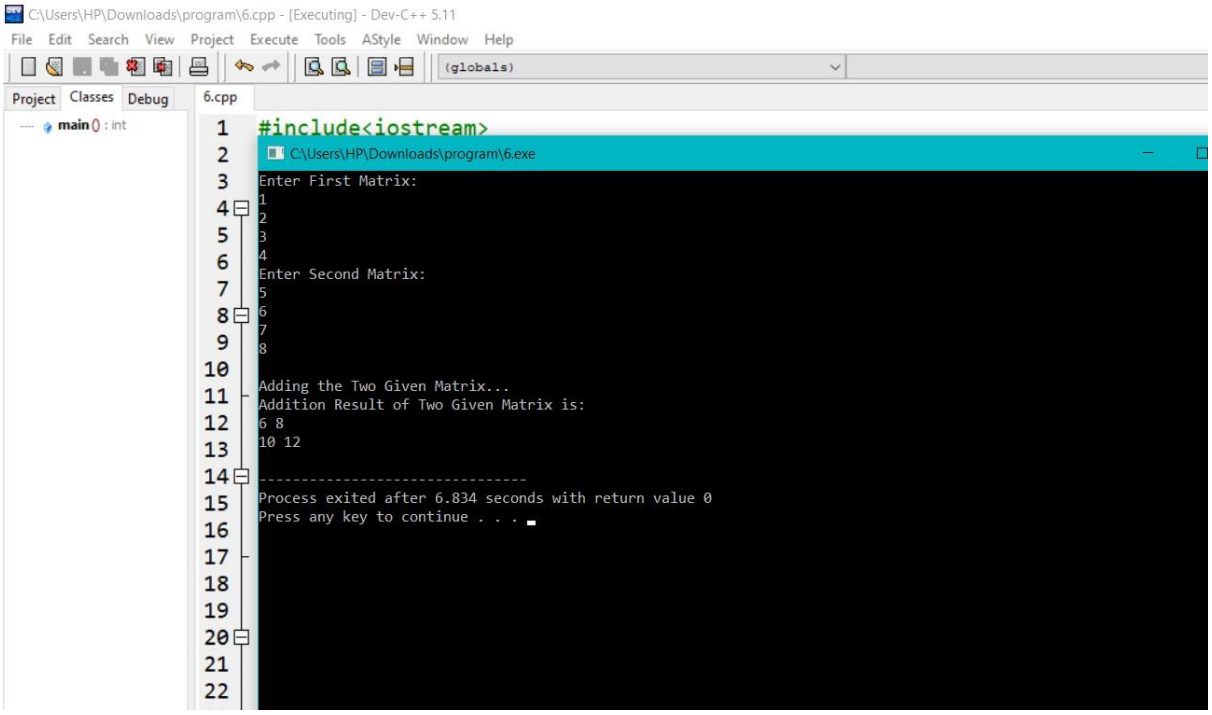
8. Write a program to add 2 matrices.

INPUT

```
#include<iostream>
using namespace std;
int main()
{
   int mat1[2][2], mat2[2][2], i, j, mat3[2][2];
   cout<<"Enter First Matrix: "<<endl;
   for(i=0; i<2; i++)
   {
      for(j=0; j<2; j++)
         cin>>mat1[i][j];
   }
   cout<<"Enter Second Matrix: "<<endl;
   for(i=0; i<2; i++)
   {
      for(j=0; j<2; j++)
         cin>>mat2[i][j];
   }
   cout<<"\nAdding the Two Given Matrix...\n";
   for(i=0; i<2; i++)
   {
      for(j=0; j<2; j++)
         mat3[i][j] = mat1[i][j]+mat2[i][j];
   }
   cout<<"Addition Result of Two Given Matrix is:\n";
   for(i=0; i<2; i++)
   {
      for(j=0; j<2; j++)
```

```
        cout<<mat3[i][j]<<" ";
      cout<<endl;
   }
   return 0;
}
```

OUTPUT



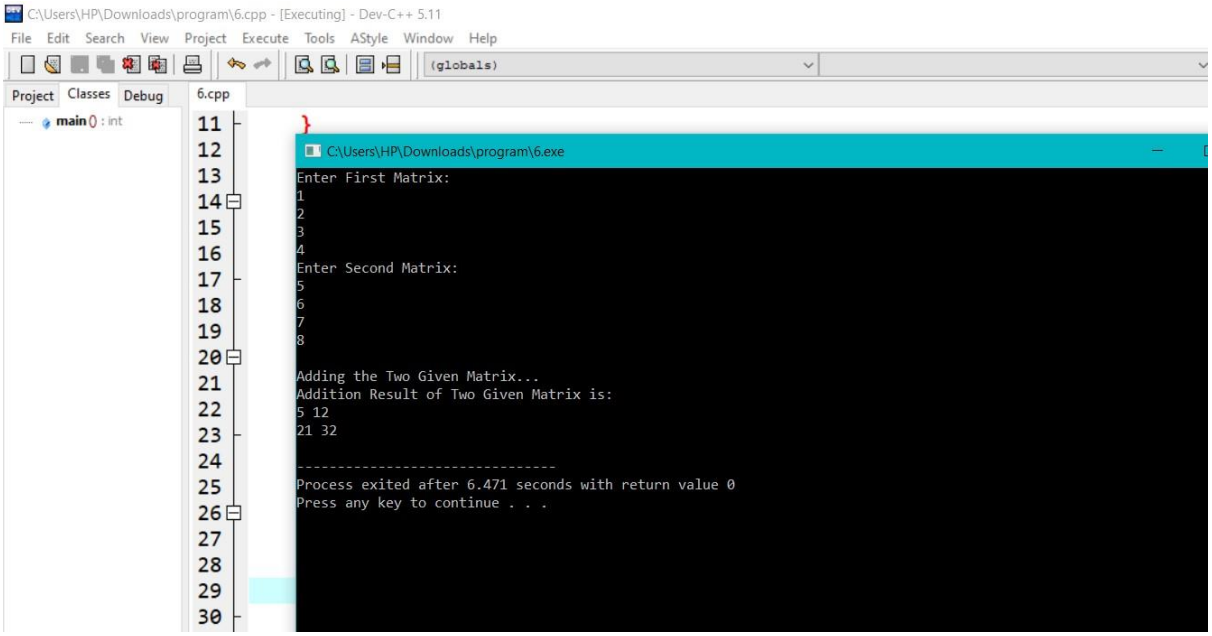
9. Write a program to multiply 2 matrices.

INPUT

```
#include<iostream>
using namespace std;
int main()
{
   int mat1[2][2], mat2[2][2], i, j, mat3[2][2];
   cout<<"Enter First Matrix: "<<endl;
   for(i=0; i<2; i++)
   {
      for(j=0; j<2; j++)
         cin>>mat1[i][j];
   }
   cout<<"Enter Second Matrix: "<<endl;
   for(i=0; i<2; i++)
   {
      for(j=0; j<2; j++)
         cin>>mat2[i][j];
   }
   cout<<"\nAdding the Two Given Matrix...\n";
   for(i=0; i<2; i++)
   {
      for(j=0; j<2; j++)
```

```
            mat3[i][j] = mat1[i][j]*mat2[i][j];
    }
    cout<<"Addition Result of Two Given Matrix is:\n";
    for(i=0; i<2; i++)
    {
       for(j=0; j<2; j++)
          cout<<mat3[i][j]<<" ";
       cout<<endl;
    }
    return 0;
}
```

OUTPUT



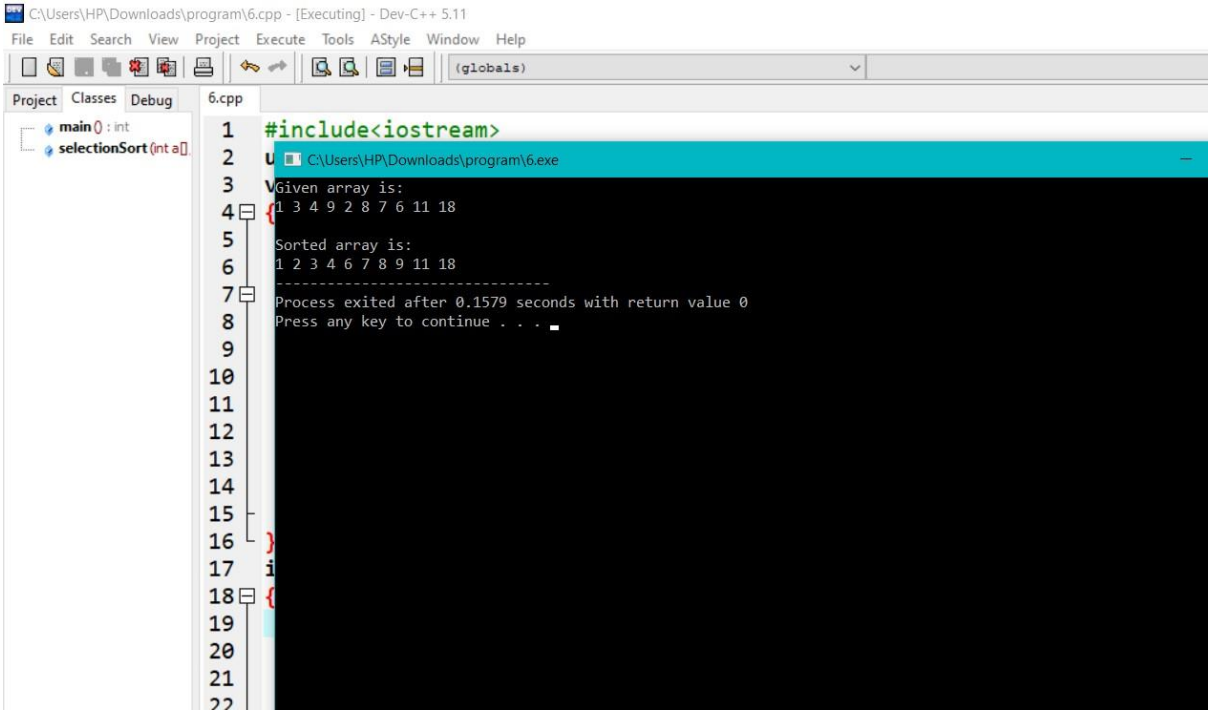
10. Write a program to implement sorting an array.

INPUT

```
#include<iostream>
using namespace std;
void selectionSort(int a[], int n)
{
  int i, j, min, temp;
  for (i = 0; i < n - 1; i++)
  {
    min = i;
    for (j = i + 1; j < n; j++)
    if (a[j] < a[min])
    min = j;
    temp = a[i];
    a[i] = a[min];
    a[min] = temp;
  }
}
int main()
{
  int a[] = { 1,3,4,9,2,8,7,6,11,18 };
```

```
  int n = sizeof(a)/ sizeof(a[0]);
  int i;
  cout<<"Given array is:"<<endl;
  for (i = 0; i < n; i++)
  cout<< a[i] <<" ";
  cout<<endl;
  selectionSort(a, n);
  printf("\nSorted array is: \n");
  for (i = 0; i < n; i++)
  cout<< a[i] <<" ";
  return 0;
}
```

OUTPUT



11. Write a program in C to calculate the square of the number using inline functions and macros both.

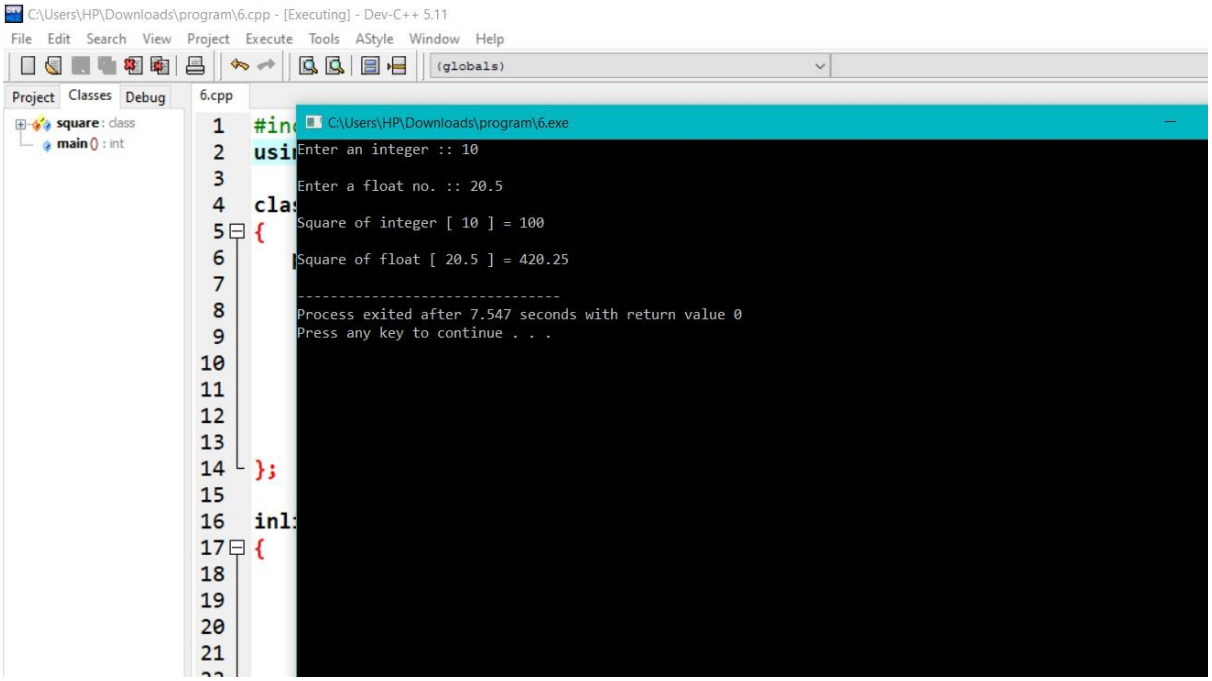
INPUT

```
#include<iostream>

using namespace std;


class square

{

  private:

      int n,r;

      float n1,r1;

      public:

            void input();
```

```
        void calc();
              void display();

};

inline void square::input()
{
        cout<<"Enter an integer :: ";
        cin>>n;
        cout<<"\nEnter a float no. :: ";
        cin>>n1;



}

inline void square::calc()
{
        r=n*n;
        r1=n1*n1;
}

inline void square::display()
{
        cout<<"\nSquare of integer [ "<<n<<" ] = "<<r<<"\n";
        cout<<"\nSquare of float [ "<<n1<<" ] = "<<r1<<"\n";
}

int main ()
{
        square s;
        s.input();
        s.calc();
        s.display();
```

```
    return 0;
}
```

OUTPUT



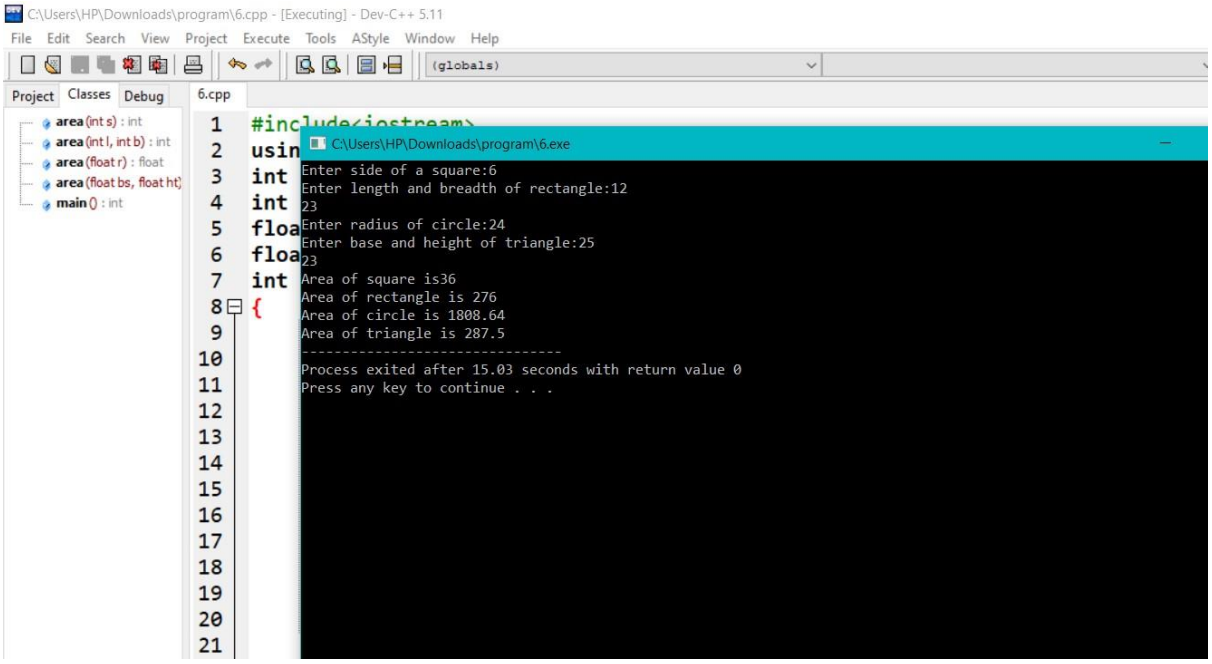
12. Write a program in C to calculate area of all figures using the concept of function overloading.

INPUT

```
#include<iostream>
using namespace std;
int area(int);
int area(int,int);
float area(float);
float area(float,float);
int main()
{
    int s,l,b;
    float r,bs,ht;
    cout<<"Enter side of a square:";
    cin>>s;
    cout<<"Enter length and breadth of rectangle:";
    cin>>l>>b;
    cout<<"Enter radius of circle:";
```

```
        cin>>r;
        cout<<"Enter base and height of triangle:";
        cin>>bs>>ht;
        cout<<"Area of square is"<<area(s);
        cout<<"\nArea of rectangle is "<<area(l,b);
    cout<<"\nArea of circle is "<<area(r);
    cout<<"\nArea of triangle is "<<area(bs,ht);
}
int area(int s)
{
    return(s*s);
}
int area(int l,int b)
{
    return(l*b);
}
float area(float r)
{
    return(3.14*r*r);
}
float area(float bs,float ht)
{
   return((bs*ht)/2);
}
```

OUTPUT



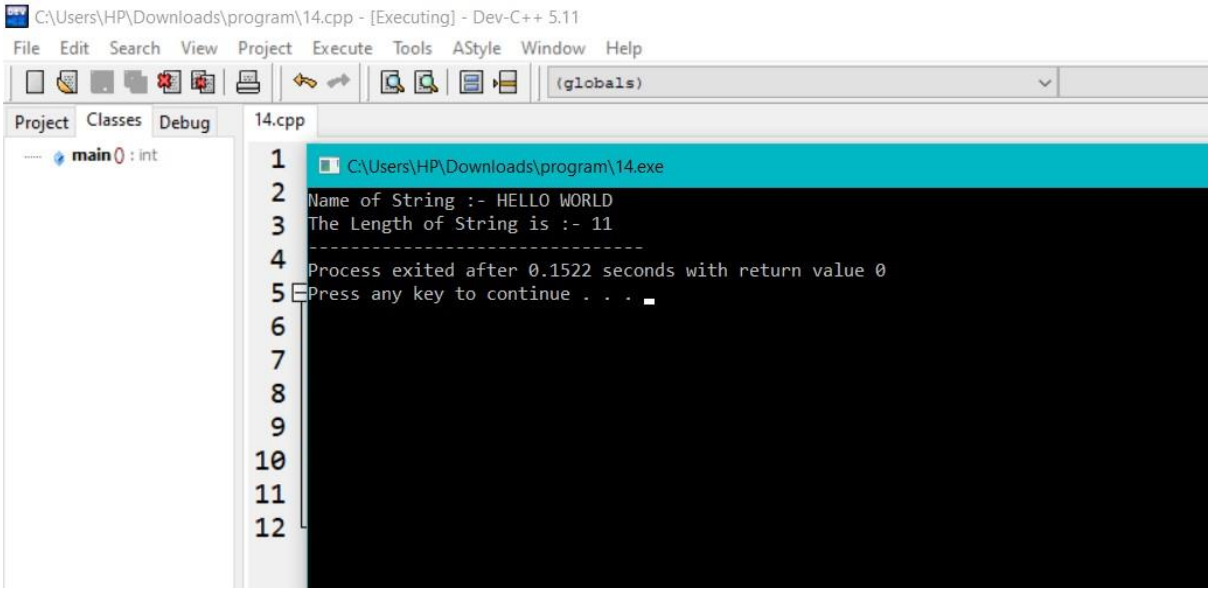
C++ ASSIGNMENT 5 (STRING HANDLING)

1. Write a program to find the length of string

INPUT

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

int main()
{
   string str = "HELLO WORLD";
   cout<<"Name of String :- "<<str<<endl;
   cout << "The Length of String is :- ";
     cout<< str.size();

   return 0;
}
```

OUTPUT

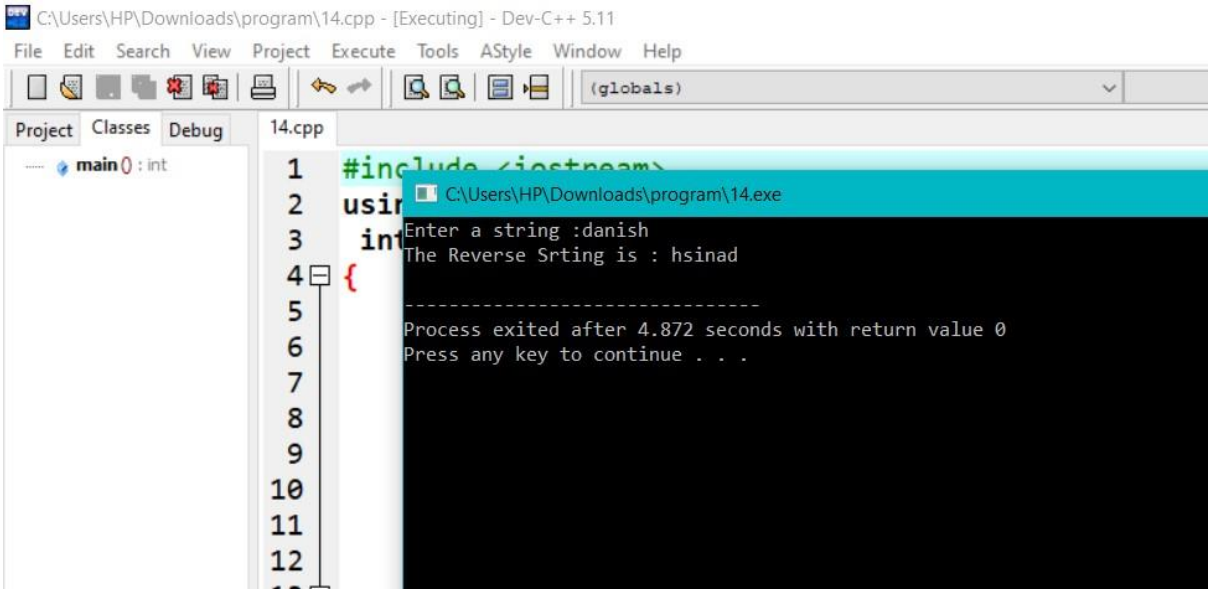


2. Write a program to display string from backward.

INPUT

```
#include <iostream>
using namespace std ;
 int main()
{
   string str;
   char temp;
   cout<<"Enter a string :";
   getline (cin, str);

   int len = str.length();

   for (int i = 0; i < len / 2; i++)
     {
      temp = str[i];
      str[i] = str[len - i - 1];
      str[len - i - 1] = temp;
   }
   cout <<"The Reverse Srting is : ";
     cout<<str << endl;
   return 0;
}
```

OUTPUT

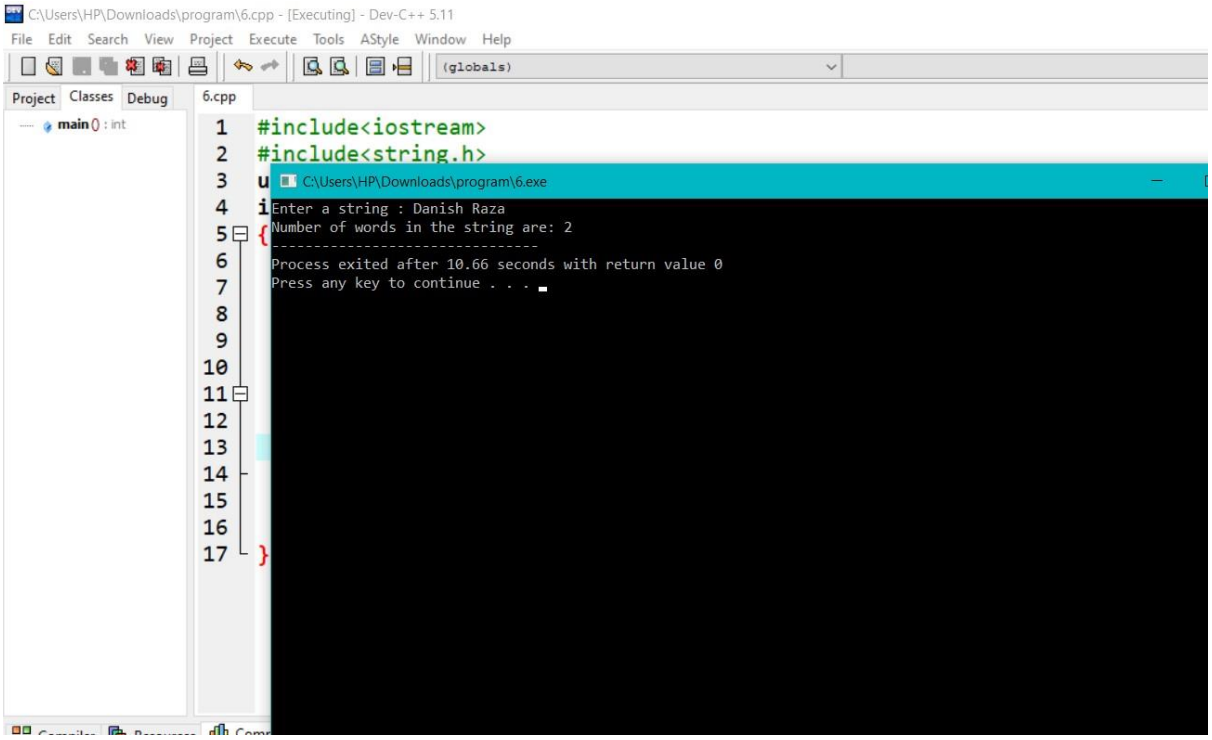


3. Write a program to count number of words in string

INPUT

```
#include<iostream>
#include<string.h>
using namespace std;
int main ()
{
   char str[40];
   int count = 0, i;
   cout << "Enter a string : ";
   gets(str);
   for (i = 0; str[i] != '\0';i++)
   {
      if (str[i] == ' ')
         count++;
   }
   cout << "Number of words in the string are: " << count + 1;
   return 0;
}
```

OUTPUT



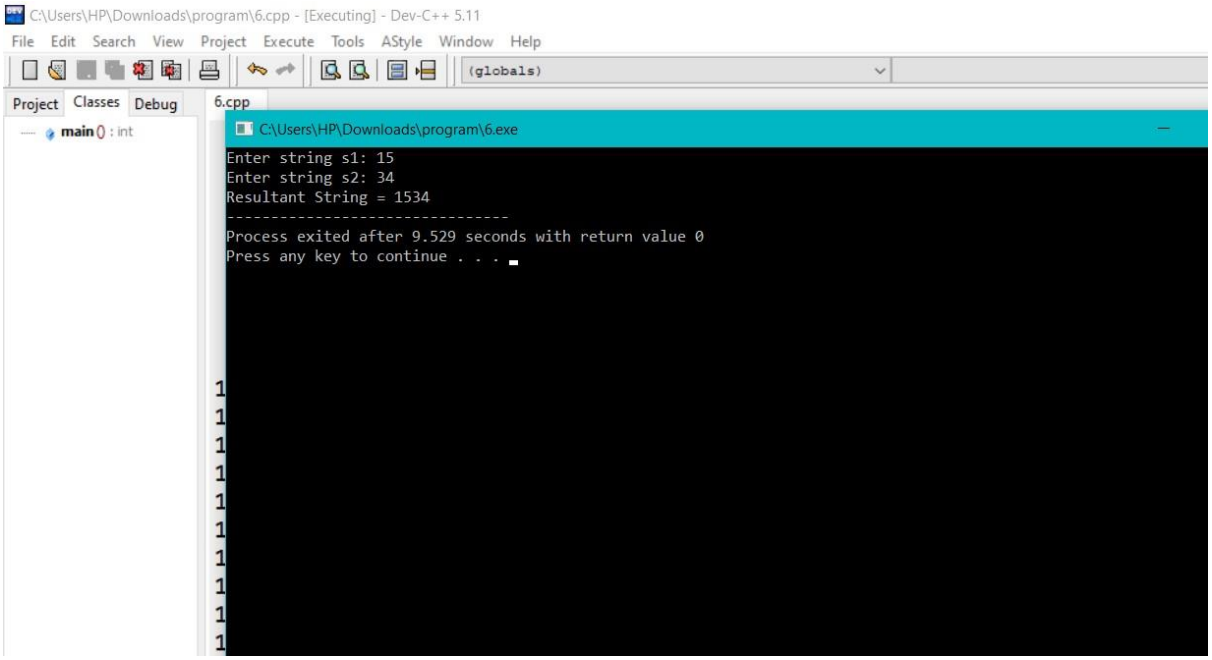
4. Write a program to concatenate one string contents to another.

INPUT

```
#include <iostream>

using namespace std;


int main()

{

   string s1, s2, result;


   cout << "Enter string s1: ";

   cin>> s1;


   cout << "Enter string s2: ";

   cin>> s2;


   result = s1 + s2;


   cout << "Resultant String = "<< result;
```

```
    return 0;
}
```

OUTPUT



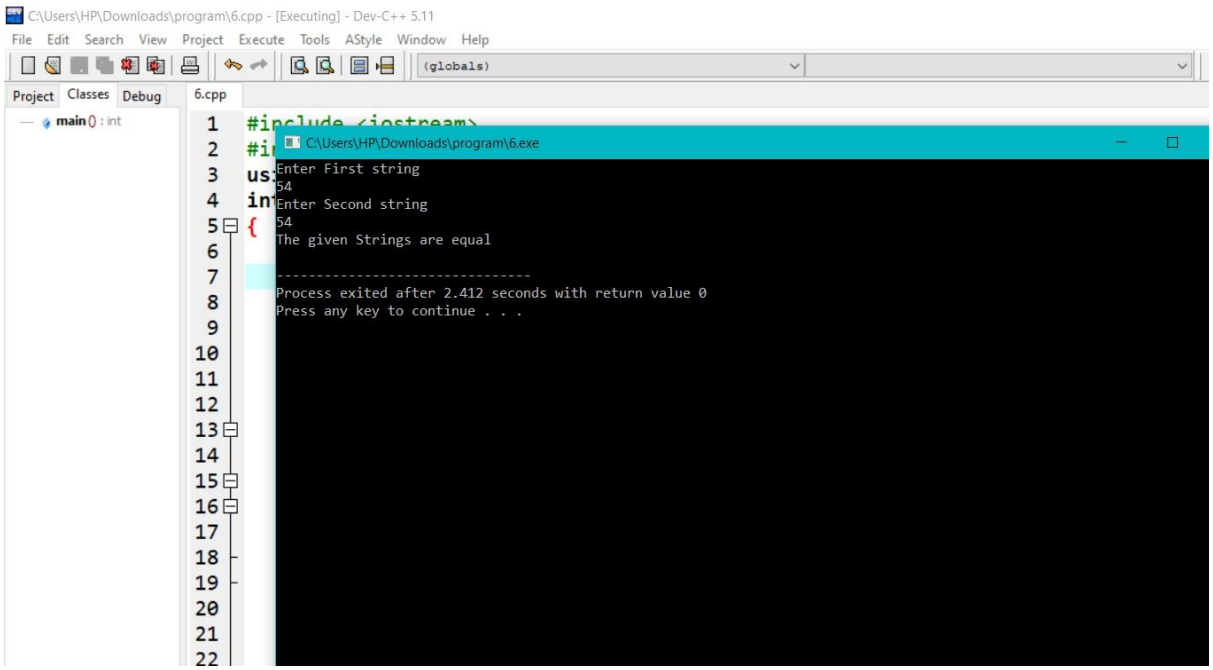
5. Write a program to compare two strings they are exact equal or not.

INPUT

```
#include <iostream>
#include<string>
using namespace std;
int main()
{   string s1,s2;
    cout<<"Enter First string\n";
    cin>>s1;
    cout<<"Enter Second string\n";
            cin>>s2;
    if(s1.length()!=s2.length())
       cout<<"The given strings are unequal";
    else
```

```
  {   int ctr=0;
      for(int i=0;i<s1.length();++i)
      {   if(s1[i]!=s2[i])
          {   ctr=1;
              break;
          }
      }
      if(ctr==0)
          cout<<"The given Strings are equal\n";
      else
          cout<<"The given strings are unequal";
  }
  return 0;
}
```

OUTPUT



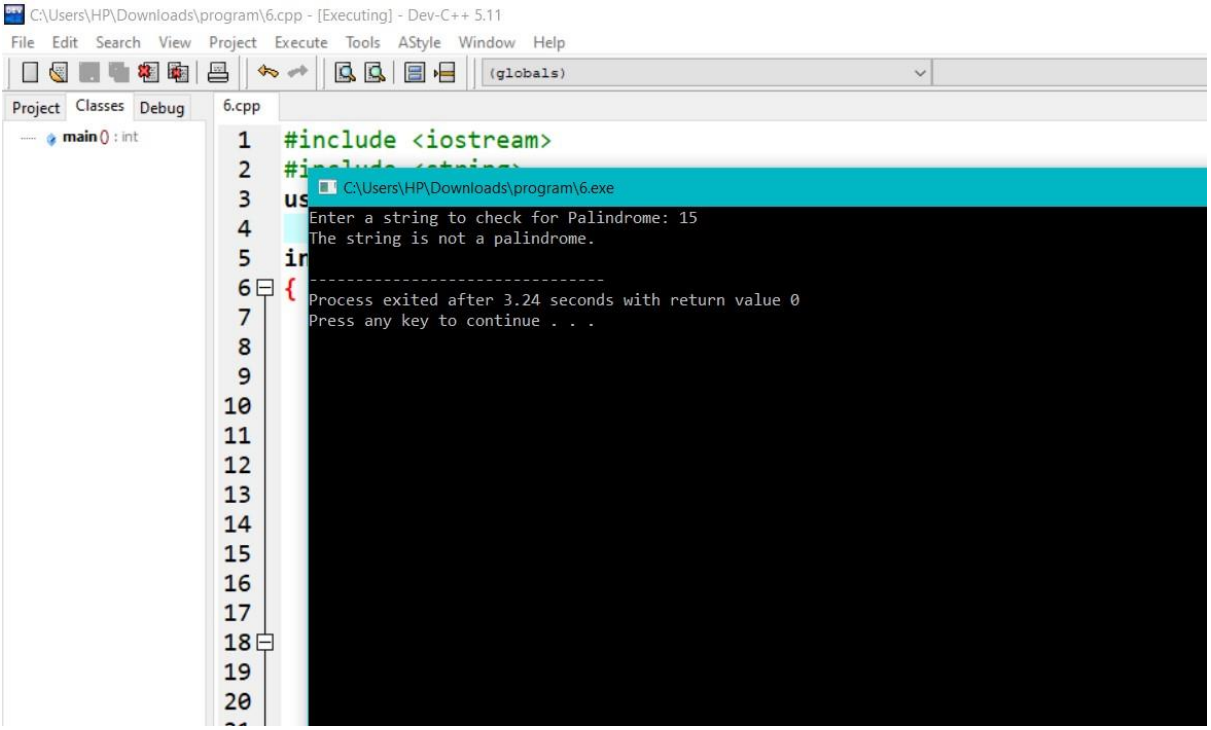
6. Write a program to check a string is palindrome or not

INPUT

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

```
int main()
{
   string str, temp;
   int i = 0, j;

   cout << "Enter a string to check for Palindrome: ";
   cin >> str;

   temp = str;

   j = str.length() - 1;

   while (i < j)
   {
      swap(str[i], str[j]);
      i++;
      j--;
   }

   if (temp == str)
   {
      cout << "The string is a palindrome." << endl;
   }
   else
   {
      cout << "The string is not a palindrome." << endl;
   }

   return 0;
}
```

OUTPUT



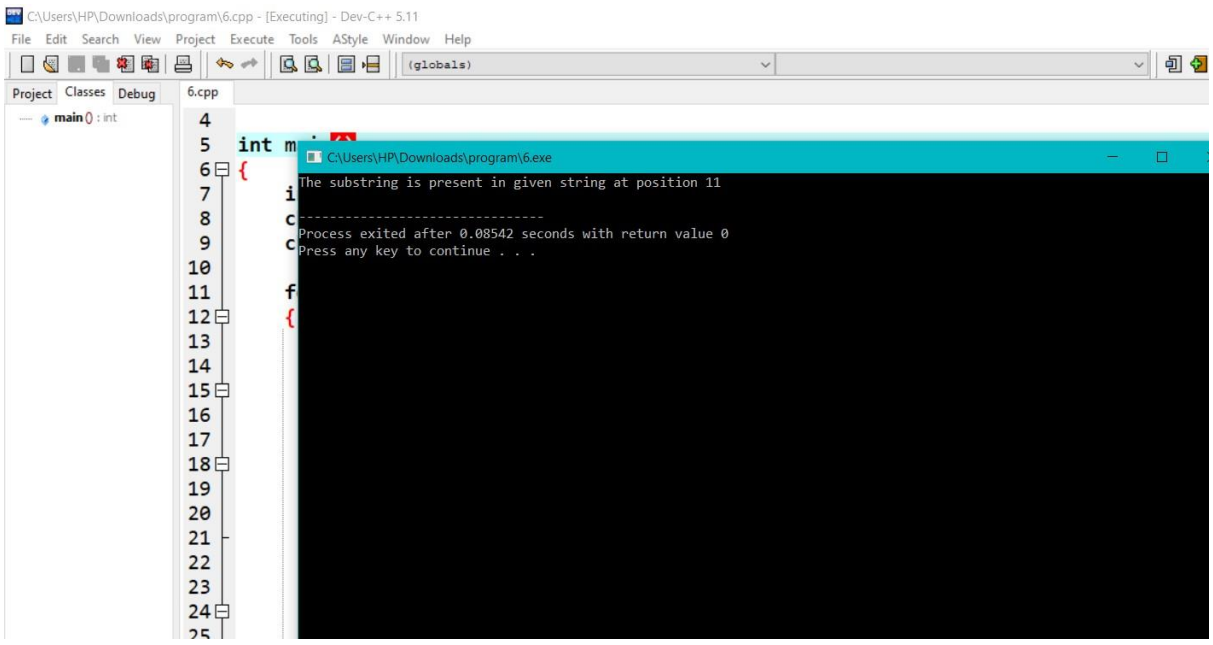
7. Write a program to find a substring within a string. If found display its starting position

INPUT

```
#include<iostream>
using namespace std;
 int main()
{
   int i,j,temp;
   char str[100]={"This is a pattern matching"};
   char substr[20]={"pattern"};

   for(i=0;str[i]!='\0';i++)
   {
      j=0;
      if(str[i]==substr[j])
      {
         temp=i+1;
         while(str[i]==substr[j])
         {
            i++;
            j++;
         }
```

```
        if(substr[j]=='\0')
        {
           cout<<"The substring is present in given string at position "<<temp<<"\n";
           exit(0);
        }
        else
        {
           i=temp;
           temp=0;
        }
      }
   }

   if(temp==0)
      cout<<"The substring is not present in given string\n";

   return 0;
}
```

OUTPUT

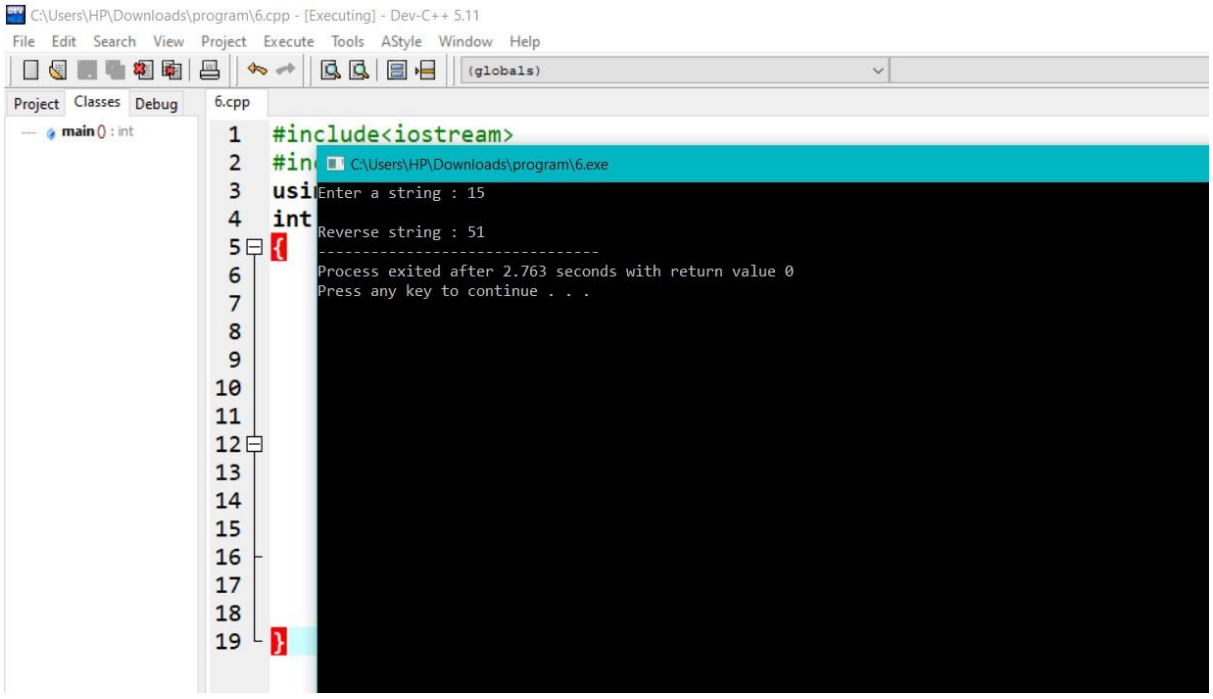


8. Write a program to reverse a string.

INPUT

```
#include<iostream>
#include<string.h>
using namespace std;
int main ()
{
   char str[50], temp;
   int i, j;
   cout << "Enter a string : ";
   gets(str);
   j = strlen(str) - 1;
   for (i = 0; i < j; i++,j--)
   {
      temp = str[i];
      str[i] = str[j];
      str[j] = temp;
   }
   cout << "\nReverse string : " << str;
   return 0;
}
```

OUTPUT

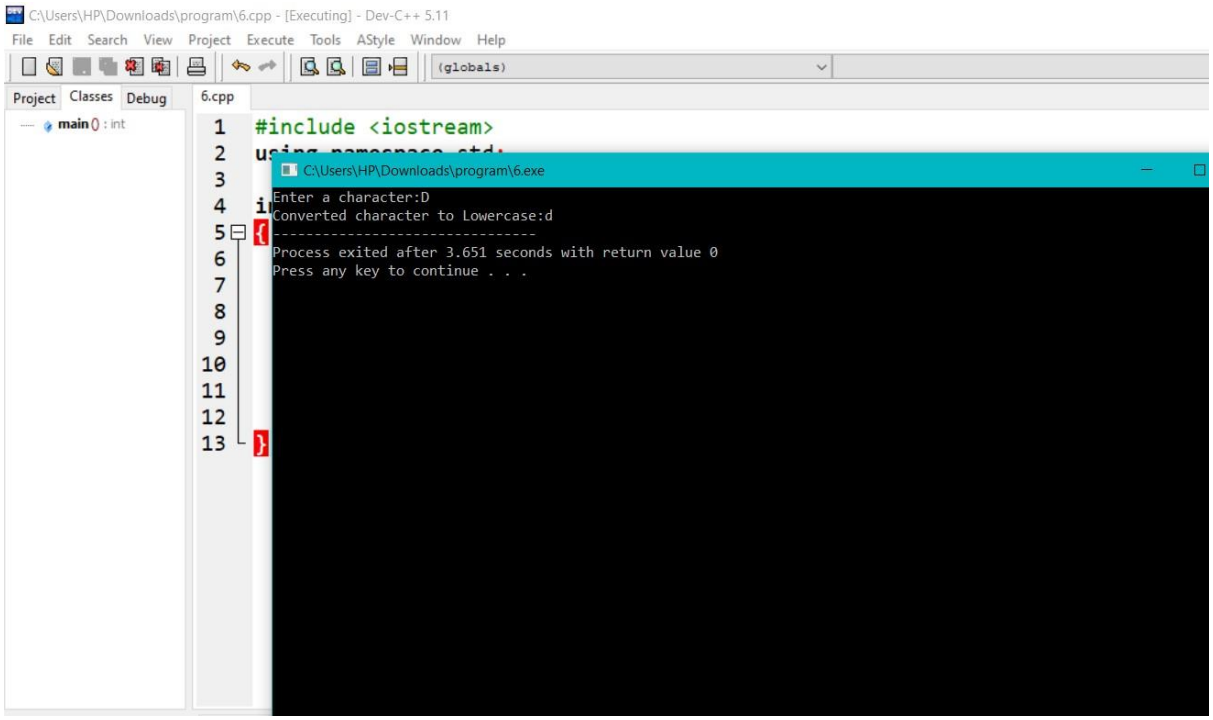


1. Write a program to convert a string in lowercase

INPUT

```
#include <iostream>

using namespace std;


int main()

{

  char X;

  cout<<"Enter a character:";

  cin>>X;

  X=X+32;

  cout<<"Converted character to Lowercase:";

  cout<<X;

  return 0;

}
```

OUTPUT



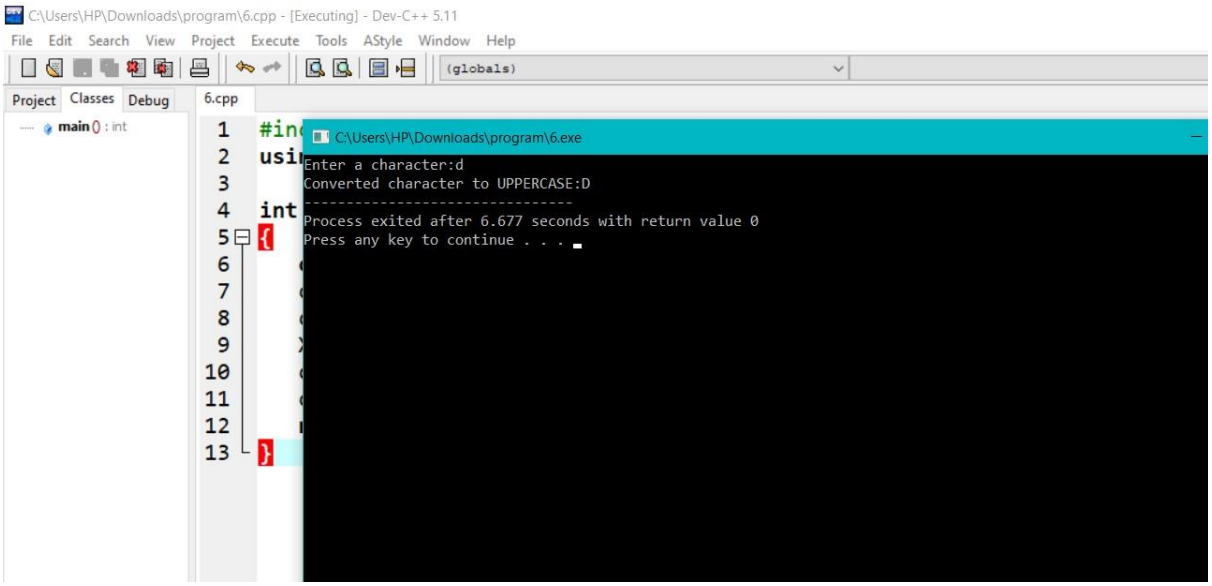
10. Write a program to convert a string in uppercase.

INPUT

```
#include <iostream>
```

```
using namespace std;


int main()
{
  char X;
  cout<<"Enter a character:";
  cin>>X;
  X=X-32;
  cout<<"Converted character to UPPERCASE:";
  cout<<X;
  return 0;
}
```

OUTPUT



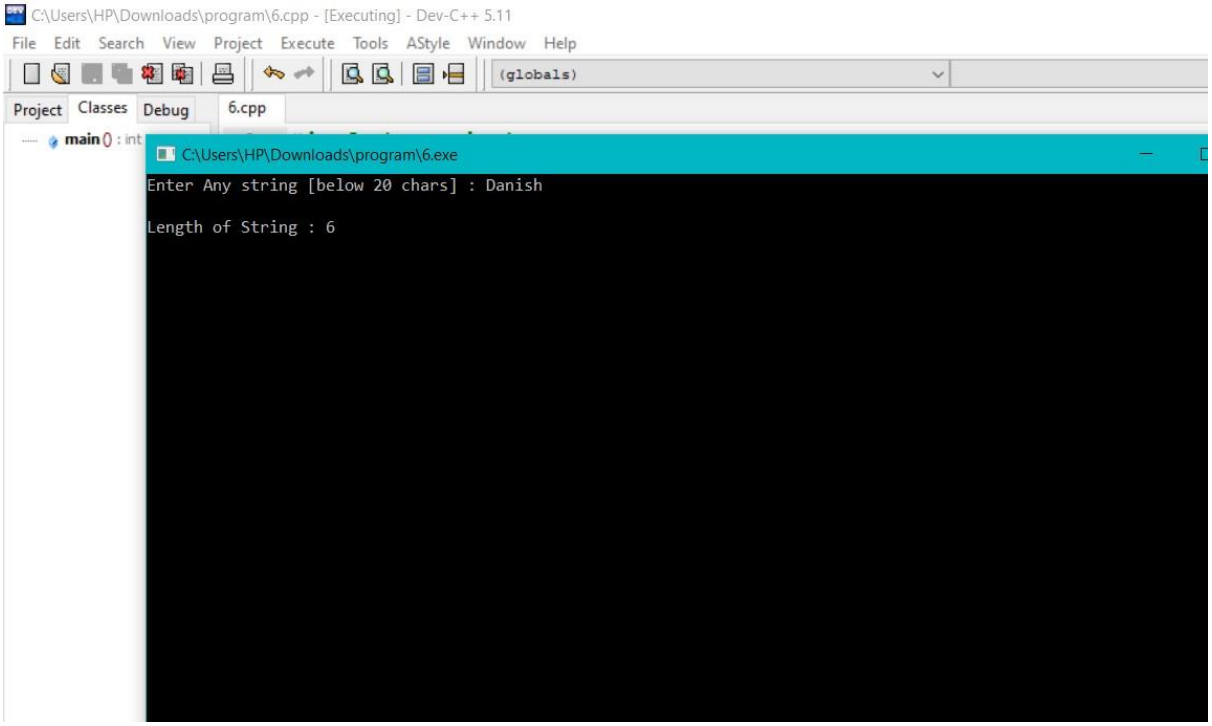
C++ ASSIGNMENT 6 (USING POINTERS)

1. Write a program to find the length of string.

INPUT

```
#include <iostream>
#include<conio.h>

using namespace std;

int main()
{

  char str[20], *pt;
  int i = 0;
  cout << "Enter Any string [below 20 chars] : ";
  cin>>str;

  pt = str;
  while (*pt != '\0') {
    i++;
    pt++;
  }
  cout << "\nLength of String : " << i;

  getch();
  return 0;
}
```

OUTPUT

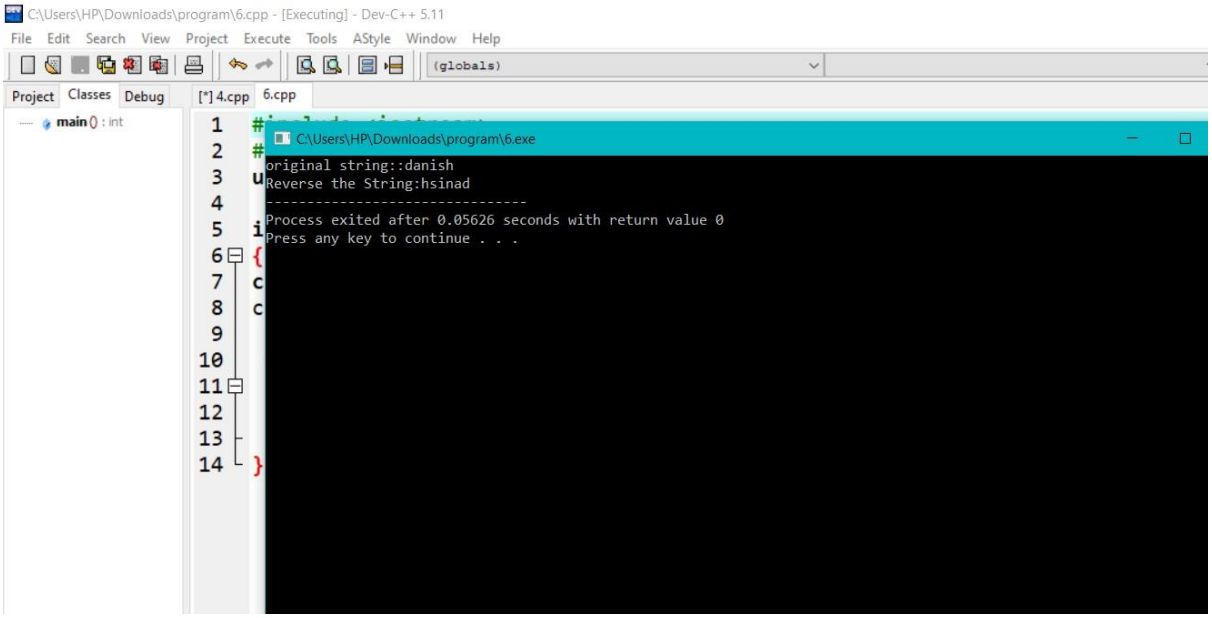


2. Write a program to display string from backward.

INPUT

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

int main()
{
char *str="danish";
cout<<"original string::"<<str;
 cout<<endl<<"Reverse the String:";
 for(int i=(strlen(str)-1);i>=0;i--)
 {
 cout<<str[i];
 }
}
```

OUTPUT



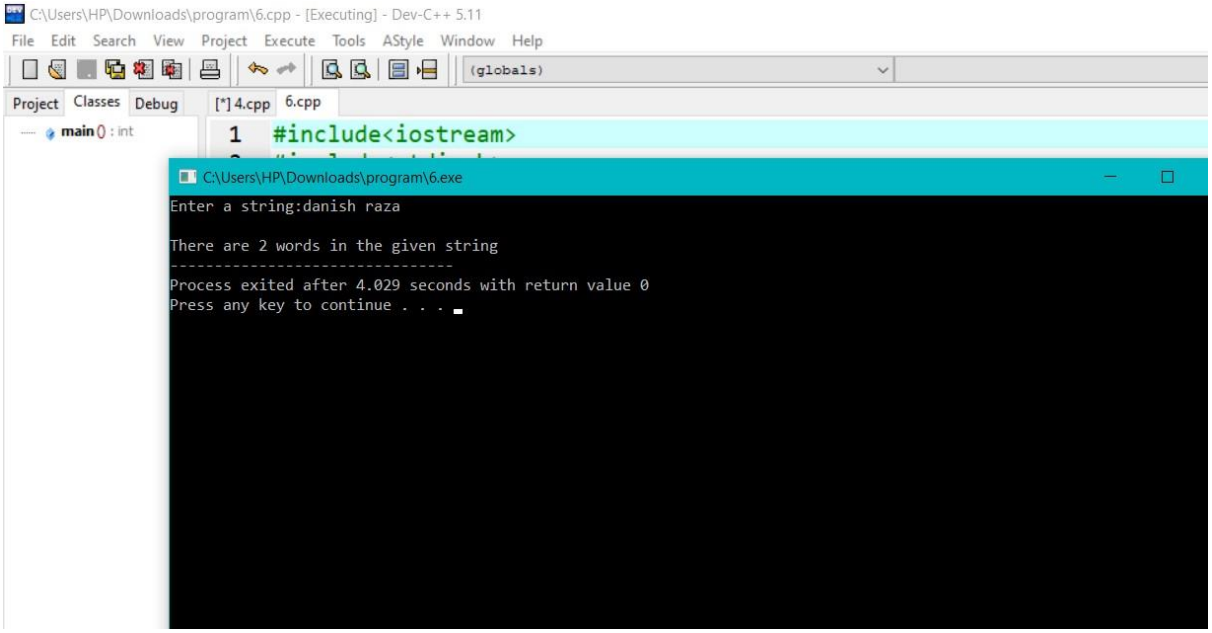
3. Write a program to count number of words in string

INPUT

```
#include<iostream>
#include<stdio.h>

using namespace std;

int main()
{
char a[100];
int i,count=1;
cout<<"Enter a string:";
gets(a);
for(i=0;a[i]!='\0';++i)
{
if(a[i]==' ')
count++;
}
```

```
cout<<"\nThere are "<<count<<" words in the given string";


return 0;

}
```

OUTPUT



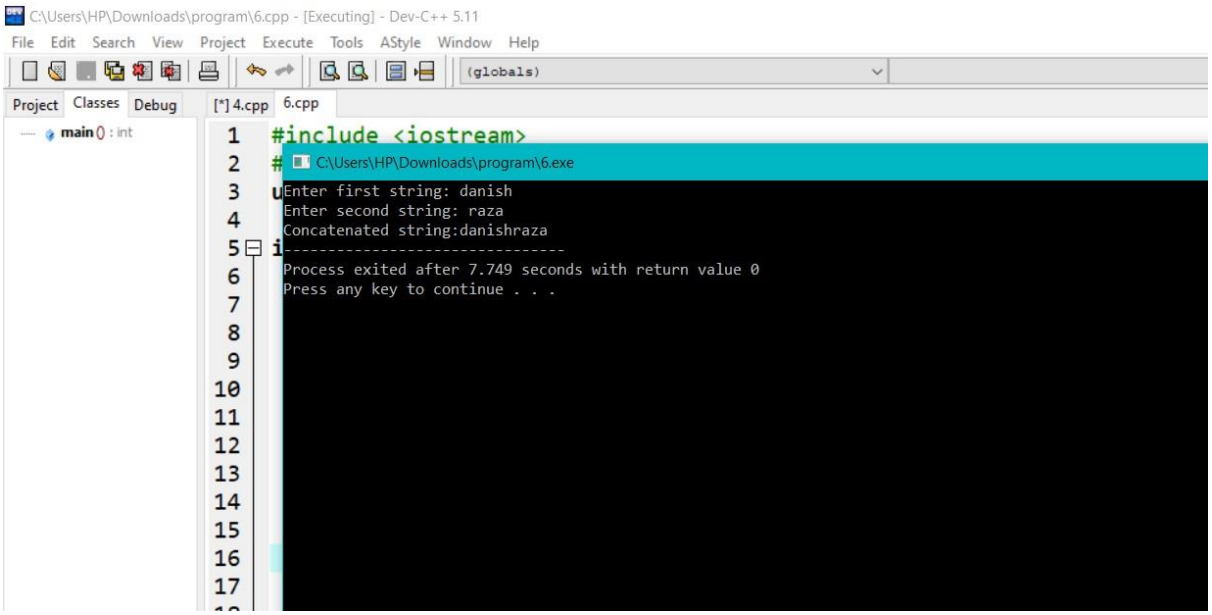
4. Write a program to concatenate one string contents to another.

INPUT

```
#include <iostream>
#define MAX_SIZE 100
using namespace std;

int main() {

   char str1[MAX_SIZE], str2[MAX_SIZE];
   char * s1 = str1;
   char * s2 = str2;

   cout<<"Enter first string: ";
   cin>>str1;
```

```
    cout<<"Enter second string: ";
    cin>>str2;

    while(*(++s1));

    while(*(s1++) = *(s2++));

    cout<<"Concatenated string:"<<str1;

    return 0;

}
```

OUTPUT



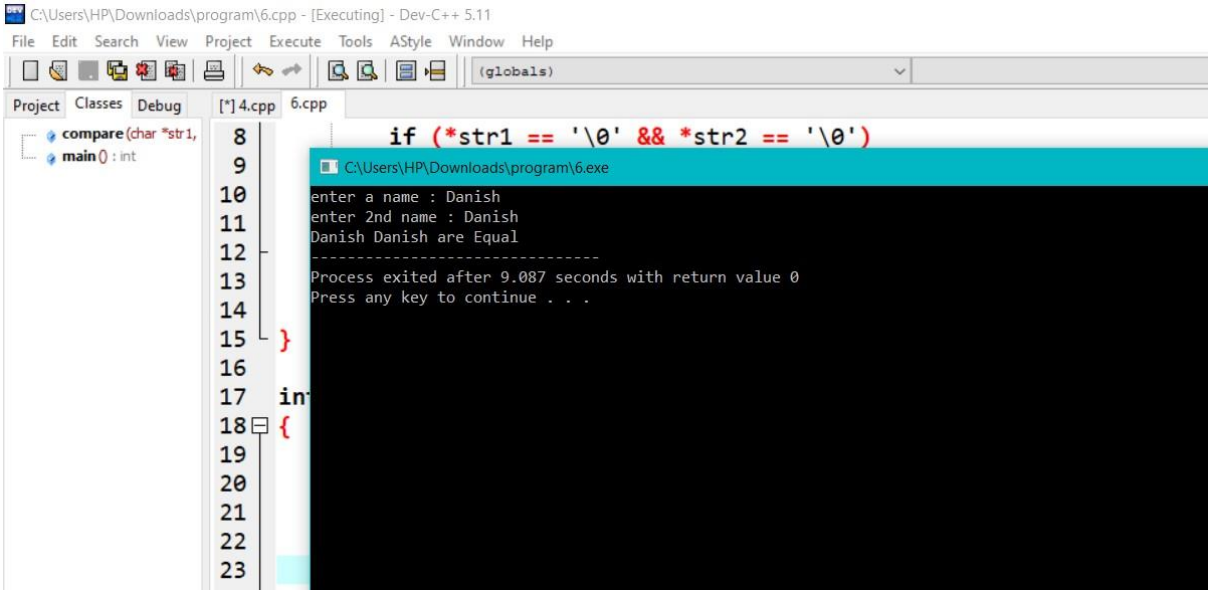
5. Write a program to compare two strings they are exact equal or not.

INPUT

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

bool compare(char *str1, char *str2)
```

```
{
   while (*str1 == *str2)
   {
      if (*str1 == '\0' && *str2 == '\0')
         return true;
      str1++;
      str2++;
   }

   return false;
}

int main()
{

   char str1[]= " ";
   cout<<"enter a name : ";
   cin>>str1;
   char str2[]= " ";
   cout<<"enter 2nd name : ";
   cin>>str2;

   if (compare(str1, str2) == 1)
      cout << str1 << " " << str2 << " are Equal";
   else
      cout << str1 << " " << str2 << " are not Equal";
}
```

OUTPUT



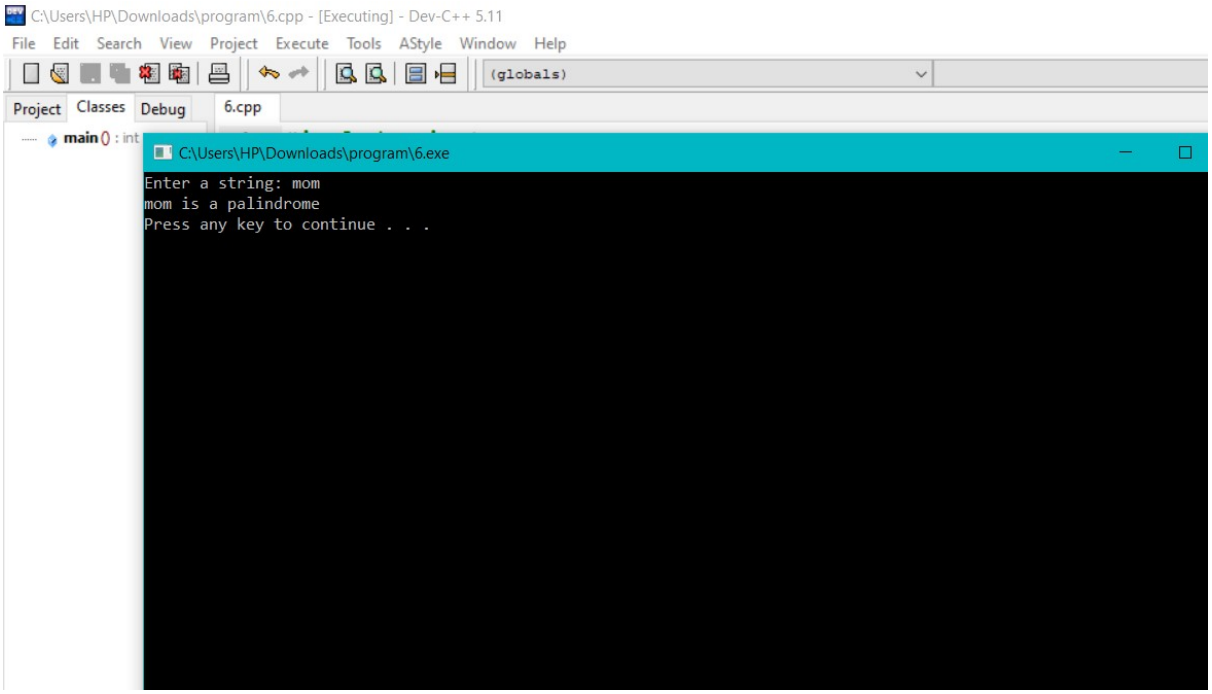
6. Write a program to check a string is palindrome or not.

INPUT

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

int main()
{
   char string1[20];
   int i, length;
   int flag = 0;

   cout << "Enter a string: ";
           cin >> string1;

   length = strlen(string1);

   for(i=0;i < length ;i++)
           {
     if(string1[i] != string1[length-i-1])
```

```
                    {
          flag = 1;
          break;
         }
       }

   if (flag)
          {
      cout << string1 << " is not a palindrome" << endl;
   }
   else {
      cout << string1 << " is a palindrome" << endl;
   }
   system("pause");
   return 0;
}
```

OUTPUT



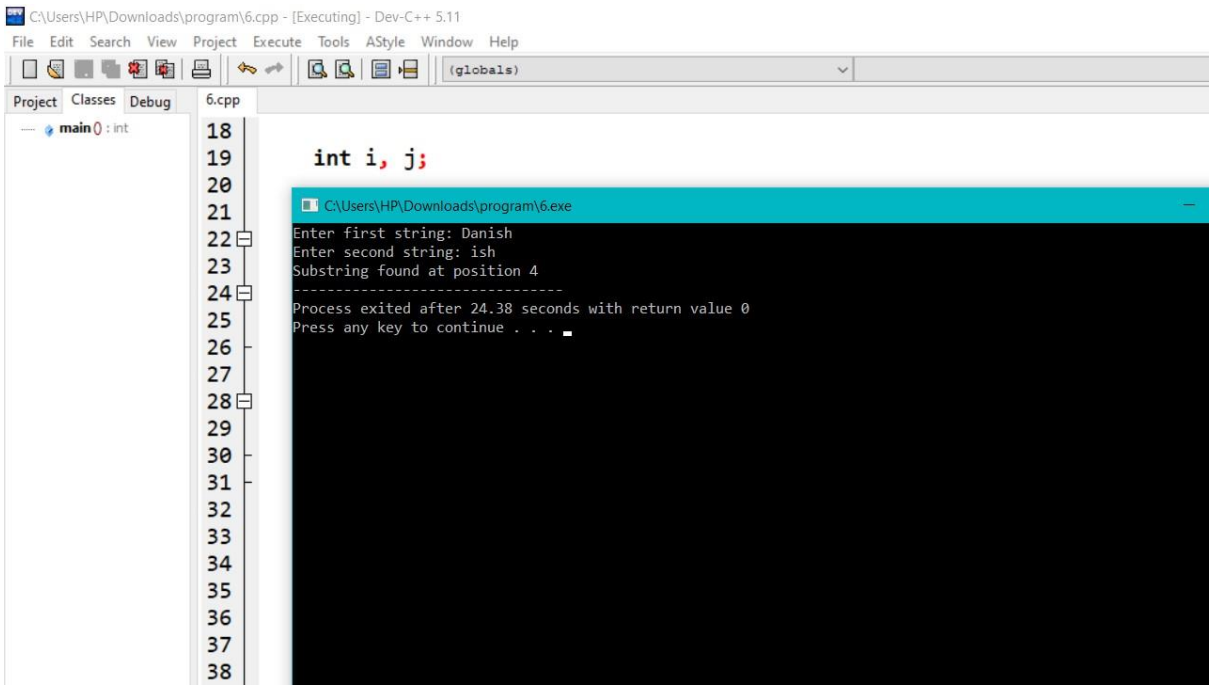
7. Write a program to find a substring within a string. If found display its starting position

INPUT

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

int main( )
{
   char str1[80], str2[80];

   cout<<"Enter first string: ";
   cin.getline(str1, 80);

   cout<<"Enter second string: ";
   cin.getline(str2, 80);

   int l = 0;

   for(l = 0; str2[l] != '\0'; l++);

   int i, j;

   for(i = 0, j = 0; str1[i] != '\0' && str2[j] != '\0'; i++)
   {
      if(str1[i] == str2[j])
      {
         j++;
      }
      else
      {
         j = 0;
      }
   }

   if(j == l)
```

```
    cout<<"Substring found at position "<< i - j + 1;
  else
    cout<<"Substring not found";

  return 0;
}
```

OUTPUT



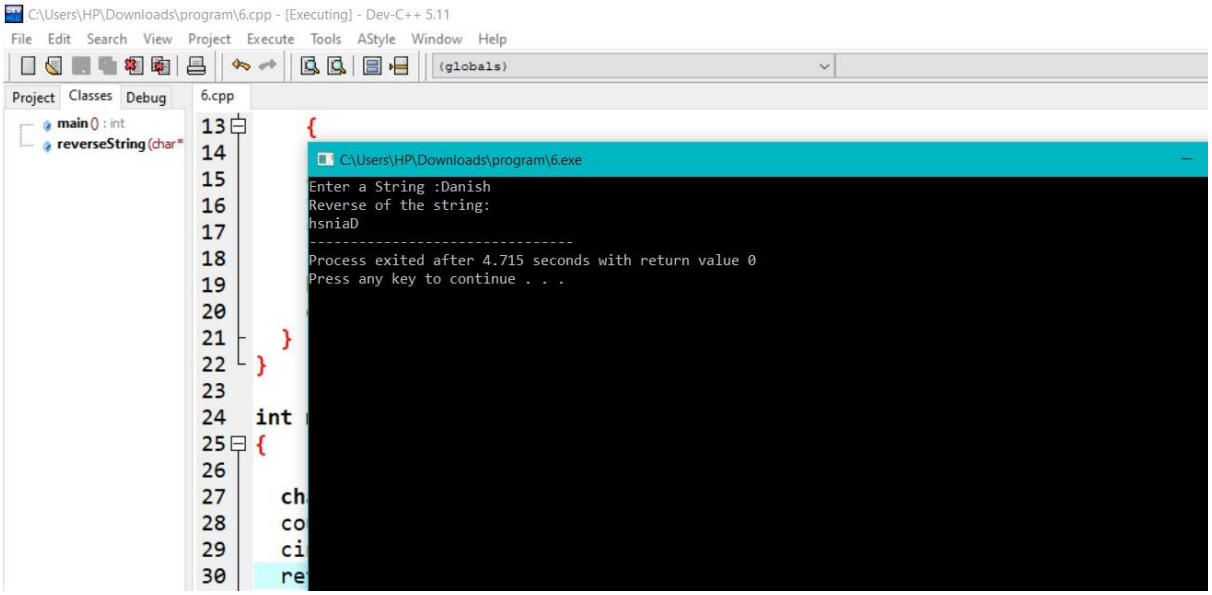
8. Write a program to reverse a string.

INPUT

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

void reverseString(char* str)
{
 int l, i;
 char *begin_ptr, *end_ptr, ch;
 l = strlen(str);
```

```
  begin_ptr = str;
  end_ptr = str + l - 1;
    for (i = 0; i < (l - 1) / 2; i++)
            {

    ch = *end_ptr;
    *end_ptr = *begin_ptr;
    *begin_ptr = ch;

    begin_ptr++;
    end_ptr--;
  }
}

int main()
{

  char str[100];
  cout<<"Enter a String : "<<str;
  cin>>str;
  reverseString(str);
  cout<<"Reverse of the string:\n"<< str;

  return 0;
}
```

OUTPUT



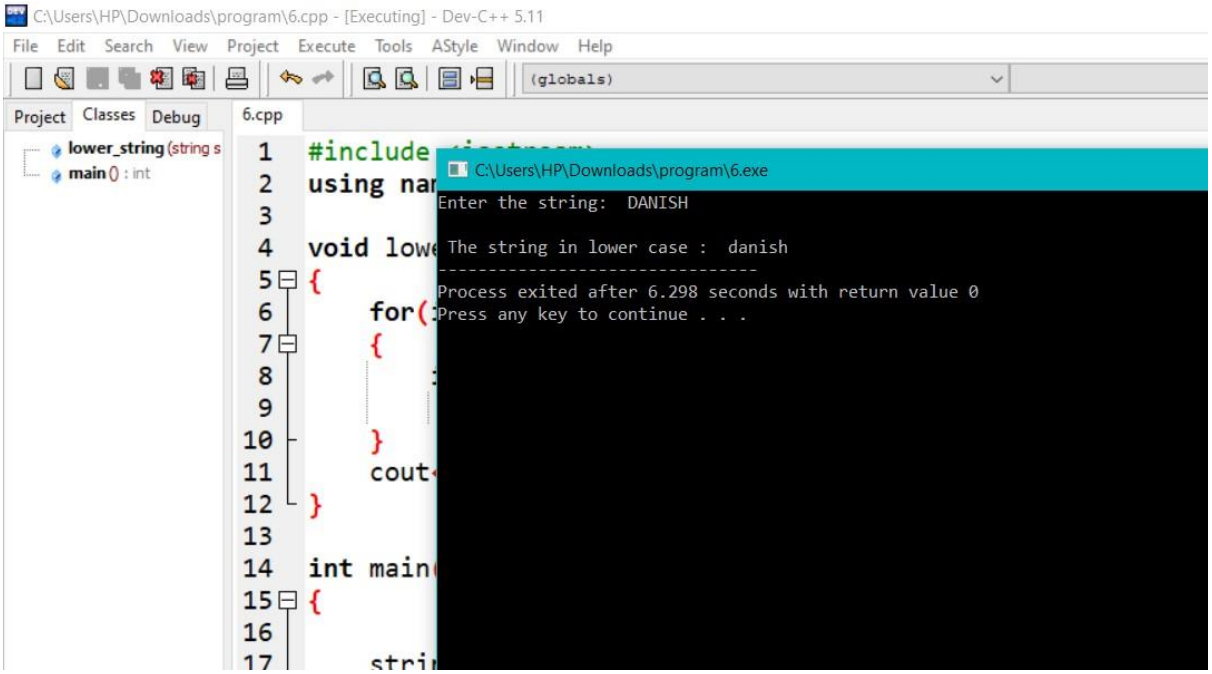
9. Write a program to convert a string in lowercase.

INPUT

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

void lower_string(string str)
{
	for(int i=0;str[i]!='\0';i++)
	{
		if (str[i] >= 'A' && str[i] <= 'Z')
			str[i] = str[i] + 32;
	}
	cout<<"\n The string in lower case :  "<< str;
}

int main()
{

	string str;
   cout<<"Enter the string:  ";
```

```
    getline(cin,str);
    lower_string(str);
        return 0;
}
```

OUTPUT



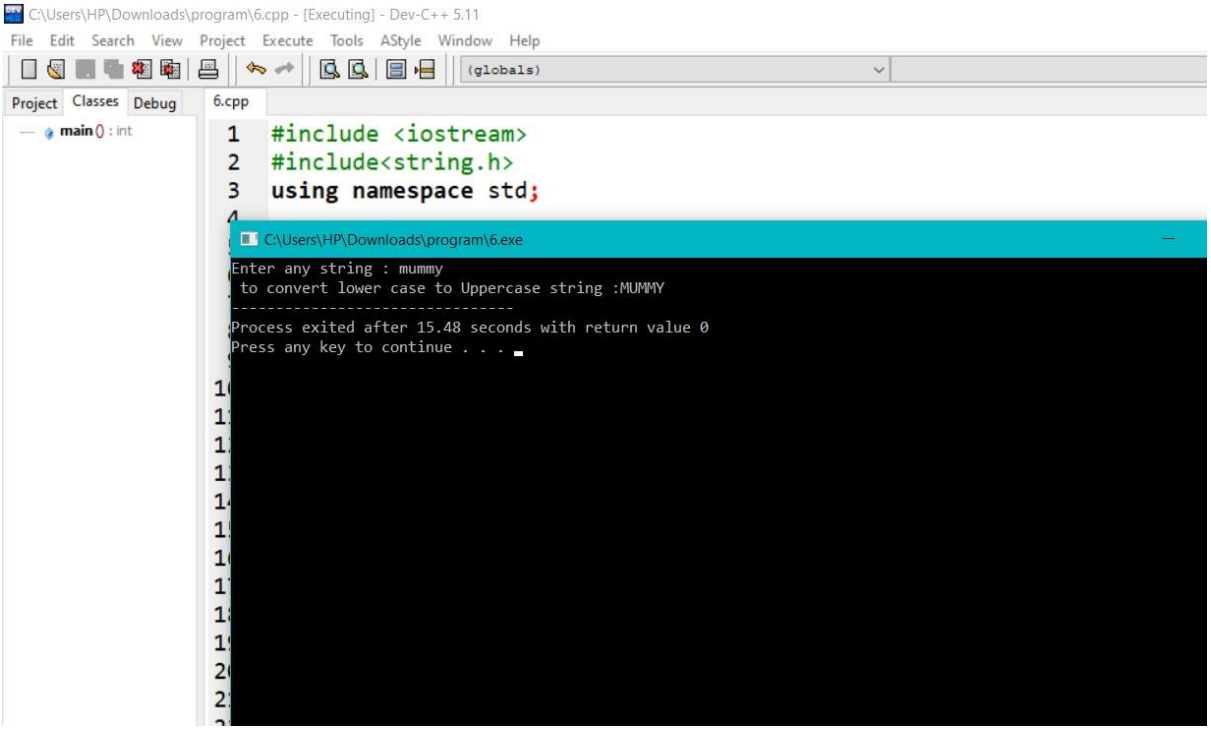
10. Write a program to convert a string in uppercase.

INPUT

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


#define MAX 100
int main()
{
    char text[MAX];
    char * st = text;
    cout<<"Enter any string : ";
```

```
    gets(text);

    while(*st)
    {
       *st = (*st > 'a' && *st <= 'z') ? *st-32 : *st;
       st++;
    }

    cout<<" to convert lower case to Uppercase string :"<<text;
    return 0;
}
```

OUTPUT



ADDITIONAL PROGRAM

- Write a program to reverse a sentence

INPUT

```
#include<iostream>
#include<string>
using namespace std;
int main()
```

```
{
   string str="Its A programming";
   int i;
   cout<<"Printing string in reverse\n";
   for(i = str.length() -1; i >= 0; i--)
   {
       cout<<str[i];
   }
   return 0;
}
```

OUTPUT