Assignment:1

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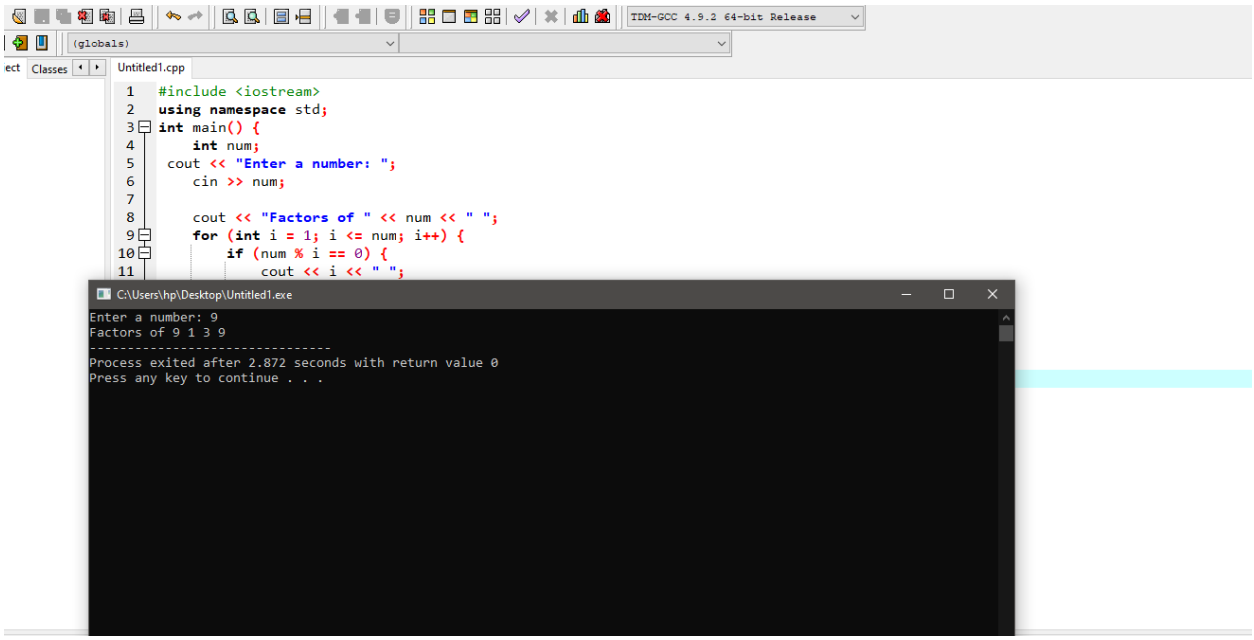
Question:1

program to display factors of a number using for loops



Question:2

Write output.

#include int main()

{ int x = 5;

int y = 10;

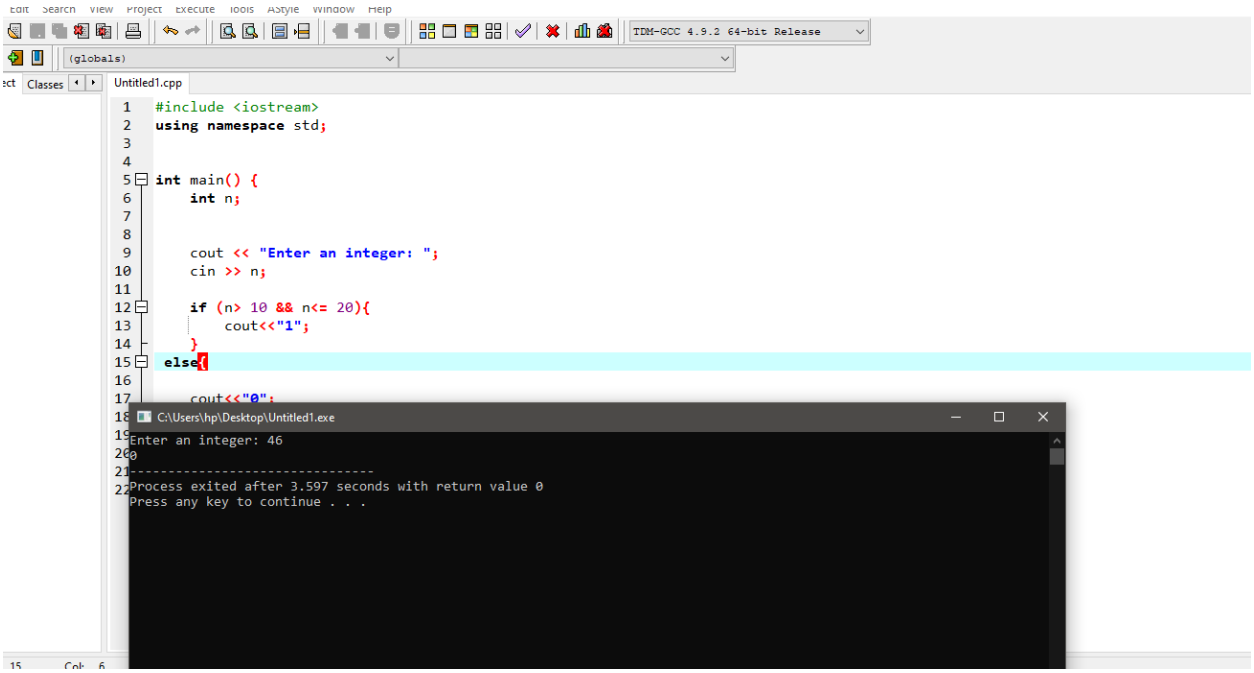
if (x == 5) if (y == 10)

std::cout << "x is 5 and y is 10" << std::endl; else std::cout << "x is not 5" << std::endl;

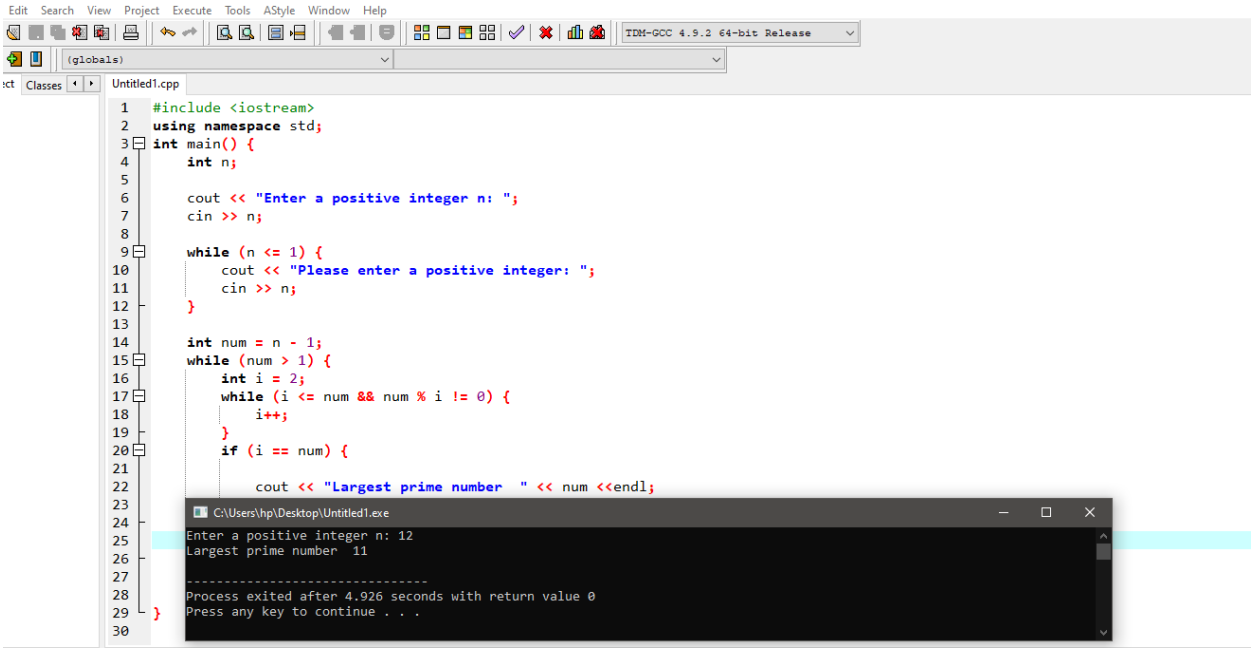
return 0;

output will be..(x is 5 and y is 10)

Question:3 **Write a C++ program, take an integer value from user and check if it's greater than 10 and less thanequal to 20. Print 1 if yes and print 0 if no. Use appropriate datatype for output.**



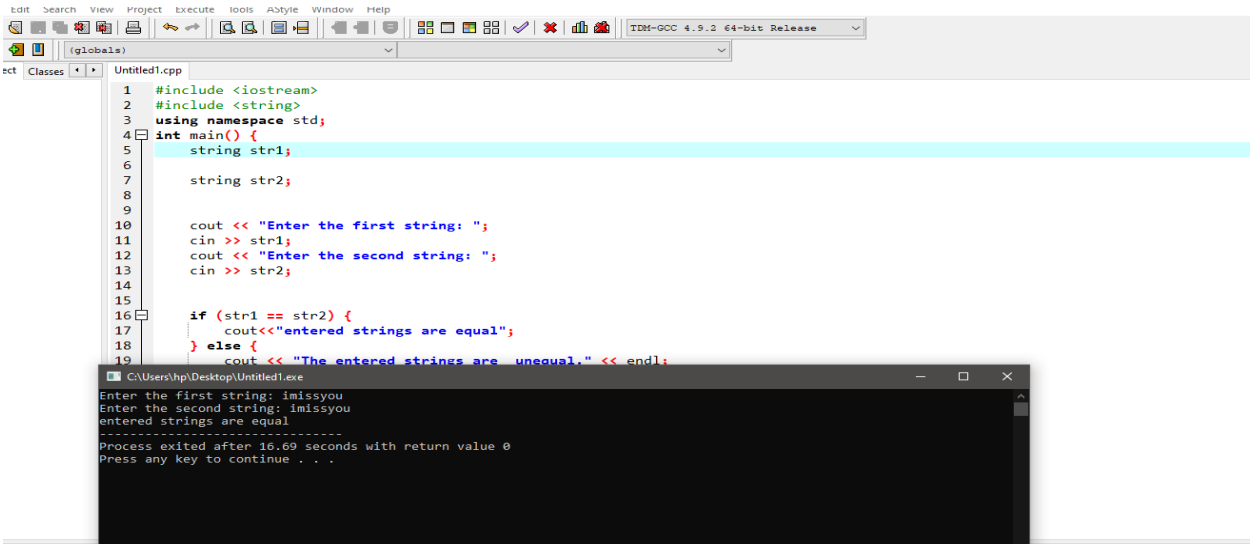
Question:4 Write a C++ program that uses a while loop to find the largest prime number less than a given positive integer N. Your program should take the value of N as input from the user and then find the largest prime number less than or equal to N. You are not allowed to use any library or pre-existing functions to check for prime numbers.



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

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

    while (n <= 1) {
        cout << "Please enter a positive integer: ";
        cin >> n;
    }

    int num = n - 1;
    while (num > 1) {
        int i = 2;
        while (i <= num && num % i != 0) {
            i++;
        }
        if (i == num) {

            cout << "Largest prime number  " << num <<endl;
```

```
C:\Users\hp\Desktop\Untitled1.exe
Enter a positive integer n: 12
Largest prime number  11

--------------------------------
Process exited after 4.926 seconds with return value 0
Press any key to continue . . .
```

Question:5 Write a C++ program, take two string as input from user and check if both strings are equal or not.

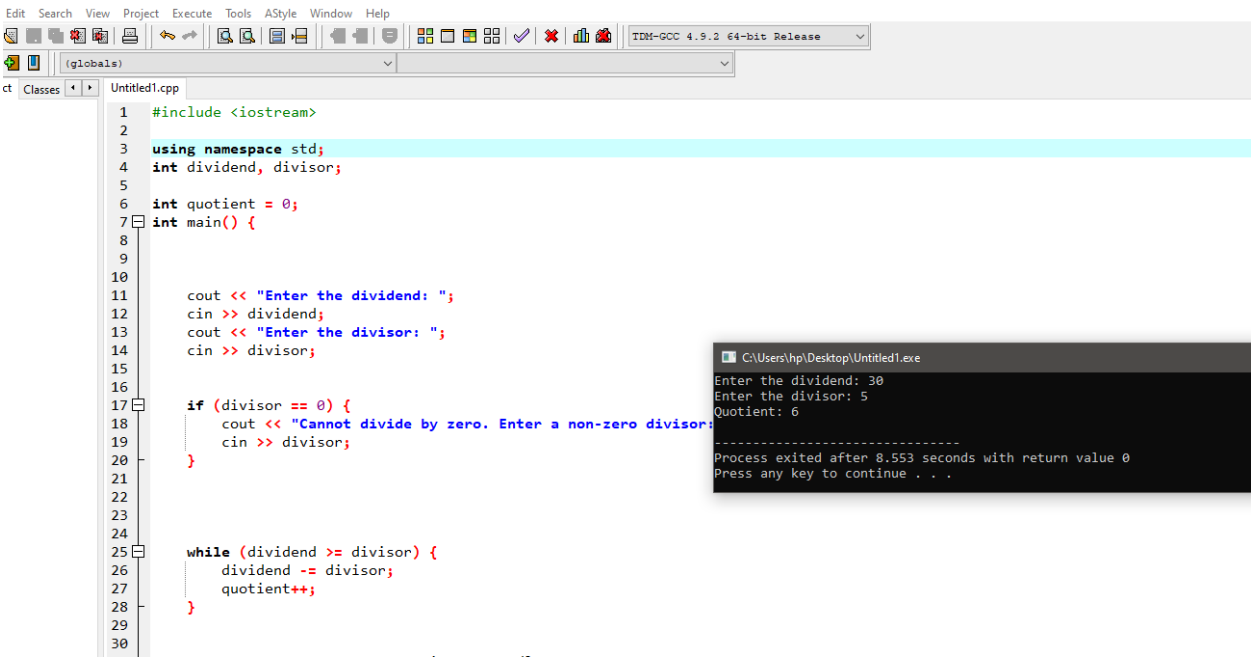


```cpp
#include <iostream>
#include <string>
using namespace std;
int main() {
    string str1;

    string str2;


    cout << "Enter the first string: ";
    cin >> str1;
    cout << "Enter the second string: ";
    cin >> str2;


    if (str1 == str2) {
        cout<<"entered strings are equal";
    } else {
        cout << "The entered strings are  unequal." << endl;
```

```
C:\Users\hp\Desktop\Untitled1.exe
Enter the first string: imissyou
Enter the second string: imissyou
entered strings are equal
--------------------------------
Process exited after 16.69 seconds with return value 0
Press any key to continue . . .
```

Question:6

Perform division in C++ without / using for loops. You can use / only to display the final results. Your dividend must be greater than divisor.

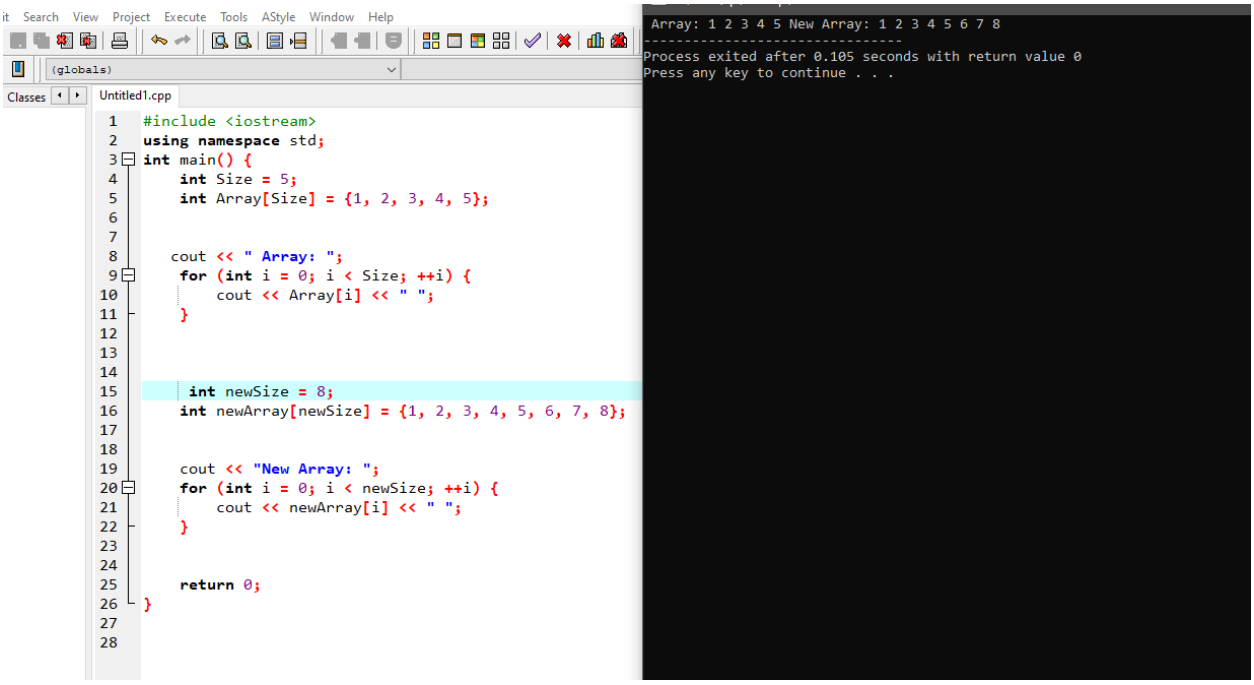


```
#include <iostream>

using namespace std;
int dividend, divisor;

int quotient = 0;
int main() {



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


    if (divisor == 0) {
        cout << "Cannot divide by zero. Enter a non-zero divisor:
        cin >> divisor;
    }



    while (dividend >= divisor) {
        dividend -= divisor;
        quotient++;
    }
```

```
C:\Users\hp\Desktop\Untitled1.exe
Enter the dividend: 30
Enter the divisor: 5
Quotient: 6

--------------------------------
Process exited after 8.553 seconds with return value 0
Press any key to continue . . .
```

Question:8

Suppose an integer array a[5] = {1,2,3,4,5}. Add more elements to it and display them in C++.

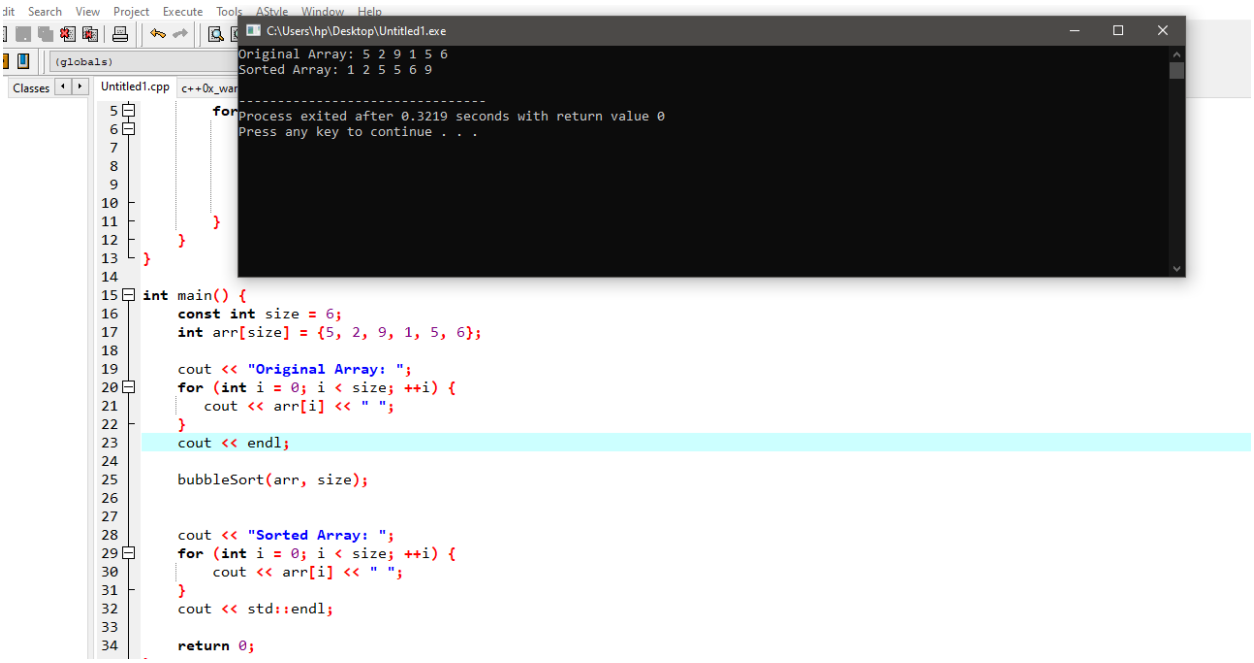


```
Array: 1 2 3 4 5 New Array: 1 2 3 4 5 6 7 8
--------------------------------
Process exited after 0.105 seconds with return value 0
Press any key to continue . . .
```

```cpp
#include <iostream>
using namespace std;
int main() {
    int Size = 5;
    int Array[Size] = {1, 2, 3, 4, 5};


   cout << " Array: ";
    for (int i = 0; i < Size; ++i) {
        cout << Array[i] << " ";
    }



    int newSize = 8;
    int newArray[newSize] = {1, 2, 3, 4, 5, 6, 7, 8};


    cout << "New Array: ";
    for (int i = 0; i < newSize; ++i) {
        cout << newArray[i] << " ";
    }


    return 0;
}
```

Question:10

Implement Bubble Sort on an array of 6 integers.



```
C:\Users\hp\Desktop\Untitled1.exe
Original Array: 5 2 9 1 5 6
Sorted Array: 1 2 5 5 6 9

--------------------------------
Process exited after 0.3219 seconds with return value 0
Press any key to continue . . .
```

```cpp
int main() {
    const int size = 6;
    int arr[size] = {5, 2, 9, 1, 5, 6};

    cout << "Original Array: ";
    for (int i = 0; i < size; ++i) {
       cout << arr[i] << " ";
    }
    cout << endl;

    bubbleSort(arr, size);


    cout << "Sorted Array: ";
    for (int i = 0; i < size; ++i) {
        cout << arr[i] << " ";
    }
    cout << std::endl;

    return 0;
```