

## **Assignment#1:**

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## Task#1:

```
#include<iostream>

using namespace std;

int main()
{
    int x,rem;

    cout<<"Enter a number:";

    cin>>x;

    cout<<"Factors are: ";

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

        rem=x%i;

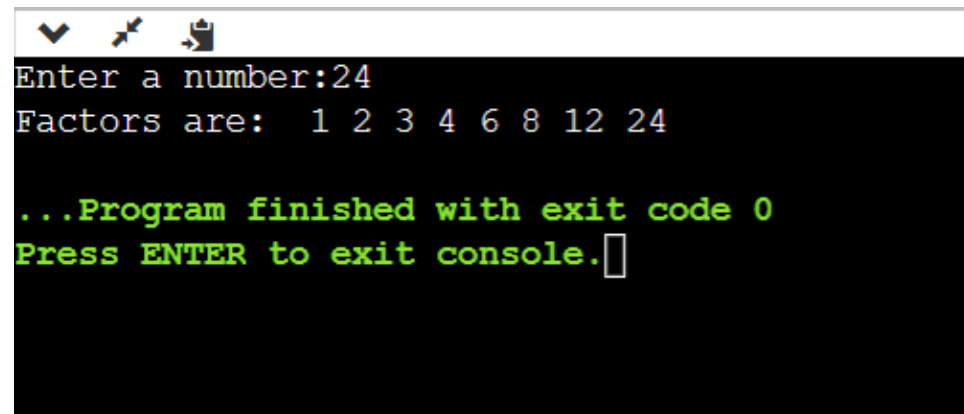
        if(rem==0){

            cout<<" "<<i;

        }

    }

    return 0;
}
```



```
Enter a number:24
Factors are:  1 2 3 4 6 8 12 24

...Program finished with exit code 0
Press ENTER to exit console.
```

## Task#2:

```
#include <iostream>

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;
}
```

## Ans:

x is 5 and y is 10

## Task#3:

```
#include<iostream>

using namespace std;

int main()
{
    int x;

    cout<<"enter an integer:";

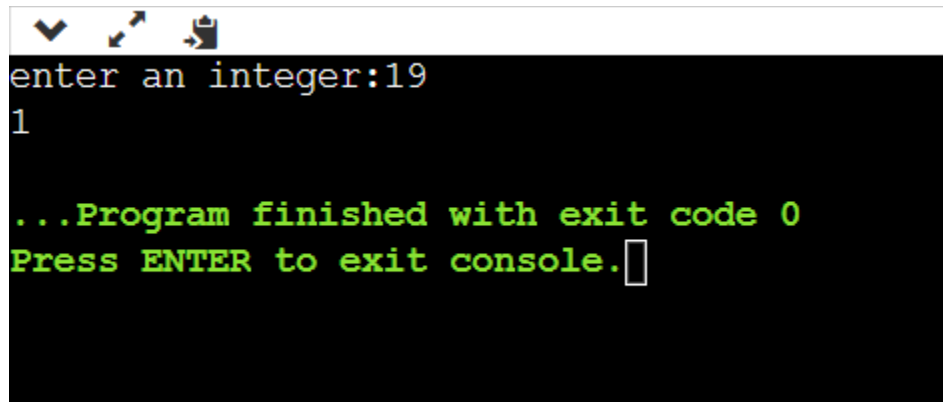
    cin>>x;

    if(x>10&& x<=20){
        cout<<1;
    }

    else{
        cout<<0;
    }

    return 0;
}
```

```
}
```

A screenshot of a terminal window with a black background. At the top, there are three small icons: a blue checkmark, a red and blue double-headed arrow, and a blue document icon. The terminal text is as follows: 'enter an integer:19' in white, '1' in white on the next line, '...Program finished with exit code 0' in green, and 'Press ENTER to exit console.' in green with a white cursor at the end.

#### Task#4:

```
#include<iostream>

using namespace std;

int main(){

    int num,i,j;

    bool prime;

    cout<<"Enter a positive integer:";

    cin>>num;

    i=num-1;

    if (num==1)    {

        cout<<"There is no prime number less than 1.";

    }

    if(num<=0)    {

        cout<<"Invalid input."<<endl;

    }

    while(i>=2)    {

        prime=true;

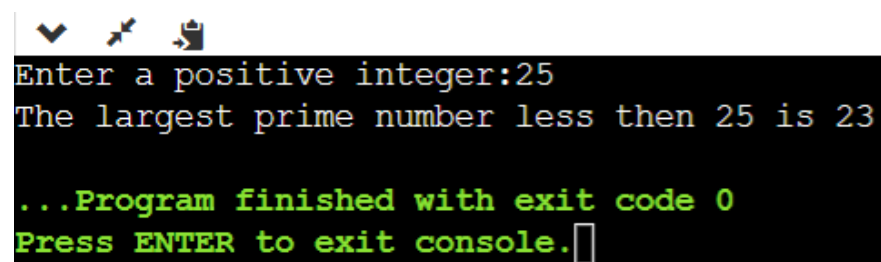
        j=2;

        while(j<i)    {
```

```

if(i%j==0)    {
prime=false;
break;
}
j++;
}
if(prime==true){
break;
}
i--;
}
if(prime==true) {
cout<<"The largest prime number less then "<<num<<" is "<<i;
}
else    {
cout<<"There is no prime number less then "<<num;
}
return 0;
}

```



A terminal window with a black background and green text. At the top, there are three small icons: a checkmark, a cursor, and a document. The text in the terminal reads: "Enter a positive integer:25", "The largest prime number less then 25 is 23", "...Program finished with exit code 0", and "Press ENTER to exit console." followed by a cursor icon.

```

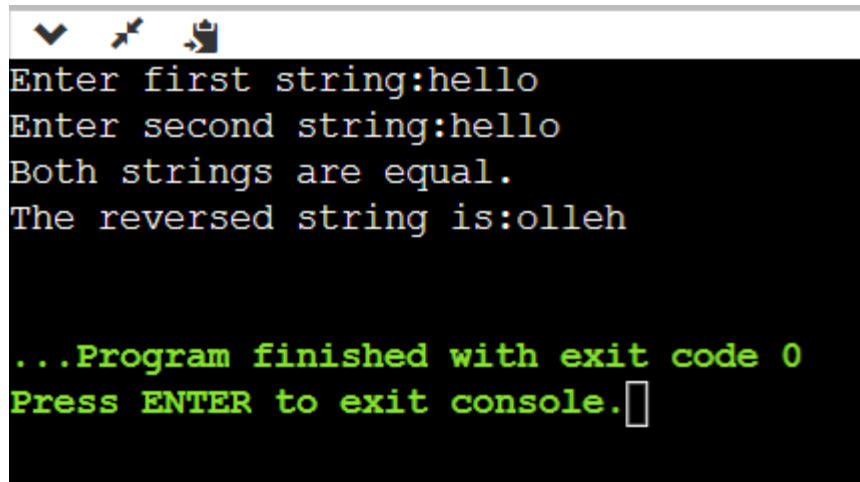
Enter a positive integer:25
The largest prime number less then 25 is 23
...Program finished with exit code 0
Press ENTER to exit console.

```

### Task#5:

```
#include<iostream>
```

```
#include<string>
using namespace std;
int main()
{
    string input1,input2;
    string rotated_string="";
    cout<<"Enter first string:";
    cin>>input1;
    cout<<"Enter second string:";
    cin>>input2;
    if (input1==input2)    {
        cout<<"Both strings are equal."<<endl;
        for(int i=input1.length(); i>=0; i--)    {
            rotated_string+=input1[i];
        }
        cout<<"The reversed string is:"<< rotated_string <<endl;
    }
    else    {
        cout<<"The two strings are not equal.";
    }
    return 0;
}
```



```
Enter first string:hello
Enter second string:hello
Both strings are equal.
The reversed string is:olleh

...Program finished with exit code 0
Press ENTER to exit console.█
```

### Task#6:

```
#include<iostream>
#include<string>
using namespace std;
int main()
{
    int dividend, divisor, quotient=0;
    cout<<"Enter a dividend:";
    cin>>dividend;
    cout<<"Enter a divisor:";
    cin>>divisor;
    if(dividend<divisor)
    {
        cout<<"The dividend must be greater than the divisor."<<endl;
    }
    else if (dividend>0 && divisor>0)
    {
        for (;dividend>=divisor; dividend--)
        {
```

```

        if (dividend%divisor==0)
        {
quotient=quotient+1;
        }
    }

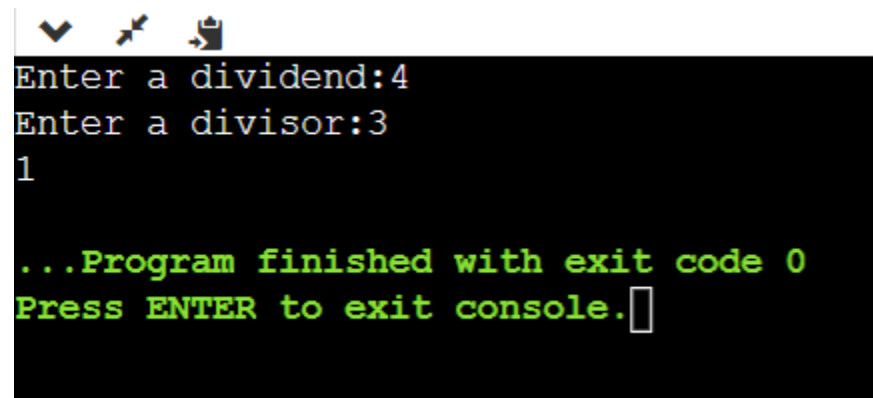
cout<<quotient;

    }

return 0;

}

```



```

Enter a dividend:4
Enter a divisor:3
1

...Program finished with exit code 0
Press ENTER to exit console.

```

## Task#7:

```

#include<iostream>

#include<string>

using namespace std;

int main()

{

string str;

cout<<"Enter a string:";

cin>>str;

for(int i=0;i<str.length();i++){

for(int j=0;j<str.length();j++){

```




```

if(i!=j){
if (str[i]==str[j]){
str[j]=str[j+1];
str[j+1]=' ';
}
}
}
}

cout<<"The new string is: "<<str;

return 0;
}

```



```

Enter a string:Hello
The new string is: Helo

...Program finished with exit code 0
Press ENTER to exit console.

```

### Task#8:

```

#include<iostream>

#include<string>

using namespace std;

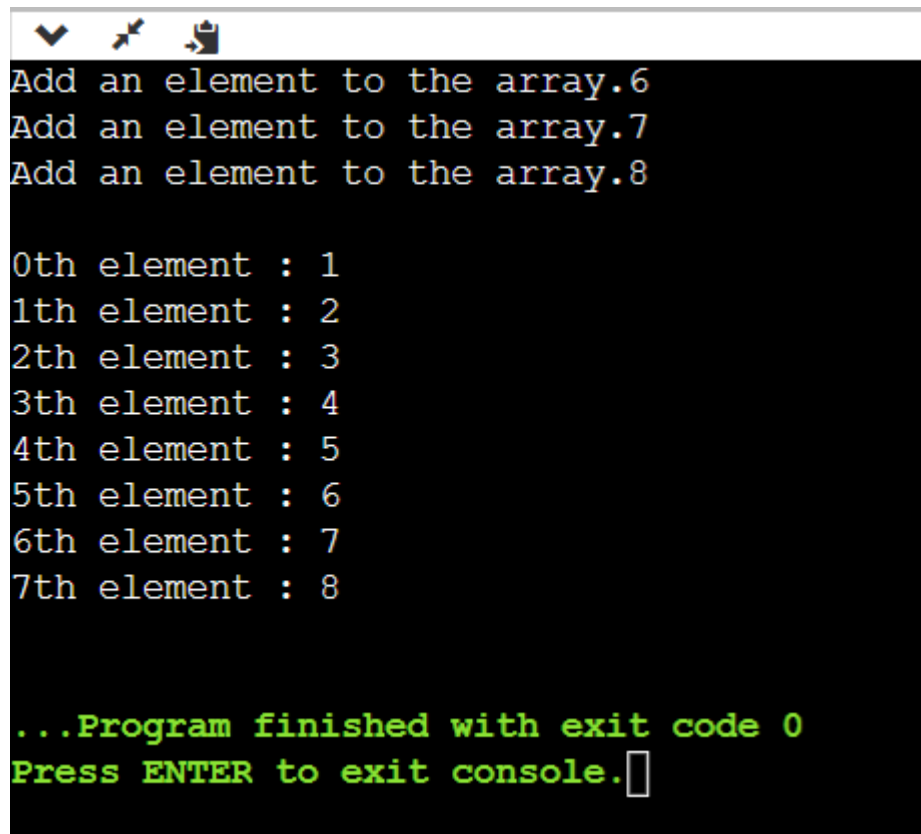
int main()
{
    int numbers[5]={1,2,3,4,5};

    int numbers_updated[10];

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

```

```
numbers_updated[i]=numbers[i];  
}  
for (int i=5;i<8;i++){  
    cout<<"Add an element to the array."  
    cin>>numbers_updated[i];  
}  
cout<<endl;  
for (int i=0;i<8;i++){  
    cout<<i<<"th element : "<<numbers_updated[i]<<endl;  
}  
    return 0;  
}
```



```
Add an element to the array.6  
Add an element to the array.7  
Add an element to the array.8  
  
0th element : 1  
1th element : 2  
2th element : 3  
3th element : 4  
4th element : 5  
5th element : 6  
6th element : 7  
7th element : 8  
  
...Program finished with exit code 0  
Press ENTER to exit console.█
```

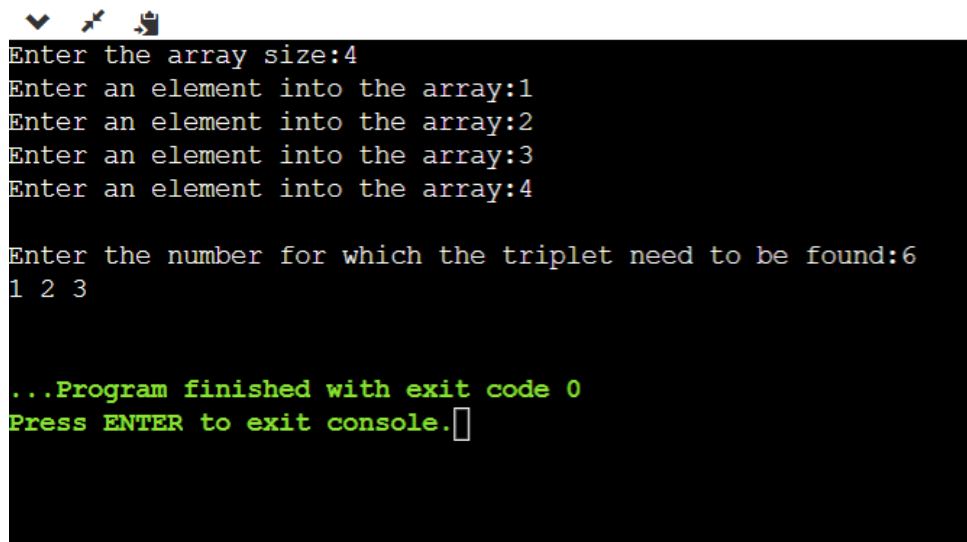
**Task#9:**

```

#include<iostream>
#include<string>
using namespace std;
int main()
{
    int n,x,sum;
    int numbers[n];
    cout<<"Enter the array size:";
    cin>>n;
    for (int j=0; j<n;j++){
        cout<<"Enter an element into the array:";
        cin>>numbers[j];
    }
    cout<<endl;
    cout<<"Enter the number for which the triplet need to be found:";
    cin>>x;
    for(int i=0;i<n;i++){
        for (int j=i+1;j<n;j++){
            for (int k=j+1;k<n;k++){
                sum=numbers[i]+numbers[j]+numbers[k];
                if (sum==x){
                    cout<<numbers[i]<<" "<<numbers[j]<<" "<<numbers[k]<<endl;
                }
            }
        }
    }
    return 0;
}

```

```
}
```

A terminal window with a black background and white text. At the top, there are three small icons: a downward arrow, a pencil, and a document. The text in the terminal shows the program's execution flow: it prompts for array size (4), then for four elements (1, 2, 3, 4), then for a triplet number (6), and finally displays the triplet (1 2 3). It ends with a green message indicating the program finished with exit code 0 and a prompt to press ENTER to exit the console.

```
Enter the array size:4
Enter an element into the array:1
Enter an element into the array:2
Enter an element into the array:3
Enter an element into the array:4

Enter the number for which the triplet need to be found:6
1 2 3

...Program finished with exit code 0
Press ENTER to exit console.
```

### Task#10:

```
#include<iostream>

#include<string>

using namespace std;

int main()
{
    int x;

    int num[6];

    for(int i=0;i<6;i++)
    {
        cout<<"enter number for ["<<i<<" ] place for array:";

        cin>>num[i];
    }

    for(int i=0;i<6;i++)
    {
        for(int j=0;j<6;j++)
        {
```

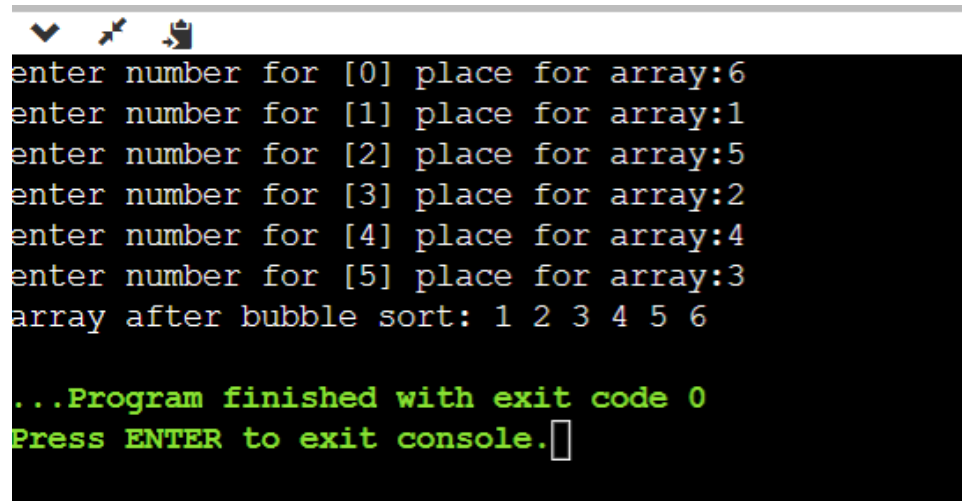
```

        if(num[i]<num[j])
        {
            x=num[i];
            num[i]=num[j];
            num[j]=x;
        }
        else
        {
            continue;
        }
    }
}

cout<<"array after bubble sort: ";
for(int i=0;i<6;i++)
{
    cout<<num[i]<<" ";
}

return 0;
}

```



The screenshot shows a console window with a dark background. At the top, there are three small icons: a checkmark, a cursor, and a document. The main text in the console is as follows:

```

enter number for [0] place for array:6
enter number for [1] place for array:1
enter number for [2] place for array:5
enter number for [3] place for array:2
enter number for [4] place for array:4
enter number for [5] place for array:3
array after bubble sort: 1 2 3 4 5 6

...Program finished with exit code 0
Press ENTER to exit console.

```

