Assignment 1
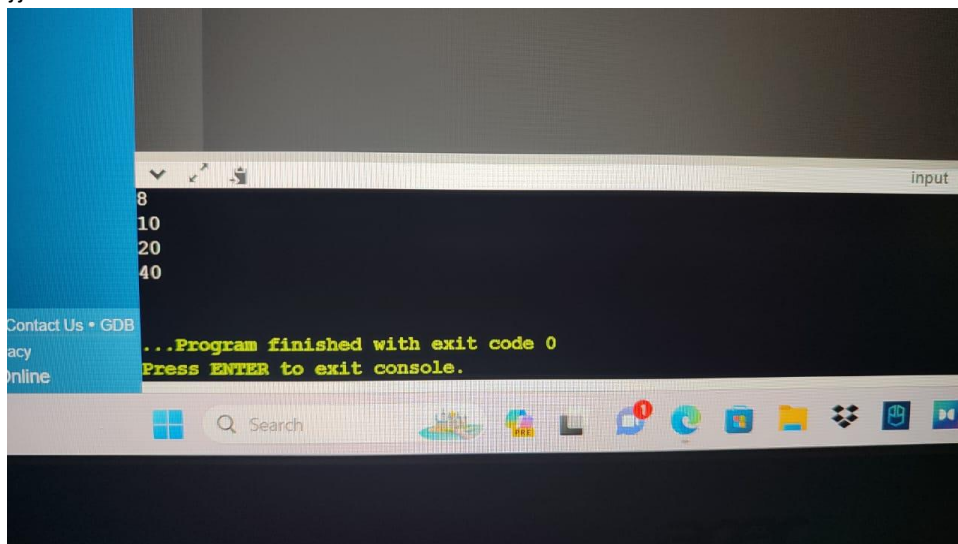
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Task 1:

1. #include <iostream>
2. using namespace std;
3. int main(){
4. int count, num;
5. cout<<"Please Enter a Number to Check Factors: ";
6. cin>>num;
7. for(count=1; count<=num; count++){
8. if(num%count==0){
9. cout<<count<<endl;
10. continue;
11. }
12. }}
13.

1: write the output of the following:
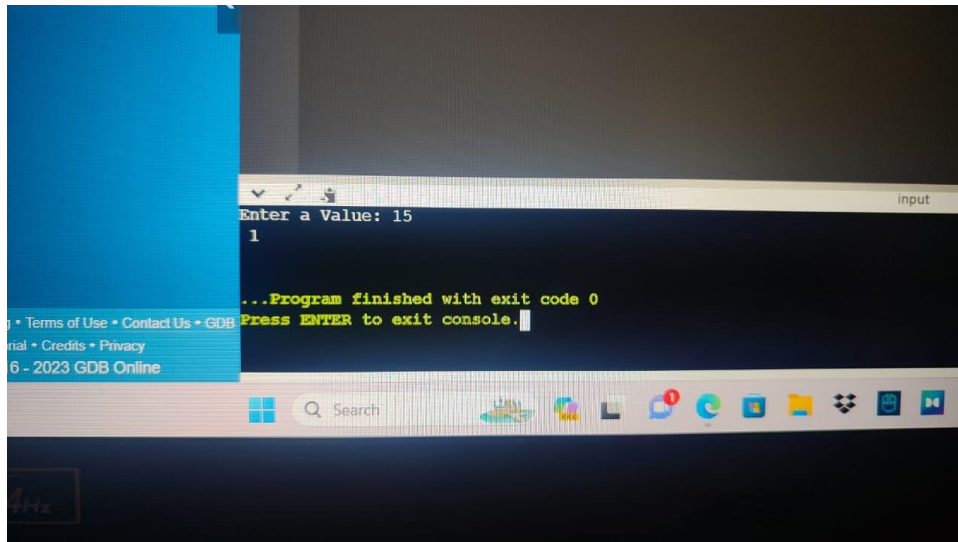
The answer is:

x is 5 and y is 10

Task 3:

```cpp
1. #include <iostream>
2. using namespace std;
3. int main(){
4. int num;
5. bool flag;
6. cout<<"Enter a Value: ";
7. cin>>num;
8. if(num>10 && num<=20){
9. cout<<" 1 "<<endl;
10. }
11. else{
12. cout<<" 0 "<<endl;
13. }}
```

14.

Task 4:

1. ```
#include <iostream>
```
2. `using namespace std;`
3. `int main(){`
4. `int N, i, j;`
5. `bool flag=false;`
6. `cout<<"Enter a Number to Check: ";`
7. `cin>>N;`
8. `i=N;`
9. `while(i>1){`
10. `j=i-1;`
11. `flag=false;`
12. `while(j>1){`
13. `if(i%j==0){`
14. `flag=false;`
15. `break;`
16. `}`
17. `else if(i%j==1){`
18. `flag=true;`
19. `}`
20. `j--;`
21. `}`
22.
23.
24. `if(flag==true){`
25. `cout<<"Largest Prime Number Below "<<N<<" is: "<<i;`

26. break;
27. }
28. i--;
29. }
30. }

```
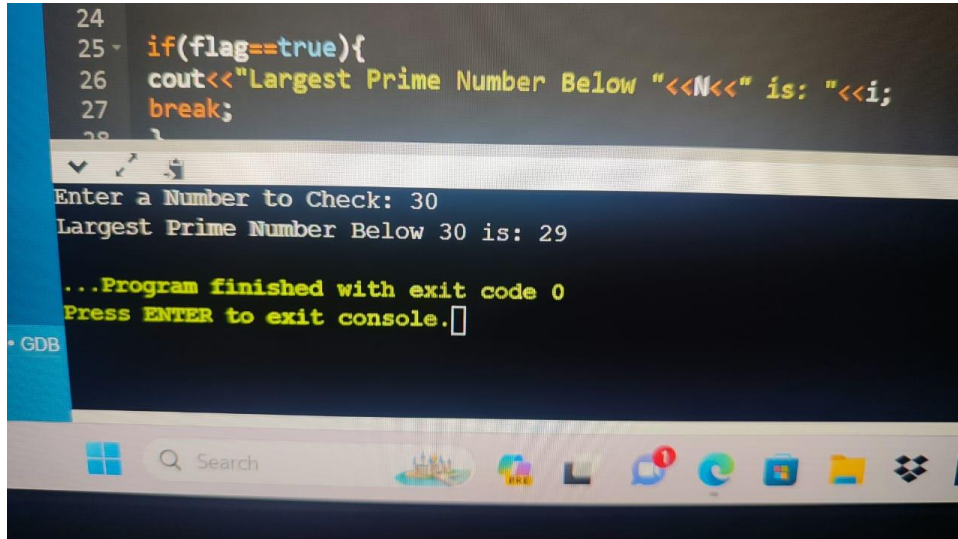24
25 -  if(flag==true){
26     cout<<"Largest Prime Number Below "<<N<<" is: "<<i;
27     break;
28     }
```

Enter a Number to Check: 30
Largest Prime Number Below 30 is: 29

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

• GDB

Q Search

31.

Task 5:

1. #include <iostream>
2. #include <string>
3. using namespace std;
4. int main(){
5. int i, length, j, length1;
6. string letter, letter1;
7. char temp;
8. bool flag=false;
9. cout<<"Enter String 1: ";
10. cin>>letter;
11. cout<<"Enter String 2: ";
12. cin>>letter1;
13. length=letter.length();
14. length1=letter1.length();
15. if(length1==length){
16.
17. for(i=0; i<letter.length(); i++){
18. if(letter[i]==letter1[i]){
19. flag=true;

20. continue;
21. }
22. else{
23. flag=false;
24. cout<<"Both Strings are Not the Same!"<<endl;
25. break;
26. }
27. }
28. if(flag==true){
29. cout<<"Strings are Same, Updating String!"<<endl;
30. length=length-1;
31. for(i=0; i<=length/2; i++){
32. temp=letter[i];
33. letter[i]=letter[length-i];
34. letter[length-i]=temp;
35. }
36.
37. cout<<"Updated String 1: "<<letter;
38. }
39. }
40. else{
41. cout<<"Both Strings are not Equal!";
42. }
43. }

44.

Task 6:

1. #include <iostream>

2.   using namespace std;
3.   int main(){

4. int dividend=0, divisor=1, remainder, qoutient, result, count;
5. while(divisor>dividend){
6. cout<<"Dividend Must be Greater than the Divisor!"<<endl;
7. cout<<"Enter the Dividend: ";
8. cin>>dividend;
9. cout<<"Enter the Divisor: ";
10. cin>>divisor;
11. }
12. for(count=1; count<=dividend; count++){
13. remainder=dividend%divisor;
14. result=(divisor*count)+remainder;
15. if(result==dividend){
16. qoutient=count;
17. break;
18. }
19. }
20. cout<<dividend<<" / "<<divisor<<" = "<<qoutient<<endl;
21. if(remainder>0)
22. {
23. cout<<"The Remainder is: "<<remainder;
24. }
25. return 0;
26. }

27.

Task 7:

1. #include <iostream>
2. #include <string>
3. using namespace std;
4. int main(){

5. string letter, uletter;
6. int len, count, count2;
7. cout<<"Please Enter a Word: ";
8. cin>>letter;
9. uletter=letter;
10. for(count=0; count<letter.length(); count++){
11. tolower(letter[count]);
12. for(count2=count+1; count2<=letter.length(); count2++){
13. if(letter[count]==letter[count2]){
14. letter[count]=' ';
15. letter[count2]=' ';
16.
17. }
18. }
19. }
20. uletter="";
21. for(count=0; count<letter.length(); count++){
22. if(isspace(letter[count])){
23. continue;
24. }
25. else{
26. uletter += letter[count];
27. }
28. }
29. cout<<"New Word is: "<<uletter<<endl;
30. }

```
24    }
25    else{
26    uletter += letter[count];
27    }
28    }
29    cout<<"New Word is: "<<uletter<<endl;
30    }
                                                    input
Please Enter a Word: Hassaan
New Word is: Han


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

31.

Task 8:

1. #include <iostream>

```cpp
using namespace std;
int main(){
    int array[5]={1, 2, 3, 4, 5};
    int array2[5];
    int count, num=2, count2=5;
    for(count=0; count<5; count++){

        array2[count]=array[count];
    }

    while(num!= -1){
        cout<<"Enter Input into Array, Enter -1 to Quit!"<<endl;
        cin>>num;
        if(num==-1){
            break;
        }
        else{

            array2[count2]=num;
            count2++;
        }
    }

    for(count=0; count<=count2-1; count++){

        cout<<array2[count]<<" ";
    }
}
```



```
212
Enter Input into Array, Enter -1 to Quit!
43
Enter Input into Array, Enter -1 to Quit!
12
Enter Input into Array, Enter -1 to Quit!
52
Enter Input into Array, Enter -1 to Quit!
6
Enter Input into Array, Enter -1 to Quit!
2
Enter Input into Array, Enter -1 to Quit!
6
Enter Input into Array, Enter -1 to Quit!
1329
Enter Input into Array, Enter -1 to Quit!
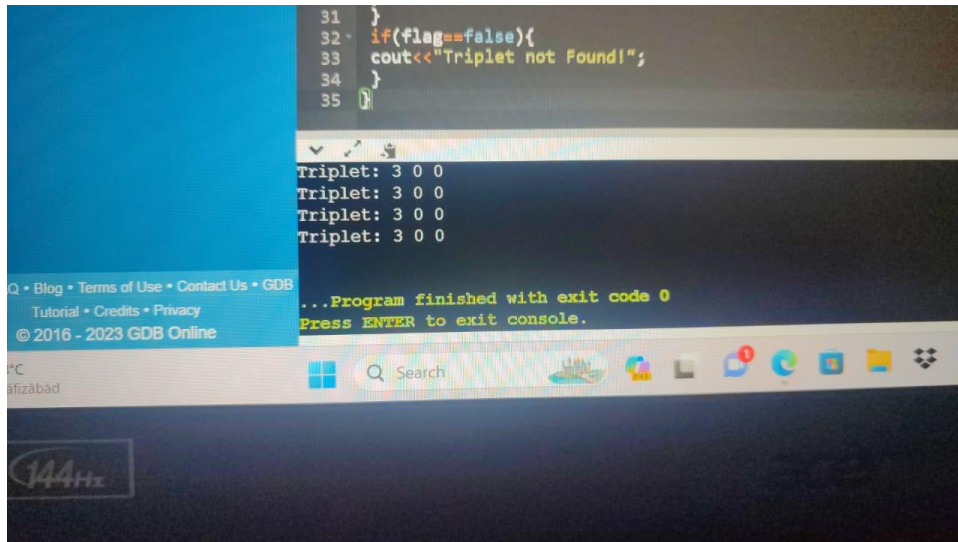-1
1 2 3 4 5 212 43 12 52 6 2 6 1329
--------------------------------------
```

Task 9:

```cpp
#include <iostream>
using namespace std;
int main(){
    int arr[10];
    int X, inp=0, size, i=0;
    bool flag=false;
    while(inp != -1){
        cout<<"Enter a Value for Array, Press -1 to Quit!";
        cin>>inp;
        if(inp==-1){

            break;
        }
        else{
            arr[i]=inp;
            i++;
        }
    }
    cout<<"Enter Number for Which Triplet is Required: ";
    cin>>X;
    size=sizeof(arr)/sizeof(arr[0]);
    for (i = 0; i < size - 2; ++i) {
        for (int j = i + 1; j < size - 1; ++j) {
            for (int k = j + 1; k < size; ++k) {
                if (arr[i] + arr[j] + arr[k] == X) {
                    cout << "Triplet: " << arr[i] << " " << arr[j] << " " << arr[k] << endl;
                    flag=true;
                }
            }
        }
    }
    if(flag==false){
        cout<<"Triplet not Found!";
    }
}
```

```
31     }
32   if(flag==false){
33     cout<<"Triplet not Found!";
34     }
35   }
```

```
Triplet: 3 0 0
Triplet: 3 0 0
Triplet: 3 0 0
Triplet: 3 0 0
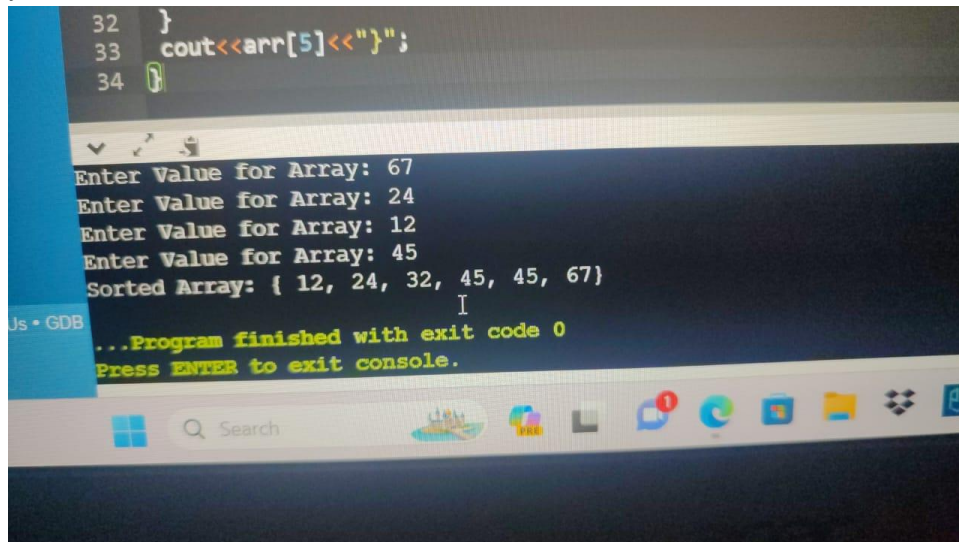
...Program finished with exit code 0
Press ENTER to exit console.
```

36.

Task 10:

```
1.  #include<iostream>
2.  using namespace std;
3.  int main(){
4.  int arr[6];
5.  bool sort=false;
6.  int i,temp;
7.  for(i=0; i<6; i++){
8.  cout<<"Enter Value for Array: ";
9.  cin>>arr[i];
10. }
11. while(sort==false){
12. for(i=0; i<6; i++){
13. if(arr[i]>arr[i+1]){
14. temp=arr[i];
15. arr[i]=arr[i+1];
16. arr[i+1]=temp;
17. }
18. }
19. for(i=0; i<6; i++){
20. if(arr[i]>arr[i+1]){
21. sort=false;
22. break;
23. }
24. else{
25. sort=true;
26. }
```

27. }
28. }
29. cout<<"Sorted Array: { ";
30. for(i=0; i<5; i++){
31. cout<<arr[i]<<", ";
32. }
33. cout<<arr[5]<<"}";
34. }

```
32      }
33      cout<<arr[5]<<"}";
34    }
```

```
Enter Value for Array: 67
Enter Value for Array: 24
Enter Value for Array: 12
Enter Value for Array: 45
Sorted Array: { 12, 24, 32, 45, 45, 67}

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

35.