

**Fundamentals of programming**

**Lab Assignment:01**

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**Course: ME-15**

**Section: A**

## **Task:01**

- #include<iostream>

using namespace std;

int main()

{

int x,z;

cout<<"Enter any positive integer: ";

cin>>x;

for(z=1;z<=x;z++) {


if(x%z==0) {

cout<<z<<" "<<endl;

}

} cout<<"These are the factors of given integer";

return 0;     )

 C:\Users\Nafeel Javid\OneDrive\Desktop\Dev c++\Assignment-1-1.exe

```
Enter any positive integer: 7
1,
7,
These are the factors of given integer
-----
Process exited after 3.192 seconds with return value 0
Press any key to continue . . .
```

## Task:02

- “x is 5 and y is 10” . This is the output

## Task:03

- #include<iostream>

using namespace std;

int main()

{

```
int x;

bool z;

cout<<"Enter any integer: ";

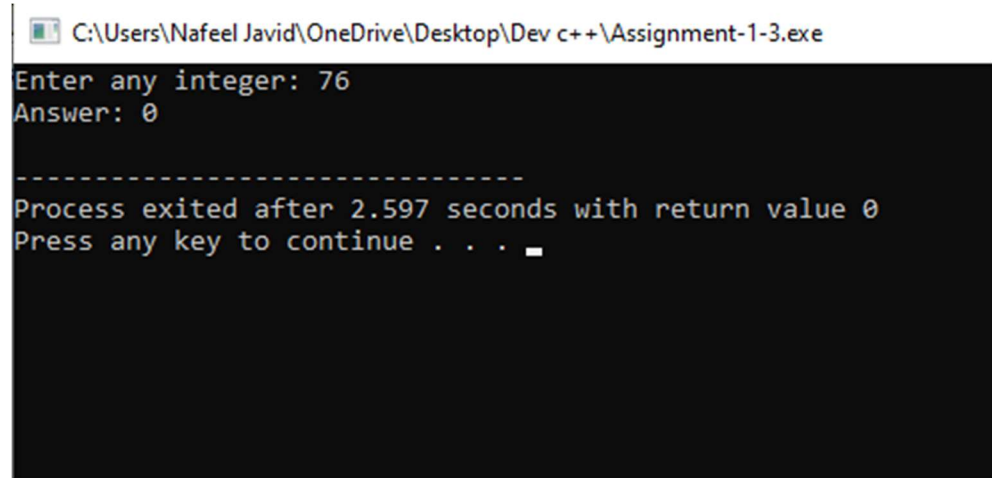
cin>>x;

z=(x>10 && x<=20);

cout<<"Answer: "<<z<<endl;

return 0;

}
```



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Enter any integer: 76  
Answer: 0

-----  
Process exited after 2.597 seconds with return value 0  
Press any key to continue . . .

## Task:04

- #include<iostream>

using namespace std;

int main()

{

int num,rem,y;

bool prime=true;

cout<<"Enter the value of num:";

cin>>num;

for(int i=2;i<=num;i++)

{

for(int j=2;j<num;j++)

{

if(i!=j)

```
{  
  
    rem=i%j;  
  
    if(rem!=0)  
  
    {  
  
        prime=true;  
  
        continue;  
  
    }  
  
    else  
  
    {prime=false;  
  
    break;  
  
    }  
  
    }  
  
    }  
  
    }  
  
    if(prime)  
  
    {y=i;
```

```
}
```

```
}
```

```
cout<<"Largest prime number less than or equal to num "<<num<<" is :"<<y;
```

```
return 0;
```

```
}
```

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```
Enter the value of num:34
Largest prime number less than or equal to num 34 is :31
-----
Process exited after 1.88 seconds with return value 0
Press any key to continue . . .
```

## Task:05

```
• #include<iostream>
```

```
#include<algorithm>
```

```
using namespace std;
```

```
int main() {
```

```
string s1;
```

```
string s2;
```

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

```
cin>>s1;
```

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

```
cin>>s2;
```

```
if(s1==s2){
```

```
    rotate(s2.begin(), s2.begin()+1, s2.end());
```

```
    cout<<"Hence after rotation: "<<s2;
```

```
}
```

```
else {
```

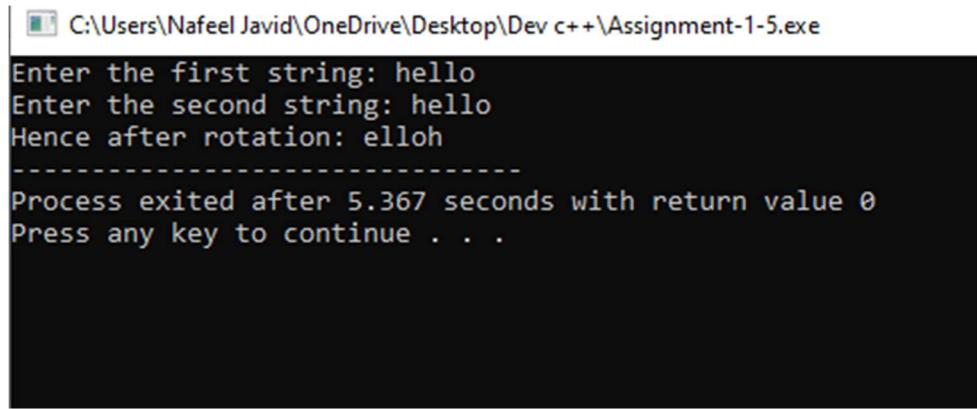
```
    cout<<"The strings are already unequal";
```

```
}
```

```
return 0;
```



}



```
C:\Users\Nafeel Javid\OneDrive\Desktop\Dev c++\Assignment-1-5.exe
Enter the first string: hello
Enter the second string: hello
Hence after rotation: elloh
-----
Process exited after 5.367 seconds with return value 0
Press any key to continue . . .
```

## Task:06

- #include<iostream>

using namespace std;

int main() {

int x,y,z(0);

cout<<"Enter the divisor: ";

cin>>y;

cout<<"Enter the dividend: ";

```
cin>>x;
```

```
if(x>y){
```

```
    while(x>=y){
```

```
        x-=y;
```

```
        z++;
```

```
    }
```

```
    cout<<"Answer: "<<z;
```

```
}
```

```
else
```

```
    cout<<"Divisor is greater than dividend";
```

```
    return 0;
```

```
)
```

```
C:\Users\Nafeel Javid\OneDrive\Desktop\Dev c++\Assignment-1-6.exe
Enter the divisor: 5
Enter the dividend: 25
Answer: 5
-----
Process exited after 8.929 seconds with return value 0
Press any key to continue . . .
```

## Task:07

- #include <iostream>

#include <string>

using namespace std;

int main() {

    string x;

    cout << "Enter a string: ";

    cin >> x;

```
int z[256] = {0};
```

```
for(char ch:x)
```

```
{
```

```
    z[tolower(ch)]++;
```

```
}
```

```
string y= " ";
```

```
for (char ch:x)
```

```
{
```

```
    if (z[tolower(ch)]!=0)
```

```
    {
```

```
        y= y+ch;
```

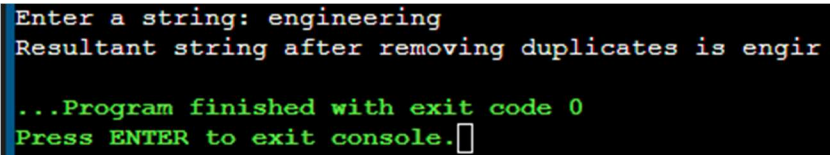
```
        z[tolower(ch)]=0;
```

```
    }
```

```
}
```

```
cout << "Resultant string after removing duplicates is " << y;
```

```
return 0 ;  
  
}
```

A screenshot of a console window with a black background and a blue vertical bar on the left. The text is displayed in a monospaced font. The first two lines are in red, the third in green, and the fourth in white. The text reads: "Enter a string: engineering", "Resultant string after removing duplicates is engir", "...Program finished with exit code 0", and "Press ENTER to exit console." followed by a cursor icon.

```
Enter a string: engineering  
Resultant string after removing duplicates is engir  
...Program finished with exit code 0  
Press ENTER to exit console.
```

## Task:08

```
• #include<iostream>
```

```
using namespace std;
```

```
int main(){
```

```
    int a[5]={1,2,3,4,5};
```

```
    int x=5;
```

```
    int ele[]={6,7,8,9,10};
```

```
    int y=10;
```

```
cout<<"The new array is: ";

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

    if(i<x) {

        cout<<a[i]<<" ";

    }

    else{

        cout<<ele[i-x]<<" ";


    }

}

cout<<endl;

return 0;

}
```

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The new array is: 1 2 3 4 5 6 7 8 9 10

-----

Process exited after 0.08249 seconds with return value 0

Press any key to continue . . .

## Task:09

- #include<iostream>

using namespace std;

int main() {

int ary[10]={1,2,3,4,5,6,7,8,9,10};

int x;

```
cout<<"Enter the values: ";
```

```
cin>>x;
```

```
for(int i=0;i<=10;i++) {
```

```
    for(int j=0;j<=10;j++) {
```

```
        for(int y=0;y<=10;y++) {
```

```
            if(ary[i]+ary[j]+ary[y]==x){
```

```
                cout<<ary[i]<<" "<<ary[j]<<" "<<ary[y]<<endl;
```

```
            }
```

```
        }
```

```
    }
```

```
    } return 0;
```

```
}
```



C:\Users\Nafeel Javid\OneDrive\Desktop\Dev c++\Assignment-1-9.exe

Enter the values: 8

```
1 1 6
1 2 5
1 3 4
1 4 3
1 5 2
1 6 1
2 1 5
2 2 4
2 3 3
2 4 2
2 5 1
3 1 4
3 2 3
3 3 2
3 4 1
4 1 3
4 2 2
4 3 1
5 1 2
5 2 1
6 1 1
```

-----  
Process exited after 1.481 seconds with return value 0  
Press any key to continue . . .

## Task:10

- #include<iostream>

using namespace std;

int main()

{

```
int n,a[n];
```

```
cout<<"Enter the value of n:";
```

```
cin>>n;
```

```
int x;
```

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

```
{
```

```
cin>>a[i];
```

```
}
```

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

```
{
```

```
    for(int j=0;j<n-1;j++)
```

```
    {
```

```
        for(int k=j;k<=j+1;k++)
```

```
        {
```

```
            if(a[j]>a[k])
```

```
        {  
  
            x=a[j];  
  
            a[j]=a[k];  
  
            a[k]=x;  
  
        }  
  
    }  
  
}  
  
}  
  
for(int m=0;m<n;m++)  
  
{  
  
    cout<<a[m]<<" ";  
  
}  
  
  
return 0;  
  
}
```

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Enter the value of n:4

5

6


7

4

4 5 6 7

-----

Process exited after 4.715 seconds with return value 0

Press any key to continue . . . 

---