

Assignment#2

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SEC: ME-15(A)

Course title: fundamentals of programming(lab)

Home task #1:

```
#include<iostream>

using namespace std;

int main()
{
    int score;

    //input the student's score
    cout<<"enter score: ";
    cin>>score;

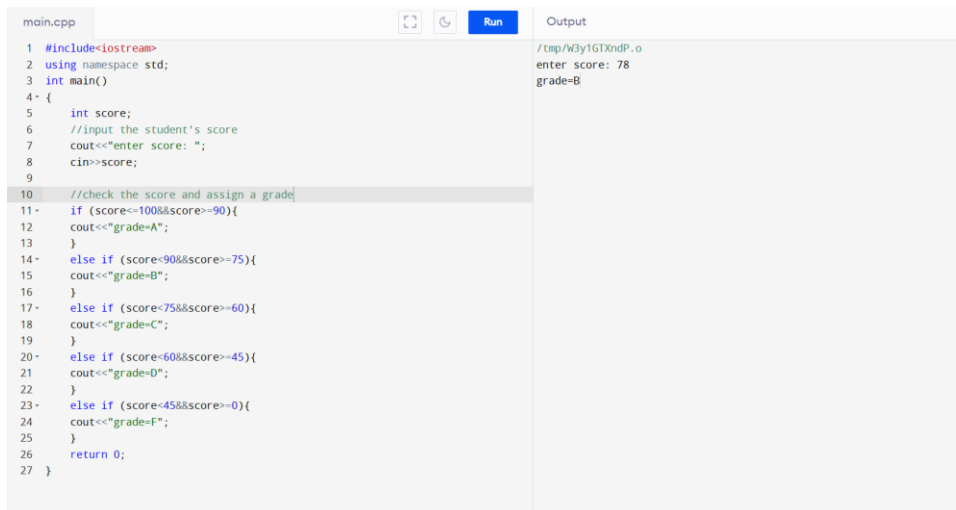
    //check the score and assign a grade
    if (score<=100&&score>=90){
        cout<<"grade=A";
    }
    else if (score<90&&score>=75){
        cout<<"grade=B";
    }
    else if (score<75&&score>=60){
        cout<<"grade=C";
    }
    else if (score<60&&score>=45){
        cout<<"grade=D";
    }
    else if (score<45&&score>=0){
        cout<<"grade=F";
    }
}
```

```

    }

    return 0;
}

```



```

main.cpp
1  #include<iostream>
2  using namespace std;
3  int main()
4  {
5      int score;
6      //input the student's score
7      cout<<"enter score: ";
8      cin>>score;
9
10     //check the score and assign a grade
11     if (score<=100&&score>=90){
12         cout<<"grade=A";
13     }
14     else if (score<90&&score>=75){
15         cout<<"grade=B";
16     }
17     else if (score<75&&score>=60){
18         cout<<"grade=C";
19     }
20     else if (score<60&&score>=45){
21         cout<<"grade=D";
22     }
23     else if (score<45&&score>=0){
24         cout<<"grade=F";
25     }
26     return 0;
27 }

```

Output

```

/tmp/h3y1GTxndP.o
enter score: 78
grade=B

```

Home task #2:

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int a,result1,result2;
```

```
    cout<<"Enter a number:";
```

```
    cin>>a;
```

```
    result1=a % 2;
```

```
//taking remainder of number divided by 2,if remainder is 0 the number is even
```

```
    result2=a % 5;
```

```
//taking remainder of number divided by 5 , if remainder is 0 it is divisible by 5
```

```
    if(result1==0&&result2==0)
```

```
{
```

```

cout<<"The number is even and divisible by 5";
}

else if(result1==0&&result2!=0)
{
cout<<"The number is even but not divisible by 5";
}

else if(result1!=0&&result2==0)
{
cout<<"The number is not even but divisible by 5";
}

else
{
cout<<"The number is neither even nor divisible by 5"<<endl;
}

return 0;
}

```

The screenshot shows a C++ IDE with a file named 'main.cpp'. The code is a program that checks if a number is even and divisible by 5, even but not divisible by 5, not even but divisible by 5, or neither. The user has entered the number 70, and the output shows that the number is even and divisible by 5.

```

main.cpp
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     int a,result1,result2;
6     cout<<"Enter a number:";
7     cin>>a;
8     result1=a % 2;
9     //taking remainder of number divided by 2,if remainder is 0 the number is even
10    result2=a % 5;
11    //taking remainder of number divided by 5 , if remainder is 0 it is divisible
    by 5
12    if(result1==0&&result2==0)
13    {
14        cout<<"The number is even and divisible by 5";
15    }
16    else if(result1==0&&result2!=0)
17    {
18        cout<<"The number is even but not divisible by 5";
19    }
20    else if(result1!=0&&result2==0)
21    {
22        cout<<"The number is not even but divisible by 5";
23    }
24    else
25    {
26        cout<<"The number is neither even nor divisible by 5"<<endl;
27    }
28    return 0;
29 }

```

Output

```

/tmp/h3y1GTXndP.o
Enter a number:70
The number is even and divisible by 5

```

Home task #3:

```

#include<iostream>

using namespace std;

int main()
{
    int year,result;
    cout<<"Enter year:";
    cin>>year;
    result=year % 4;
    //taking remained of entered year by 4, if the year is leap year the remainder is 0
    if(result==0)
    {
        cout<<"It is a leap year";
    }
    else
    {
        cout<<"It is not a leap year";
    }
    return 0;
}

```

<pre> 1 #include<iostream> 2 using namespace std; 3 int main() 4 { 5 int year,result; 6 cout<<"Enter year:"; 7 cin>>year; 8 result=year % 4; 9 //taking remained of entered year by 4, if the year is leap year the remainder is 0 10 if(result==0) 11 { 12 cout<<"It is a leap year"; 13 } 14 else 15 { 16 cout<<"It is not a leap year"; 17 } 18 return 0; 19 } </pre>	<pre> /tmp/W3y1GTXndP.o Enter year:2023 It is not a leap year </pre>
--	--

Home task #4:

```
#include<iostream>

using namespace std;

int main()
{
    float gpa,attendance;
    cout<<"Enter GPA:";
    cin>>gpa;
    cout<<"Enter attendance:";
    cin>>attendance;

    //if the student falls in the criteria the condition will be true
    if(gpa>=3.5&&attendance>=80)
    {
        cout<<"Student is eligible for scholarship"<<endl;
    }

    //if the student falls out of the criteria the condition will be false
    else
    {
        cout<<"Student is not eligible for scholarship"<<endl;
    }

    return 0;
}
```

```
main.cpp
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     float gpa,attendance;
6     cout<<"Enter GPA:";
7     cin>>gpa;
8     cout<<"Enter attendance:";
9     cin>>attendance;
10    //if the student falls in the criteria the condition will be true
11    if(gpa>=3.5&&attendance>=80)
12    {
13        cout<<"Student is eligible for scholarship"<<endl;
14    }
15    //if the student falls out of the criteria the condition will be false
16    else
17    {
18        cout<<"Student is not eligible for scholarship"<<endl;
19    }
20    return 0;
21 }
```

Output

```
/tmp/K3y1GTxndP.o
Enter GPA:4
Enter attendance:100
Student is eligible for scholarship
```

Home task #5:

```
include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
char letter,a,e,i,o,u;
```

```
cout<<"Enter a letter:";
```

```
cin>>letter;
```

```
if(letter=='a' || letter=='e' || letter=='i' || letter=='o' || letter=='u')
```

```
//if letter entered is a vowel then condition will be true
```

```
{
```

```
cout<<"Letter is a vowel"<<endl;
```

```
}
```

```
//if letter entered is a letter other than the vowels(a,e,i,o,u) then condition will be false
```

```
else
```

```
{
```

```
cout<<"Letter is a consonant"<<endl;
```

}

return 0;

}

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main.cpp

Run

```
1 #include<iostream>
2 using namespace std;
3 int main()
4 {
5     char letter,a,e,i,o,u;
6     cout<<"Enter a letter:";
7     cin>>letter;
8     if(letter=='a' || letter=='e' || letter=='i' || letter=='o' || letter=='u')
9         //if letter entered is a vowel then condition will be true
10    {
11        cout<<"Letter is a vowel"<<endl;
12    }
13    //if letter entered is a letter other than the vowels(a,e,i,o,u) then condition
        will be false
14    else
15    {
16        cout<<"Letter is a consonant"<<endl;
17    }
18    return 0;
19 }
```

Output

/tmp/W3y1GTxndP.o
Enter a letter:r
Letter is a consonant