



CS-114 - Fundamental of Programing

Lab Manual # 02

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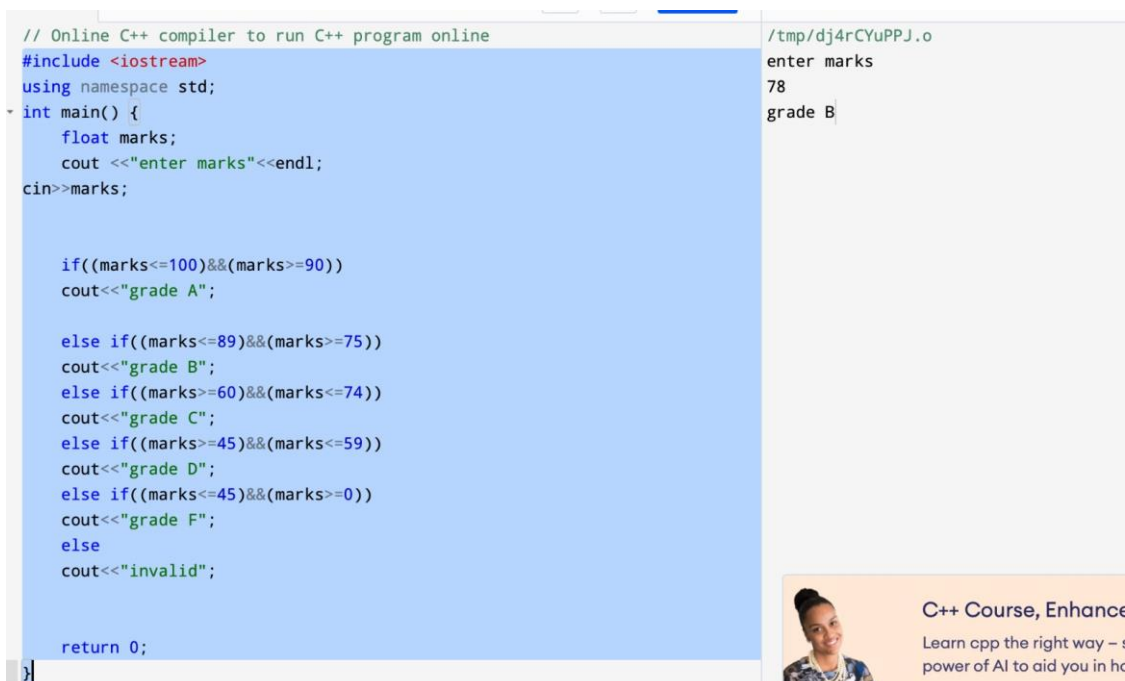
TASK 1:

```
#include <iostream>
using namespace std;
int main() {
    float marks;
    cout << "enter marks" << endl;
    cin >> marks;

    if((marks <= 100) && (marks >= 90))
        cout << "grade A";

    else if((marks <= 89) && (marks >= 75))
        cout << "grade B";
    else if((marks >= 60) && (marks <= 74))
        cout << "grade C";
    else if((marks >= 45) && (marks <= 59))
        cout << "grade D";
    else if((marks <= 45) && (marks >= 0))
        cout << "grade F";
    else
        cout << "invalid";

    return 0;
}
```



The screenshot shows an online C++ compiler interface. The left pane contains the C++ code for calculating a grade based on marks. The right pane shows the output of the program, which is 'grade B' after entering '78'. At the bottom right, there is a promotional banner for a C++ course.

```
// Online C++ compiler to run C++ program online
#include <iostream>
using namespace std;
int main() {
    float marks;
    cout << "enter marks" << endl;
    cin >> marks;

    if((marks <= 100) && (marks >= 90))
        cout << "grade A";

    else if((marks <= 89) && (marks >= 75))
        cout << "grade B";
    else if((marks >= 60) && (marks <= 74))
        cout << "grade C";
    else if((marks >= 45) && (marks <= 59))
        cout << "grade D";
    else if((marks <= 45) && (marks >= 0))
        cout << "grade F";
    else
        cout << "invalid";

    return 0;
}
```

/tmp/dj4rCYuPPJ.o
enter marks
78
grade B

C++ Course, Enhance
Learn cpp the right way – t
power of AI to aid you in hc



TASK 2:

```
#include <iostream>
using namespace std;

int main() {
    int y;
    cout<<"enter a number";
    cin>>y;
    if((y%2==0)&&(y%5==0))
        cout<<" "<<y<<"is divisible by 2 and 5";
    else
        cout<<"not divisible by2 and 5 ";

    return 0;
}
```

<pre>1 // Online C++ compiler to run C++ program online 2 #include <iostream> 3 using namespace std; 4 5 6 int main() { 7 int y; 8 cout<<"enter a number"; 9 cin>>y; 10 if((y%2==0)&&(y%5==0)) 11 cout<<" "<<y<<"is divisible by 2 and 5"; 12 else 13 cout<<"not divisible by2 and 5 "; 14 15 return 0; 16 }</pre>	<pre>/tmp/flTfcN9TLv.o enter a number1000 1000is divisible by 2 and 5</pre>
---	---

TASK 3:

```
#include <iostream>
using namespace std;

int main() {
    int year;
    cout<<"enter a year";
    cin>>year;
    if (year%4==0)
        cout << "this is a leap year";
    else
        cout <<"this is not a leap year";

    return 0;
}
```



```

1 // Online C++ compiler to run C++ program online
2 #include <iostream>
3 using namespace std;
4
5
6 int main() {
7     int year;
8     cout<<"enter a year";
9     cin>>year;
10    if (year%4==0)
11        cout << "this is a leap year";
12    else
13        cout <<"this is not a leap year";
14
15
16
17    return 0;
18 }
    
```

/tmp/flTfcN9TLv.o
enter a year2026
this is not a leap year

TASK 4:

```
#include <iostream>
```

```
#include<math.h>
```

```
using namespace std;
```

```
int main(){
```

```
float x;
```

```
float y;
```

```
cout<<" GPA ";
```

```
cin>> x;
```

```
cout<< "Attendance percentage";
```

```
cin>> y;
```

```
if( x>= 3.5 && y>=80)
```

```
cout<<"the student is eligible for scholarship";
```

```
else cout<<"the student is not eligible for scholarship";
```

```
return 0;}
```

```

main.cpp
1 #include <iostream>
2 #include<math.h>
3 using namespace std;
4 int main(){
5     float x;
6     float y;
7     cout<<" GPA ";
8     cin>> x;
9     cout<< " Attendance percentage ";
10    cin>> y;
11    if( x>= 3.5 && y>=80)
12    { cout<<" student is eligible for scholarship";}
13    else { cout<<" student is not eligible for scholarship"; }
14    return 0; }
15
    
```

/tmp/V5hIMaE4tc.o
GPA 3.9
Attendance percentage 99
student is eligible for scholarship



TASK 5:

```
#include <iostream>
using namespace std;
int main() {
    char x;
    cout << "enter a letter";
    cin >> x;

    if ((x=='a')||(x=='i')||(x=='e')||(x=='o')||(x=='u'))
        cout << "this letter is a vowel";
    else
        cout << "this is not a vowel";

    return 0;
}
```

main.cpp	Output
<pre>1 // Online C++ compiler to run C++ program online 2 #include <iostream> 3 using namespace std; 4 int main() { 5 char x; 6 cout << "enter a letter"; 7 cin >> x; 8 9 if ((x=='a') (x=='i') (x=='e') (x=='o') (x=='u')) 10 cout << "this letter is a vowel"; 11 else 12 cout << "this is not a vowel"; 13 14 15 16 17 return 0; 18 }</pre>	<pre>/tmp/V5hIMaE4tc.o enter a letter h this is not a vowel</pre>