

Question 1:

Some school implements the following marking scheme:

```
=====
Numerical grades between 95 and 100 (both inclusive) => Letter grade A+
Numerical grades between 90 and 94 => Letter grade A
Numerical grades between 85 and 89 => Letter grade A-
Numerical grades between 80 and 84 => Letter grade B
Numerical grades between 70 and 79 => Letter grade C
Numerical grades between 60 and 69 => Letter grade D
Numerical grades less than 60 => Letter grade F
=====
```

Implement a program which obtains from the user the numerical grade (as in integer) and which outputs the equivalent letter grade.

Answer:

```
#include <stdio.h>
#include <cmath>
#include <iostream>
using namespace std;
int main()
{
    int n;
    cout << "enter the grade";
    cin >> n;
    if( n >=95 && n<= 100)
    {cout << "your equivalent letter grade is A+";}
    else if( n>= 90 && n<= 94)
    {cout << "your equivalent letter grade is A";}
    else if( n>=85 && n<=89)
    {cout << "your equivalent letter grade is A-";}
    else if( n>=80 && n<=84)
    {cout << "your equivalent letter grade is B";}
    else if( n>=70 && n<=79)
    {cout << "your equivalent letter grade is C";}
}
```

```

else if(n>=60 && n<=69)
{cout <<"your equivalent letter grade is D";}
else if( n< 60 )
{cout <<"your equivalent letter grade is F";}
return 0;
}

```

Question 2:

The academic performance evaluation of a school implements the following rules :

1) When the average of the current term is greater than or equal to 5, the student is in “Good Standing”

2) When the average of the current term is less than 5:

i) When the average of the current term is less than 3, the student is “Dismissed” from program.

ii) When the average of the current term is greater than or equal to 3, and when the average of the previous term is greater than or equal to 5, the student is on “Probation”

iii) When the average of the previous term is less than 5, the student is on “Academic Warning”

Implement a program which gets the average of current term and the one from the previous term and which outputs one of the following academic performance evaluation result : “Good Standing”, “Dismissed”, “Probation”, “Academic Warning”.

The averages must be a decimal value between 0 and 10 (inclusive). The user may enter negative values or values greater than 10. If at least one input is invalid, output the messages : “Average must between 0 and 10”; in such case, do not output any academic performance evaluation result.

Answer:

```

#include <stdio.h>
#include <cmath>
#include <iostream>
using namespace std;
int main()
{
    int tc;
    int tp;

```

```
cout<<"enter the value for your current term";
cin>>tc;

if(tc<0 || tc>10)
{cout<<"Average must between 0 and 10";}

else if(tc>= 5)
{cout<<"Good Standard";}

else if(tc<3)
{cout<<"Dismissed";}

else
cout<<"enter the value for your previous term";
cin>> tp;

if(tp<0 || tp>10)
{cout<<"Average must between 0 and 10";}

else if(tc>=3 && tp>=5)
{cout<<"Probation";}

if(tp<5)
{cout << "Academic warning";}

return 0;
}
```

Question 3:

A date is defined with 3 variables: year, month, day (e.g., Year=2019, month=2, day=1, which is February 1, 2019). Write a program which gets two dates (year1, month1, day1 and year2, month2, day2) and which compares the two dates and outputs one of the messages:

- "Date 1 is before Date 2"
- "Date 1 is after Date 2"
- "Both dates are the same"

Example : year1=2019, month1=3, day1=12 (i.e. March 12, 2019), year2=2019, month2=4, day2=12 (i.e. April 12, 2019). Then the program should output : "Date 1 is before Date 2".

Answer:

```
#include <stdio.h>
#include <cmath>
#include <iostream>
using namespace std;
int main()
{
    int day1;
    int day2;
    int month1;
    int month2;
    int year1;
    int year2;

    cout<<"enter year1";
    cin>>year1;
    cout<<"enter month1";
    cin>>month1;
    cout<<"enter day1";
    cin>>day1;

    cout<<"enter year2";
    cin>>year2;
    cout<<"enter month2";
```

```
cin>>month2;
cout<<"enter day2";
cin>>day2;

if(year1>year2)
{cout<<"Date 1 is after Date 2";}
else if(year1<year2)
{cout<<"Date 1 is before Date 2";}

else if (year1==year2 && month1>month2)
{cout<<"Date 1 is after Date 2";}

else if(year1==year2 && month1==month2 && day1>day2)
{cout<<"Date 1 is after Date 2";}

else
cout<<"Date 1 is before Date 2";

return 0;
}
```