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

int main() {
    //Task1: Takes student marks as input and assigns grades
    int marks;
    cout << "Enter the student's marks: ";
    cin >> marks;
    if (marks >= 90 && marks <= 100)  //Gives an A grade if the marks are in range
of 90-100
    {
        cout << "The grade is A";
    }
    else if (marks < 90 && marks >= 75)  //Gives a B grade if the marks are in range
of 75-90, with 90 not included.
    {
        cout << "The grade is B";
    }
    else if (marks < 75 && marks >= 60) //Gives a C grade if the marks are in range
of 60-75, with 75 not included
    {
        cout << "The grade is C";
    }
    else if (marks < 60 && marks >= 45) //Gives a D grade if the marks are in range
of 45-60, with 60 not included
    {
        cout << "The grade is D";
    }
    else if (marks < 45 && marks >= 0) //Gives an F grade if the marks are less than
45
    { cout << "The grade is F"; }

    else { cout << "The marks cannot be less than 0 or greater than 100"; } //This
is if the marks entered by the user are in negative or greater than 100, as max
marks are 100 and minimum 0
    cout << "" << endl;  //This is used after every task is complete, so that the
new task is coded in a new line.

    //Task2: Checks to see if a given number is divisible by 5 and 2
    int a;
    cout << "Enter a number ";
    cin >> a;
    if (a % 5 == 0 && a % 2 == 0) //Checks if the number is divisible by both 2 and
5
    {
        cout << "The number is both even and divisible by 5 ";
    }
    else if (a % 5 == 0)  //This is run only if the previous statement of it being
divisible by both 5 and 2 is false; checks if it's divisible by 5 ONLY
    {
        cout << "The number is only divisible by 5";
    }
    else if (a % 2 == 0)  //Checks if the number is divisible by 2 ONLY
    {
        cout << "The number is even ";
    }
    else { cout << "This number is neither even or divisible by 5"; } //This is the
output if the given number is neither divsible by 2 or 5
```

```
    cout << "" << endl;

    //Task3: Code for checking if a given year is a leap year
    int year;
    cout << "Enter a year: ";
    cin >> year;
    if (year % 4 == 0 && year % 100 != 0) //The given year can only be a leap year
if it's evenly divisible by 4, as in it gives 0 as remainder when divided by 4. And
with the exception of year 2000, the given year must also not be divisible by 100 at
the same time.
    {
        cout << year << " is a leap year";
    }
    else if (year % 400 == 0 && year % 100 == 0) //The given year is a leap year if
it's divisible by both 400 and 100 with remainder 0.
    {
        cout << year << " is a leap year";
    }
    else { cout << year << " is not a leap year"; }

    cout << "" << endl;
    //Task4: Checks if the student's GPA and attendance qualify for a scholarship
    float gpa, attendance; //float values are taken as gpa and attendance usually
are in float.
    cout << "Enter the student's GPA: ";
    cin >> gpa;
    cout << "Enter the attendance in percentage: ";
    cin >> attendance;
    if (gpa >= 3.5 && attendance >= 80.0) //Only eligible for the scholarship if gpa
is greater than 3.5 and attendance is greater than 80%
    {
        cout << "The student is eligible for a scholarship";
    }
    else { cout << "The student is not eligible for a scholarship"; }
    cout << "" << endl;

    //Task5: Checks to see if a given character/alphabet is a vowel
    char vowel; //data type is in char so that the program only takes a single
character as input
    cout << "Enter a character: ";
    cin >> vowel;
    //The input characters can either be in small or uppercase letters, so the vowel
is set equal to both lowercase and uppercase vowels.
    if (vowel == 'a' || vowel == 'e' || vowel == 'i' || vowel == 'o' || vowel == 'u'
|| vowel == 'A' || vowel == 'E' || vowel == 'I' || vowel == 'O' || vowel == 'U')
    {
        cout << vowel << " is a vowel";
    }
    else { cout << vowel << " is a consonant"; }


    return 0;

}
```