

Fundamentals of Programming

Home Task: 2

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Section: B

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Task:1

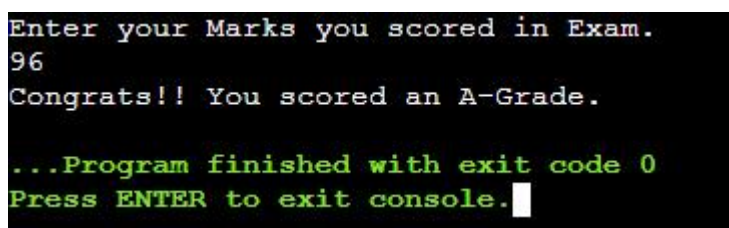
Code:

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

int main() {
    int marks;
    cout<<"Enter your Marks you scored in Exam."<<endl;
    cin>> marks;
    if(marks>=90 && marks<=100)
    {cout<<"Congrats!! You scored an A-Grade.";}
    else if(marks>=75 && marks<90)
    {cout<<"Congrats! You scored a B-Grade.";}
    else if(marks>=60 && marks<75)
    {cout<<"Great! You scored a C-Grade.";}
    else if(marks>=45 && marks<60)
    {cout<<"You scored a D-Grade.";}
    else if(marks>=0 && marks<45)
    {cout<<"F-Grade! You have Failed the Exam better luck next time.";}
    else{cout<<"Invalid Response. Enter correct Marks.";}

    return 0;
}
```

Output:



```
Enter your Marks you scored in Exam.
96
Congrats!! You scored an A-Grade.
...Program finished with exit code 0
Press ENTER to exit console.
```

Explanation:

The Program starts with identifying marks as an integer. Then the user inputs their Marks which are then if else function which checks its value to determine whether it lies within the given parameters. The if command uses AND function. In the end the else functions denies all the values which do not lie between 0 and 100.

Task: 2

Code:

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

int main() {
    int x;
    cout<<"Enter any Number."<<endl;
    cin>>x;
    if(x%2==0 && x%5==0){
        cout<<"This number is Even and is Divisible by 5.>";}

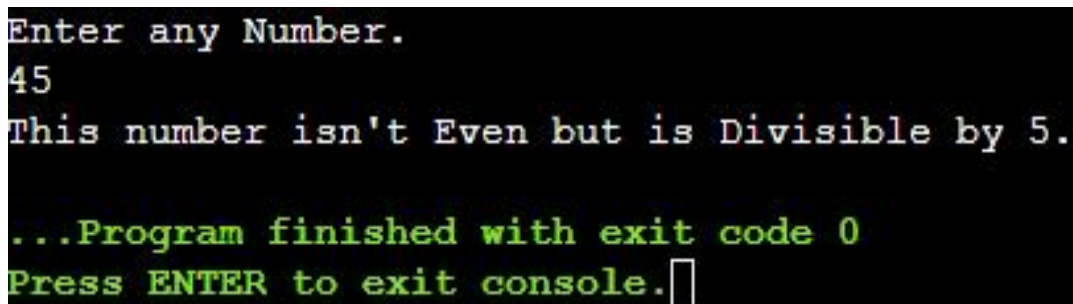
    else if(x%2==0){
        cout<<"This number is Even but isn't Divisible by 5.>";}

    else if(x%5==0){
        cout<<"This number isn't Even but is Divisible by 5.>";}

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

    return 0;
}
```

Output:



```
Enter any Number.
45
This number isn't Even but is Divisible by 5.

...Program finished with exit code 0
Press ENTER to exit console.□
```

Explanation:

This code starts with taking any number as input from the user. It then uses the Modulus function within the if function which gives the output as the remainder after division which helps in figuring if it is an even by modulus with 2. The Modulus is also used to figure if number is divisible by 5 if the remainder is 0.

Task: 3

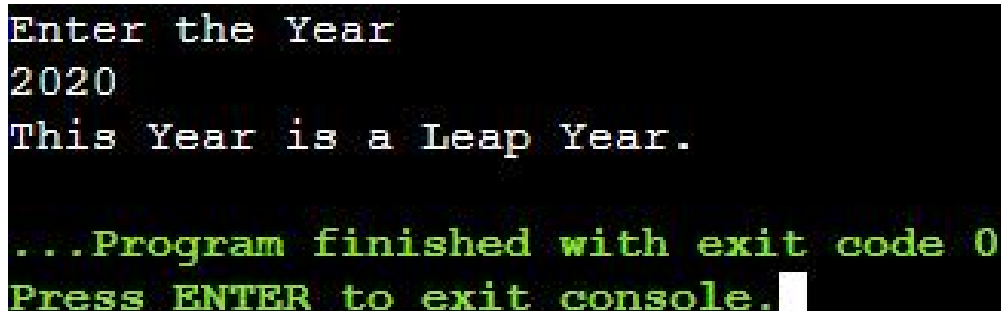
Code:

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

int main() {
    int year;
    cout<<"Enter the Year"<<endl;
    cin>>year;
    if(year % 4 == 0){
        cout<<"This Year is a Leap Year. ";}
    else
        {cout<<"This Year isn't a Leap Year. ";}

    return 0;
}
```

Output:



```
Enter the Year
2020
This Year is a Leap Year.
...Program finished with exit code 0
Press ENTER to exit console.
```

Explanation:

This is a simple code which begins by asking the user any year. Then that value is taken a modulus of by 4 within the if command. If the value of Modulus is 0, that will be a leap year else it won't.

Task: 4

Code:

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

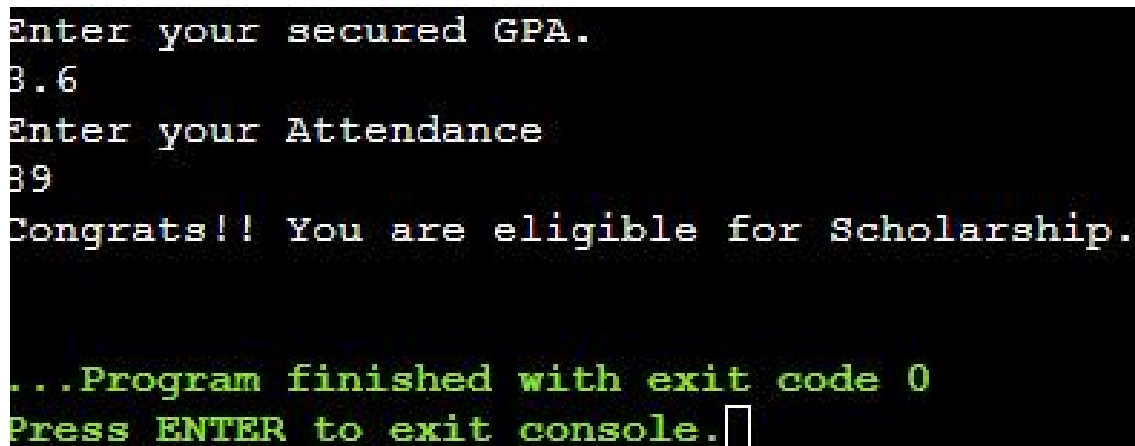
int main() {
    float gpa, attendance;
    cout<<"Enter your secured GPA."<<endl;
    cin>>gpa;

    cout<<"Enter your Attendance"<<endl;
    cin>>attendance;

    if(gpa>=3.5 && attendance>=80) {
        cout<<"Congrats!! You are eligible for Scholarship."<<endl;
    }
    else {
        cout<<"Sorry, You do not meet the requirements for this Scholarship"<<endl;
    }

    return 0;
}
```

Output:



The screenshot shows a terminal window with a black background and white text. It displays the execution of a C++ program. The program prompts the user to enter a GPA and attendance. The user enters 3.6 for GPA and 89 for attendance. The program then outputs a congratulatory message. At the bottom, it shows the program finished with exit code 0 and prompts the user to press ENTER to exit the console.

```
Enter your secured GPA.
3.6
Enter your Attendance
89
Congrats!! You are eligible for Scholarship.

...Program finished with exit code 0
Press ENTER to exit console.
```

Explanation:

This program initiates by asking you to input a GPA and attendance. Then it uses if else command and AND function to ensure that both GPA and attendance values are enough. AND function only works when both the conditions are being

met.

Task: 5

Code:

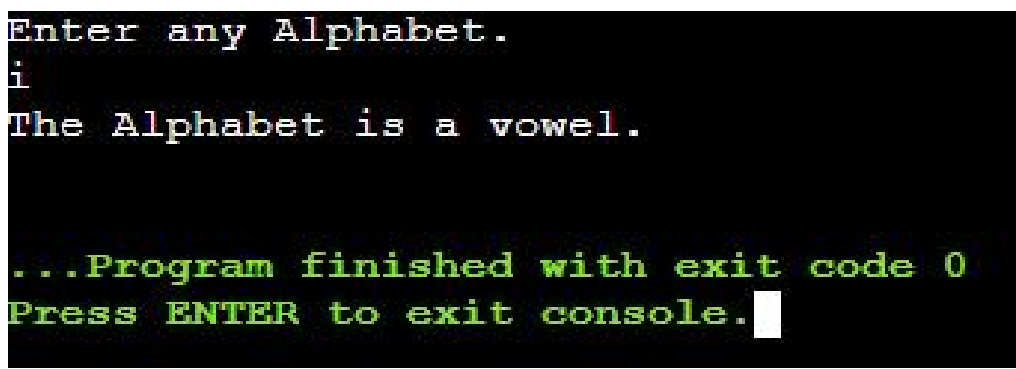
```
#include <iostream>
using namespace std;

int main() {
    char alphabet;
    cout<<"Enter any Alphabet."<<endl;
    cin>>alphabet;

    if(alphabet=='a' || alphabet=='e' || alphabet=='i'
    || alphabet=='o' || alphabet=='u' ){
        cout<<"The Alphabet is a vowel."<<endl;
    } else {cout<<"The Alphabet isn't a vowel";}

    return 0;
}
```

Output:



```
Enter any Alphabet.
i
The Alphabet is a vowel.

...Program finished with exit code 0
Press ENTER to exit console.
```

Explanation:

This Program starts with the char variable type which stores letters. Then user inputs any letter. Which is sent to an if else function which uses OR function to check whether the input value is a vowel. OR function is true even if any value is true in it.