C++ OOP Assignment: Student Grading System

Task Overview:

You are required to implement a student grading system using Object-Oriented Programming (OOP) principles in C++.

This system will manage student information, calculate GPAs, and track academic progress. The solution must incorporate

multiple classes and adhere to the following rules.

Key Requirements:

Classes: You will implement three classes: College, DateOfBirth, and Student.

1. College: This class stores the college's name and location.

2. DateOfBirth: This class stores the day, month, and year of a student's birth.

3. Student: This class contains attributes for the student's name, registration number, course, marks, GPA, and semester.

It must also include a College and DateOfBirth object as attributes.

Attributes:

1. Only the name and regNumber should be public in the Student class.

2. The course, marks, GPA, CGPA, and semester attributes must be private and accessed using getter and setter methods.

3. The initial GPA must be set to 4.5.

GPA Calculation:

You will capture an array of marks for the current semester and calculate the GPA based on these marks.

The CGPA (Cumulative GPA) must be updated after every semester based on the current semester's GPA.

Semester Updates:

A function to track and update the student's current semester should be implemented.

Date of Birth:

The DateOfBirth class must be used to calculate the student's age.

Submission:

1. Algorithm: Before coding, present a clear algorithm that outlines the logic of your program.

2. UML Diagram: Design a UML diagram that shows the relationships between the College, DateOfBirth, and Student classes.

3. GitHub Submission: Submit your code on GitHub, which will be assessed manually.