Project Report

Object Oriented Programming Semester- 2

**Name of Project**: Student Report Card Generator

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**Description**:

The Student Report Card Generator allows the user to enter the name, roll number and marks of one or multiple students for five subjects and then calculates the CGPA of the student(s). The marks obtained in each subject and the CGPA are all entered into a .txt file to keep record of the data.

**Code Explanation**:

The name and roll number of the student is entered through the **Student** class. The **Subject** class, inherited from the Student class, is used to enter the marks (out of 100) for each subject. All the marks are entered into a **vector** using **Dynamic Memory Allocation.** Once all the marks have been entered, the **gradepoint** function is used to set the grade point obtained in each subject. If the marks are less than 40, the grade point allotted is 0. Also if the marks entered are more than 100, the grade point allotted is 0. Once the grade points for all the subjects have been allotted, the **cg** function is used to calculate the CGPA of the student.

In the main() function, all the functions and objects are enclosed in a **while** loop. This is done so that the whole process of data entering can be repeated according to the wish of the user. The main function also includes the **file handling** part which is used to print the entered data into a .txt file.

Once the whole process is completed, if the user wishes to enter the data for another student, then the previous elements of the vector (gpt) are cleared using the gpt.clear() command, so that new data can be entered into the vector.

**Concepts Used**:

1. File Handling
2. Inheritance
3. While Loop
4. Vectors
5. Decision Control Structure( If- Else)

**Future Possible Developments into the Project**

1. Better interface of the Report Card
2. Student Ranking on the basis of their CGPA