

Report : Gradebook Analyser

Course: Python Programming / AIOT / CS Fundamentals

Assignment Title: Build & Document a Mini Project Using GitHub and VS Code

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Programme: B.Tech. CSE (AI &ml)

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Introduction

The **Gradebook Analyzer** is a Python program designed to evaluate student performance based on their marks. It automates the process of assigning grades, calculating averages, and identifying top and bottom performers. This tool is particularly useful for teachers, academic institutions, and students to quickly analyze class performance.

2. Objectives

- To input student names and marks.
- To assign grades according to predefined criteria.
- To calculate the class average.
- To identify the highest and lowest scoring students.
- To list students scoring above the class average.

Grading Criteria

The program uses the following grading scale:

Program Workflow

1. Input Phase

- The user enters the number of students.
- For each student, the program collects their name and marks.

2. Processing Phase

- Grades are assigned using the `get_grade()` function.
- The class average is calculated.
- Highest and lowest marks are determined.

Output Phase

- Displays each student's name, marks, and grade.
- Shows the class average.
- Identifies the top and bottom performers.
- Lists students scoring above average.

Sample Output

```
----- Gradebook Analyzer ----- Enter number of students: 3 Enter name of student 1: Aryan Enter marks of Aryan: 92 Enter name of student 2: Priya Enter marks of Priya: 76 Enter name of student 3: Rahul Enter marks of Rahul: 45 ----- RESULT ----- Aryan : 92.0 -> Grade: A+ Priya : 76.0 -> Grade: B Rahul : 45.0 -> Grade: F Class Average: 71.0 Highest Marks: 92.0 by Aryan Lowest Marks: 45.0 by Rahul Students scoring above average: - Aryan
```

Applications

- **Teachers:** Quick evaluation of class performance.
- **Students:** Self-assessment of grades compared to peers.
- **Institutions:** Automated grading system for small datasets.

Conclusion :

The Gradebook Analyzer simplifies the grading process by automating calculations and evaluations. It ensures fairness, saves time, and provides insights into class performance. With further enhancements (like file input/output, graphical visualization, or percentile-based grading), this program can be scaled for larger academic use.

Git hub link : https://github.com/prachiii0418-star/_gradebook_analyzer.git