

STUDENT GRADES PROGRAM

Repository: student-grades-guvi

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Project Overview

- **This project is a Python-based application designed to:**
 - **- Collect students' names and marks using input()**
 - **- Calculate average marks for each student**
 - **- Assign grades based on average**
 - **- Identify the class topper**
- **Repository: student-grades-guvi**
- **Language: Python**

Project Description

- The program asks the user to input:
- Total number of students
- Each student's name
- Marks in all subjects (space-separated)

.It then calculates each student's average and assigns a grade (A–F) using defined criteria.

Finally, it prints all student details and displays the topper based on highest average marks.

Code Explanation

1. `calculate_grade()` function returns a grade based on average marks.
2. User inputs number of students and their marks.
3. Program stores data in a list of dictionaries.
4. It prints each student's average and grade.
5. It finds the topper using the `max()` function.

Working Screenshot

The screenshot displays a web browser window with the address bar showing `localhost:8888/notebooks/Untitled14.ipynb`. The browser's bookmark bar includes links to Apps, Gmail, YouTube, Maps, Translate, and IIT PATNA. The JupyterLab interface features a top menu bar with File, Edit, View, Run, Kernel, Settings, and Help. A toolbar below the menu contains icons for file operations and execution. The main area shows a code editor with a Python script. The script defines a `calculate_grade` function that returns grades 'A' through 'F' based on average scores. It then prompts the user to enter the number of students and their marks, calculating the average and grade for each student and storing the results in a list.

localhost:8888/notebooks/Untitled14.ipynb

jupyter Untitled14 Last Checkpoint: 52 minutes ago

File Edit View Run Kernel Settings Help

JupyterLab Python 3 (ipykernel)

```
[4]: def calculate_grade(average):
    if average >= 90:
        return 'A'
    elif average >= 80:
        return 'B'
    elif average >= 70:
        return 'C'
    elif average >= 60:
        return 'D'
    else:
        return 'F'

students = []
n = int(input("Enter number of students: "))

for _ in range(n):
    name = input("Enter student name: ")
    marks = list(map(float, input("Enter marks separated by space: ").split()))
    average = sum(marks) / len(marks)
    grade = calculate_grade(average)
    students.append({
        'name': name,
        'marks': marks,
        'average': average,
        'grade': grade
    })
```

Working Screenshot

The screenshot displays a web browser window at `localhost:8888/notebooks/Untitled14.ipynb`. The JupyterLab interface includes a menu bar (File, Edit, View, Run, Kernel, Settings, Help), a toolbar with icons for file operations and execution, and a 'Trusted' status indicator. The notebook contains the following Python code:

```
students.append({
    'name': name,
    'marks': marks,
    'average': average,
    'grade': grade
})

# Print all student data
print("\n--- Students Report ---")
for s in students:
    print(f"{s['name']}: Average = {s['average']:.2f}, Grade = {s['grade']}")

# Find Topper
topper = max(students, key=lambda x: x['average'])
print(f"\nTopper: {topper['name']} with average {topper['average']:.2f}")
```

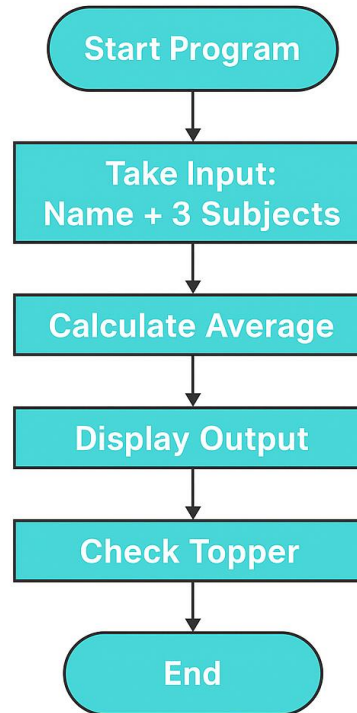
The output of the code execution is as follows:

```
Enter number of students: 3
Enter student name: sandeep
Enter marks separated by space: 12
Enter student name: ravi
Enter marks separated by space: 12 45 56
Enter student name: kishan
Enter marks separated by space: 56 78 78

--- Students Report ---
sandeep: Average = 12.00, Grade = F
ravi: Average = 37.67, Grade = F
kishan: Average = 70.67, Grade = C

Topper: kishan with average 70.67
```

WORKFLOW DIAGRAM



Summary

- This project uses basic Python skills (input/output, loops, lists, functions) to build a real-time grade analysis tool.
It demonstrates how simple logic and user interaction can be used to manage academic data.
- Suitable for beginners and educational projects.