CODE:

```
print("Grade Book Analyzer !!!!")


num_students = int(input("Enter number of students: "))
names = [None] * num_students
marks = [0] * num_students

for i in range(num_students):
    name = input("Enter name of student " + str(i+1) + ": ")
    mark = int(input("Enter marks of " + name + ": "))
    names[i] = name
    marks[i] = mark

total = 0
for m in marks:
    total = total + m

average = total / num_students
highest = max(marks)
lowest = min(marks)

print("\n--- Student Report ---")
for i in range(num_students):
    if marks[i] >= 90:
        grade = "A"
    elif marks[i] >= 80:
        grade = "B"
    elif marks[i] >= 70:
        grade = "C"
    elif marks[i] >= 60:
        grade = "D"
    elif marks[i] >= 50:
        grade = "E"
    else:
        grade = "F"

    print("Name:", names[i], "| Marks:", marks[i], "| Grade:", grade)


print("\n--- Overall Analysis ---")
print("Total Marks of Class:", total)
print("Average Marks of Class:", average)
print("Highest Marks:", highest, "by", names[marks.index(highest)])
print("Lowest Marks:", lowest, "by", names[marks.index(lowest)]
```

INTRODUCTION:

A **Grade Book Analyser** is a simple yet powerful program designed to record, manage, and analyse students' academic performance. This system allows users to enter student details, store their marks across various subjects, and automatically compute essential performance metrics such as total score, average, grade, and overall status.

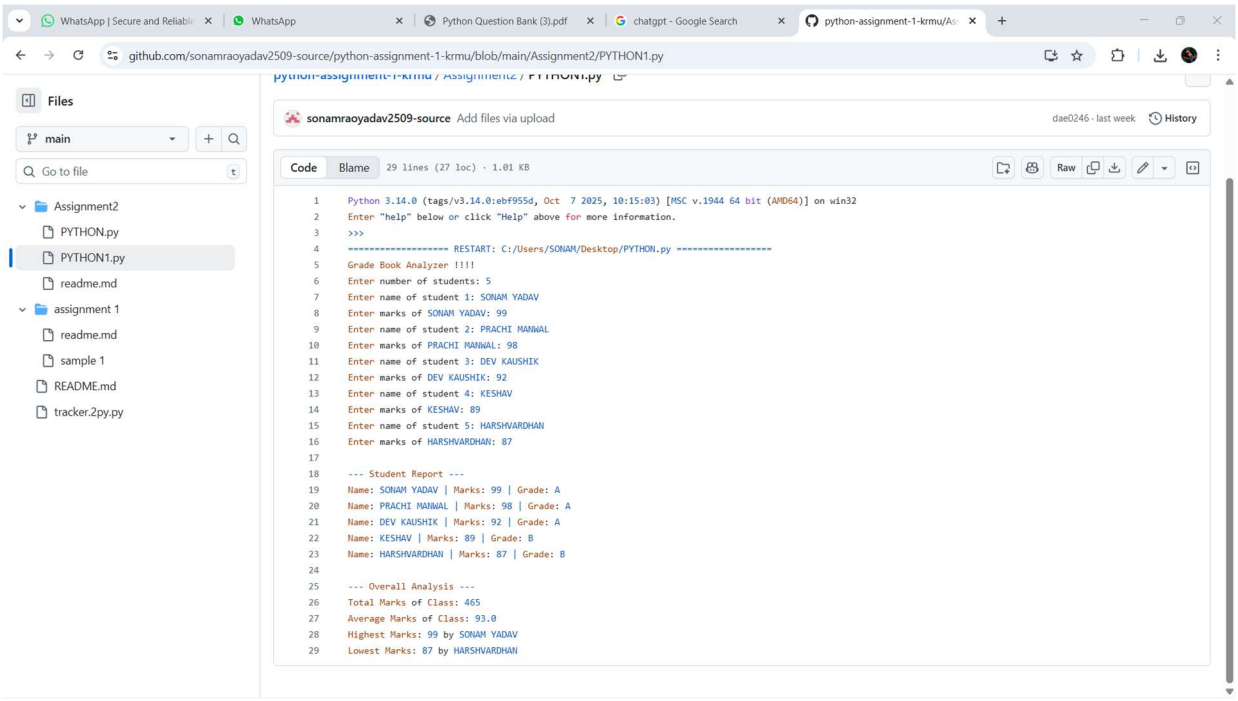
OBJECTIVE:

The main objective of the **Grade Book Analyser** is to provide an efficient system for recording, managing, and evaluating students' academic performance. The project aims to simplify the process of entering marks, calculating totals and averages, assigning grades.

WORKING DESCRIPTION:

The **Grade Book Analyser** works as a menu-driven program that allows users to manage and analyse student academic data efficiently. When the program starts, it presents a menu with options such as adding a student's marks, viewing all student records, calculating total marks and average, assigning grades, updating or deleting records, and generating reports.
Users can enter details such as student name, roll number, and marks for different subjects. The program stores this information in a structured format (like a JSON file or dictionary), enabling easy retrieval and modification. It automatically calculates the **total score, average, and grade** for each student based on predefined criteria.

SCREENSHOT:



CONCLUSIUON:

The **Grade Book Analyser** is an effective tool for managing and evaluating student academic performance. By automating the process of recording marks, calculating totals and averages, and assigning grades, it saves time and reduces errors compared to manual methods. The project demonstrates practical use of programming concepts such as **loops, functions, conditionals, file handling, and data analysis**.