Final Project: "Student Grade Calculator"

Project Description: Students will create a MATLAB program that calculates and analyzes the grades of a class of students. This project will involve working with matrices, functions, selection statements, loops, and file input/output.

Steps Involved:

1. **Data Input:**
   - The program will start by asking the user to input the number of students and the number of assignments or exams.
   - The program will then prompt the user to input the grades for each student for all assignments/exams.
2. **Storing Data in Matrices:**
   - The grades will be stored in a matrix, where rows represent students and columns represent assignments/exams.
3. **Calculating Final Grades:**
   - The program will calculate the final grade for each student by averaging their grades across all assignments/exams.
   - Students can add weightings to different assignments if desired.
4. **Grade Analysis:**
   - The program will include a function to determine the highest, lowest, and average grade in the class.
   - It will also count how many students passed or failed based on a passing grade threshold.
5. **Displaying Results:**
   - The program will display each student's final grade, along with the overall highest, lowest, and average grades.
   - It will indicate which students passed and which failed.
6. **File Input/Output (Optional):**
   - Students can enhance the project by allowing the program to read grades from an input file or write the results to an output file, such as a CSV or text file.

Learning Outcomes:

- Reinforce knowledge of matrices and matrix operations.
- Apply loops and conditional statements to process and analyze data.
- Practice function creation for calculating and analyzing grades.
- Gain experience with file input/output.

Good Luck for Future ☺