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Csc-251-0901

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Screenshots:

A screenshot of a computer error

AI-generated content may be incorrect.A screenshot of a calculator menu

AI-generated content may be incorrect.

A screenshot of a computer error message

AI-generated content may be incorrect. A screenshot of a computer error

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AI Prompt: help me complete the todo methods and make sure to use GUI features like JOptionPane showMessageDialog and the showInputDialog boxes.

AI CODE:

private static void addGrade() {

        while (true) {

            String input = JOptionPane.showInputDialog(

                null,

                "Enter a grade (0–100). Decimals allowed.\n" +

                "Click Cancel or leave blank to return to menu.",

                "Add Grade",

                JOptionPane.QUESTION\_MESSAGE

            );

            if (input == null || input.trim().isEmpty()) {

                // Cancel or blank: go back to menu

                return;

            }

            try {

                double g = Double.parseDouble(input.trim());

                if (g < 0 || g > 100) {

                    JOptionPane.showMessageDialog(

                        null,

                        "Grade must be between 0 and 100.",

                        "Invalid Grade",

                        JOptionPane.ERROR\_MESSAGE

                    );

                } else {

                    grades.add(g);

                    JOptionPane.showMessageDialog(

                        null,

                        "Grade " + df.format(g) + "% added successfully!\n" +

                        "Total grades: " + grades.size(),

                        "Grade Added",

                        JOptionPane.INFORMATION\_MESSAGE

                    );

                    return; // add one grade per menu action

                }

            } catch (NumberFormatException e) {

                JOptionPane.showMessageDialog(

                    null,

                    "Please enter a valid numeric grade (e.g., 88 or 92.5).",

                    "Invalid Input",

                    JOptionPane.ERROR\_MESSAGE

                );

            }

        }

    }

    /\*\*

     \* Calculates and displays current average

     \*/

    private static void viewAverage() {

        if (grades.isEmpty()) {

            JOptionPane.showMessageDialog(

                null,

                "No grades have been entered yet.",

                "Current Average",

                JOptionPane.INFORMATION\_MESSAGE

            );

            return;

        }

        double avg = calculateAverage();

        JOptionPane.showMessageDialog(

            null,

            "Current Average: " + df.format(avg) + "%",

            "Current Average",

            JOptionPane.INFORMATION\_MESSAGE

        );

    }

    /\*\*

     \* Determines and displays letter grade based on average

     \*/

    private static void viewLetterGrade() {

        if (grades.isEmpty()) {

            JOptionPane.showMessageDialog(

                null,

                "No grades have been entered yet.",

                "Letter Grade",

                JOptionPane.INFORMATION\_MESSAGE

            );

            return;

        }

        double avg = calculateAverage();

        String letter = getLetterGrade(avg);

        JOptionPane.showMessageDialog(

            null,

            "Average: " + df.format(avg) + "%\nLetter Grade: " + letter,

            "Letter Grade",

            JOptionPane.INFORMATION\_MESSAGE

        );

    }

  // Helper methods for calculations

    private static double calculateAverage() {

        double sum = 0.0;

        for (double g : grades) {

            sum += g;

        }

        return grades.isEmpty() ? 0.0 : (sum / grades.size());

    }

    private static String getLetterGrade(double average) {

        if (average >= 90.0) return "A";

        if (average >= 80.0) return "B";

        if (average >= 70.0) return "C";

        if (average >= 60.0) return "D";

        return "F";

    }

}