**8.15- Exercise – MarksCalculation**

**Exercise**

Refactor and Enhance the Marks Calculation Logic

**Task**

1. Modify the MarksCalculation class to encapsulate the fields mathMarks, scienceMarks, percentage, and grade by making them private and adding appropriate getter and setter methods.
2. Ensure the setter methods validate that the marks are between 0 and 100. If not, set them to 0 or 100 as appropriate.
3. Add a method displayResult() in MarksCalculation that prints the percentage and grade.
4. Update MainClass to use the new getter and setter methods for setting marks and call displayResult() to print the results.

**Hints**

* Make mathMarks, scienceMarks, percentage, and grade private.
* Create public int getMathMarks() and public void setMathMarks(int mathMarks) with validation logic.
* Implement displayResult() to use System.out.println() to display the percentage and grade.
* Update MainClass to call setMathMarks() and setScienceMarks() instead of directly accessing the fields.

**Explanation**

This exercise reinforces the concept of encapsulation in Java, ensuring that class properties are accessed and modified through controlled methods. By adding validation in the setter methods, you make the class more robust and prevent invalid data. The displayResult() method and usage in MainClass help demonstrate how encapsulation improves code maintainability and readability.