Lab Assessment-3 L51+L52 (Thursday)

The objective of this assignment is to utilize the Graphics class and its methods in Java to create a graphical representation (bar graph and line graph) of the sales data of a firm over several years.

Create a Java GUI application. The main component should be a custom JPanel which will serve as the dashboard where all the drawings will happen. Include a set of text fields where the user can enter the sales data for each year.

Use five text fields for the user to input the sales data. Each text field will correspond to one year. Also, provide labels to indicate which year each text field corresponds to. Include a "Submit" button. When this button is clicked, the application should read the data from the text fields, create a list of "Year" objects to represent the data set, and then redraw the graphs. The application should visually represent sales data as a bar graph and a line graph. The bar graph should have years on the x-axis and sales on the y-axis. Each year should be represented by a bar with a height proportional to its sales figure. The line graph should also have years on the x-axis and sales on the y-axis. Each year should be a point on the graph, with lines connecting the points to show the sales trend. Draw the graphs using the Graphics class methods.

You may enhance the above dashboard with the following (but not mandatory):

1. ***Data Validation:*** *Implement a data validation function to check the inputs entered into the text fields. The function should ensure that the inputs are positive numbers (since sales figures can't be negative). If the user enters an invalid input, the program should display an error message.*
2. ***Dynamic Years:*** *Add the ability to change the number of years dynamically. This could involve adding a new text field where the user can enter the number of years, and the program would then generate the corresponding number of text fields for sales data input.*

A sample output graph is given below.