

## CSE564 Assignment 02

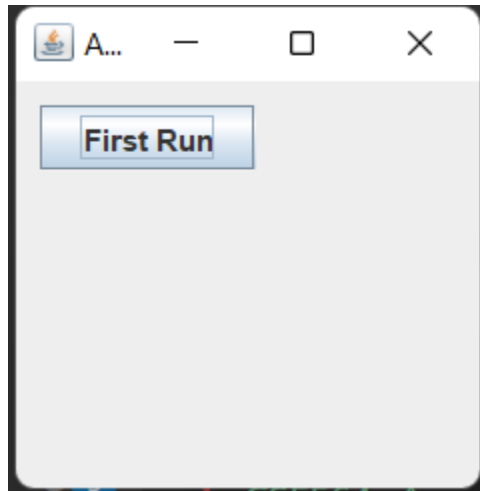
Ananth Ramayya Kandrapu- 122249022

Mohammad Danish Khan- 1225372967

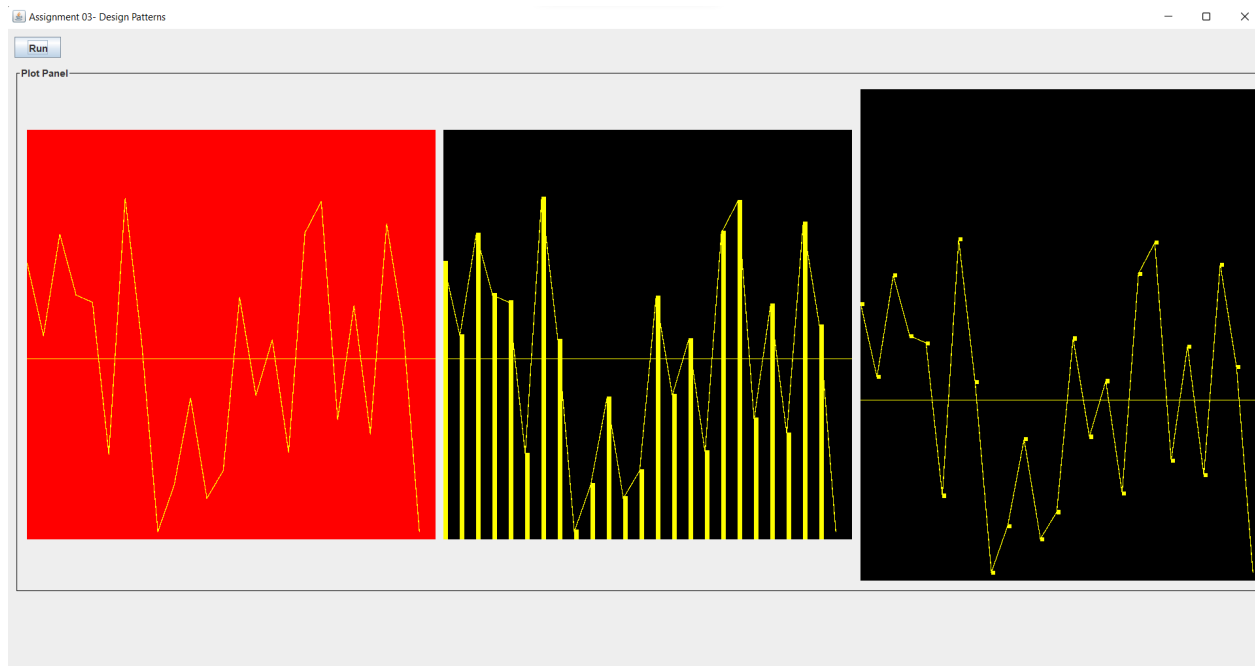
Paromita Roy- 1224708511

Output Screenshots-

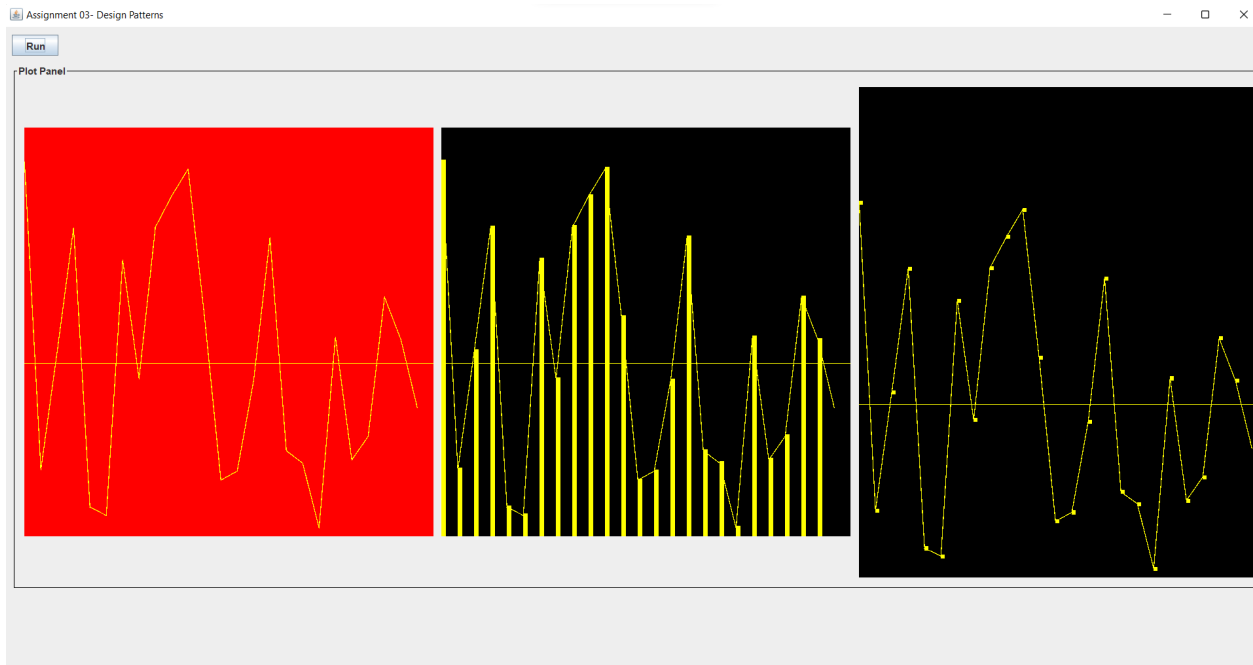
After running App.java, click on the First Run button.



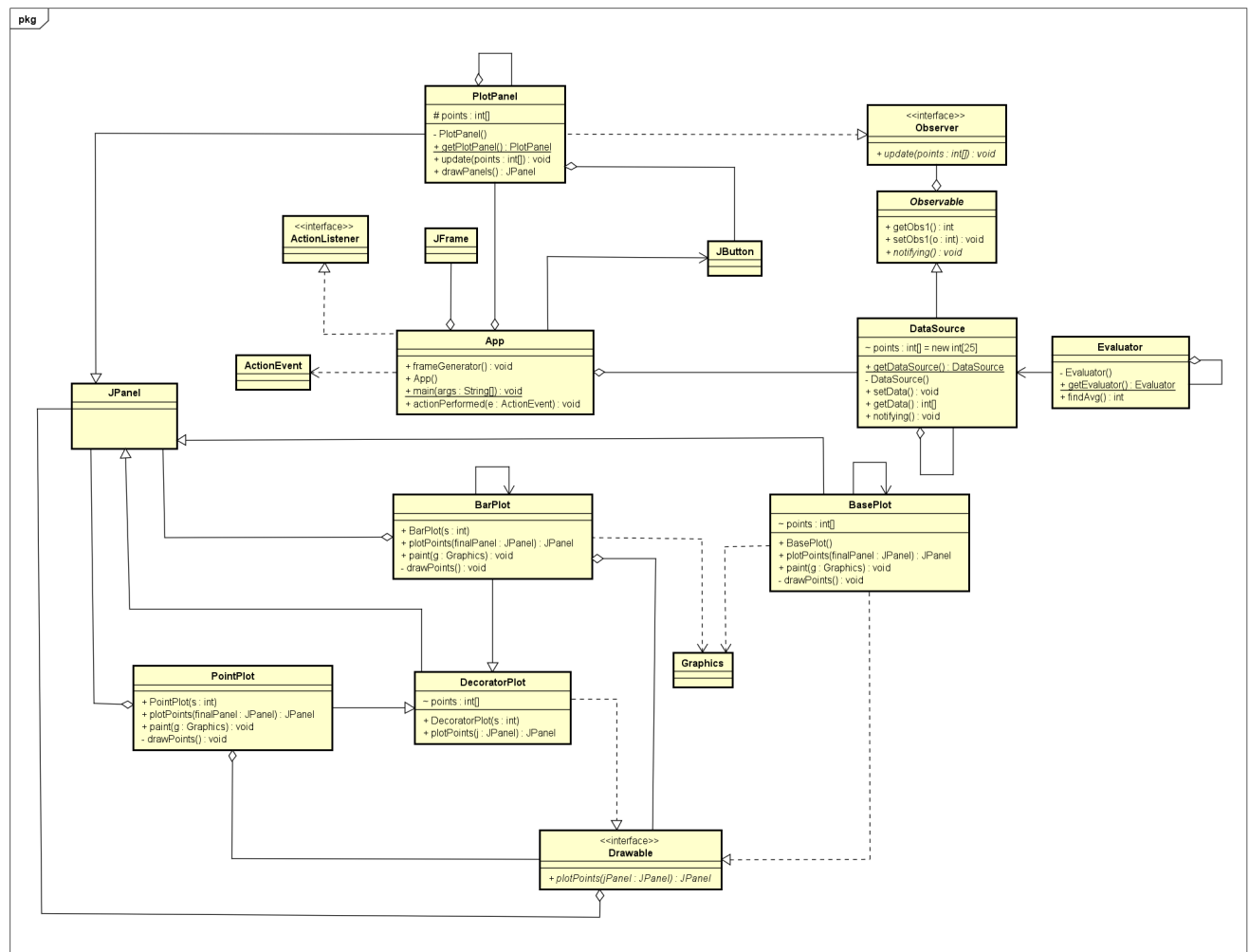
Random points are generated and plotted on the screen.



Click on the Run button at the top left to generate a new set of random points. The graph will change accordingly.



### Class Diagram-



The three patterns implemented are-

1. Singleton: The Evaluator class implements the Singleton pattern. It has a private constructor which creates the instance of Evaluator when called.
2. Observer: PlotPanel and DataSource together implement the Observer pattern. PlotPanel acts as the observer and observes DataSource, which is the observable.
3. Decorator: The Decorator pattern is implemented by the Drawable interface and the PointPlot, BarPlot and BasePlot classes. These classes extend the DecoratorPlot class. BasePlot acts as the base class over which the decorator is added.

## SOLID Principles-

1. Each class has its own responsibility.
2. Interfaces have been used, each of which has its own functionality.
3. Extension is possible without modifying the code. If necessary, another type of plot, other than point and bar, is possible.
4. The code is easy to read and understand, and has been well commented.
5. DRY and KIS have been followed. Code has not been reused or repeated.