SRIP Project 3 Documentation Generation of Random Variables

Task allotted

1. In the virtual-labs repository, pattern-recognition-iiith lab, the task was to resolve Issue No: 241
2. Issue No: 241 was to Convert the following experiment to JavaScript. Link to the experiment:- http://cse20-iiith.vlabs.ac.in/exp4/Experiment.html?domain=Computer%20Science&lab=Pattern%20Recognition%20Lab

Experiment Explanation

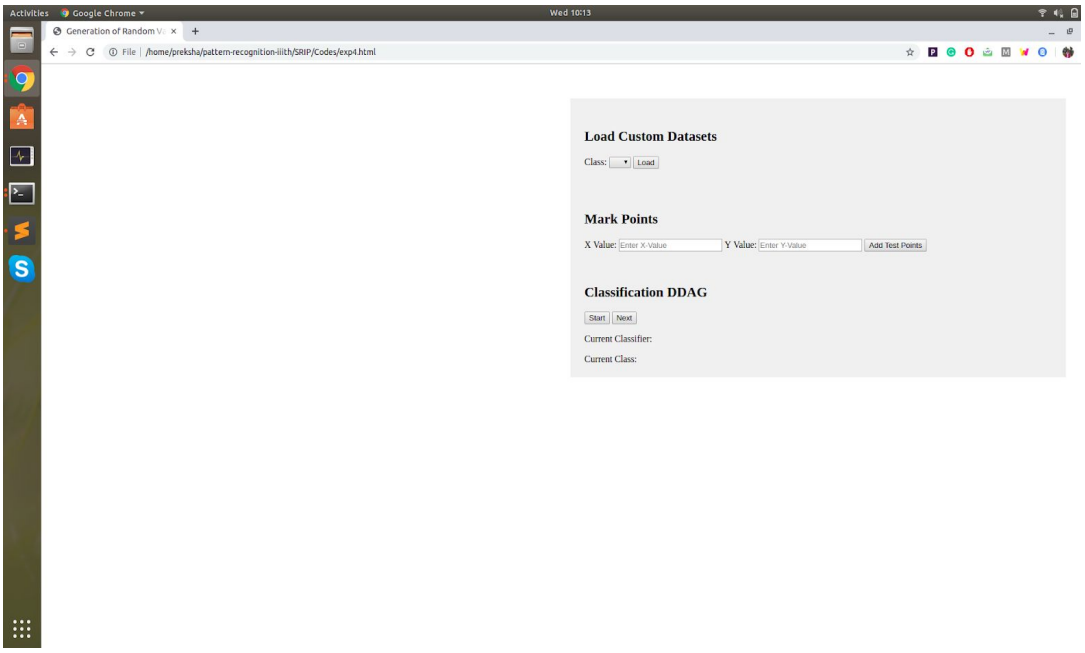
Let us assume, there are 4 different classes, each class has different data points. Now suppose one plot some random data points for the 4 classes. For a given test point, the task is to classify that point into any of the class using iteration, so that it will be classified into either of the 4 classes. That's how random variables works.

How to Run the Experiment

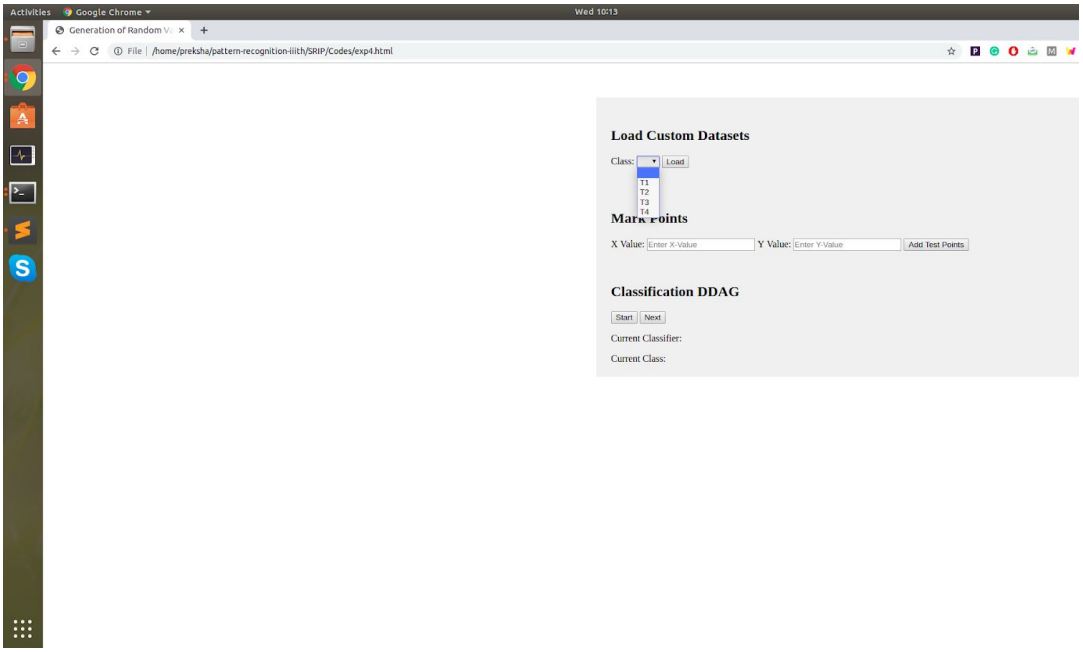
1. The forked repository(https://github.com/prekshap24/pattern-recognition-iiith) contains a folder named “SRIP”.
2. SRIP folder contains folders named as Codes and Libraries. Codes contain all the files containing code for the experiment written in JavaScript, HTML, CSS. Libraries contain JavaScript libraries used in the codes.
3. The Codes folder contains 4 files. There are 2 methods to run the experiment
    a. Simply run the exp4.html file by clicking on it.
    b. To run the experiment using ‘Node js’ (for Linux users),
        i. Node js should have been installed in your PC’s.
        ii. Save all the 4 code files in a folder.
        iii. Using terminal, go to the folder containing all the code files.
        iv. Type ‘node exp4node.js’ command in the terminal

v. Open the browser, and type ‘http://localhost:3000/’

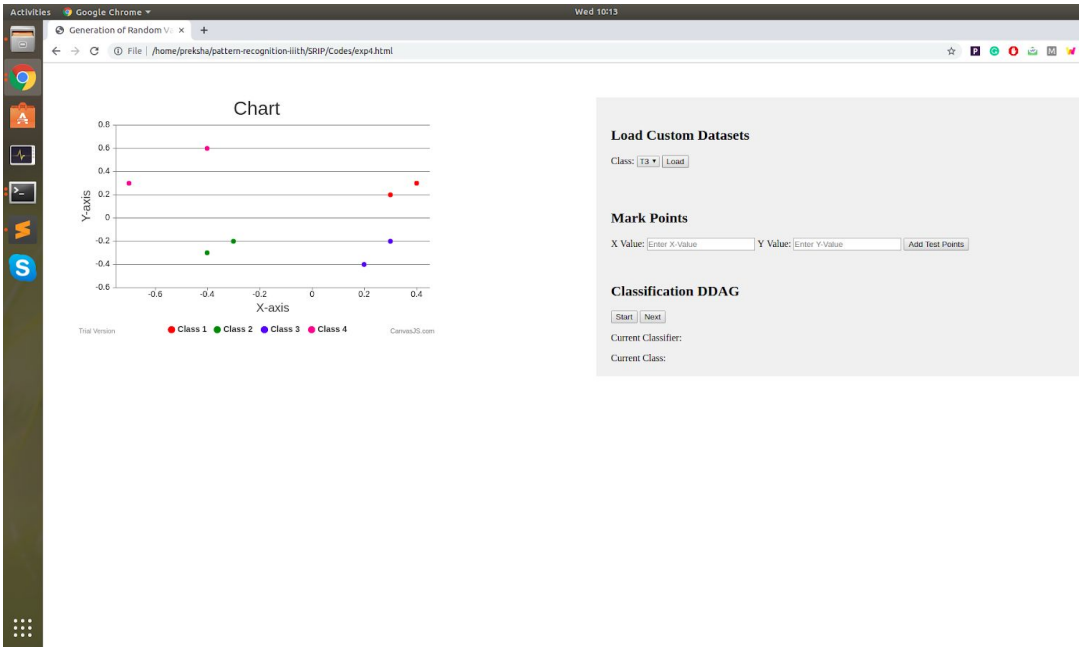
vi. The experiment will run



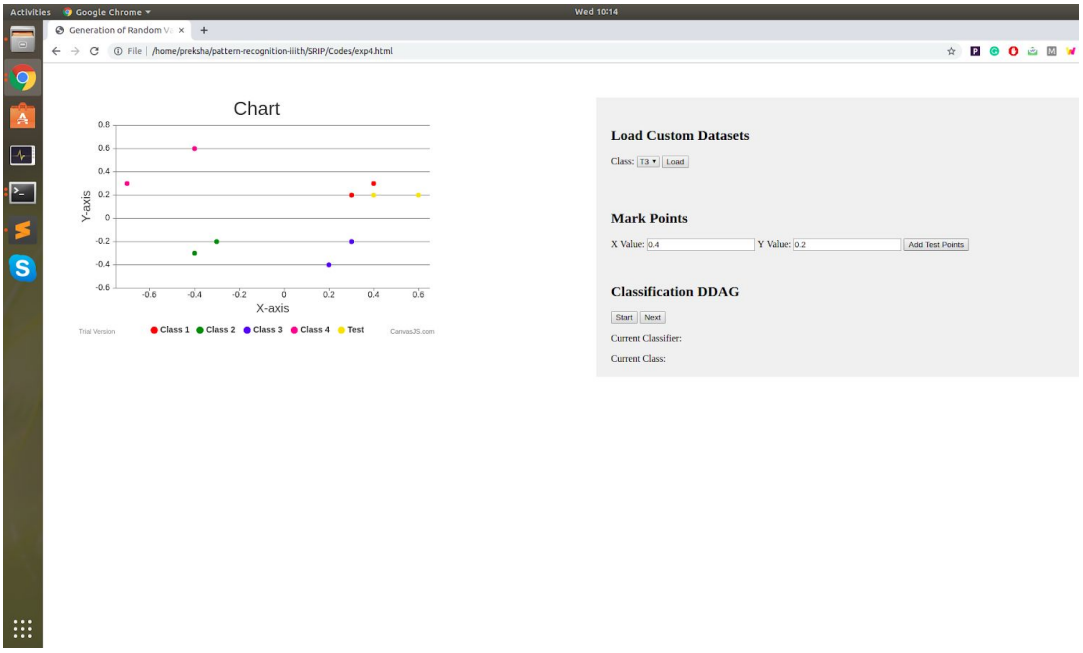
4. Select a custom dataset from the dropdown menu



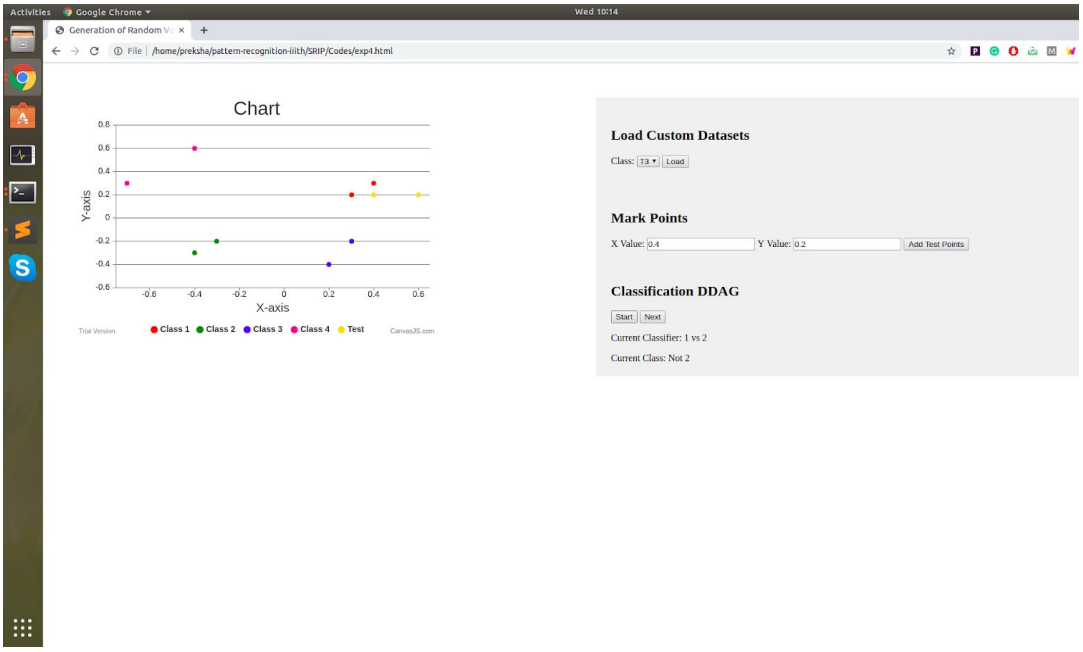
5. After selecting the dataset, click on the ‘Load’ button to display the dataset



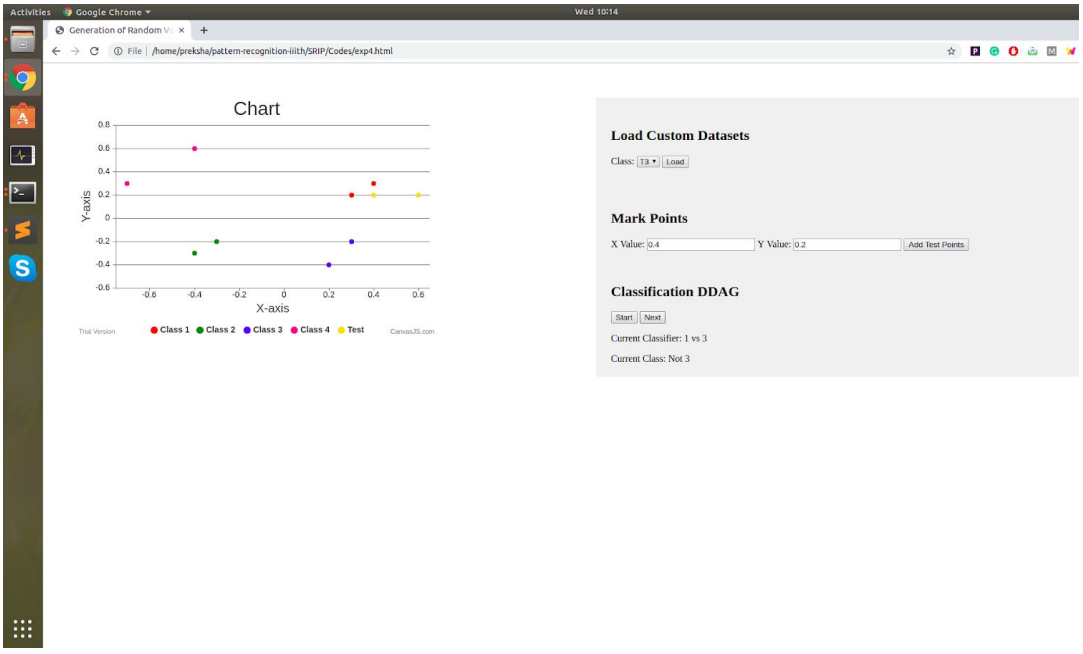
6. Now to add the Test points, enter the X-Value and Y-Value of the test data point and click on the ‘Add Test Points’ button. The point will be displayed on the graph in a yellow colour.

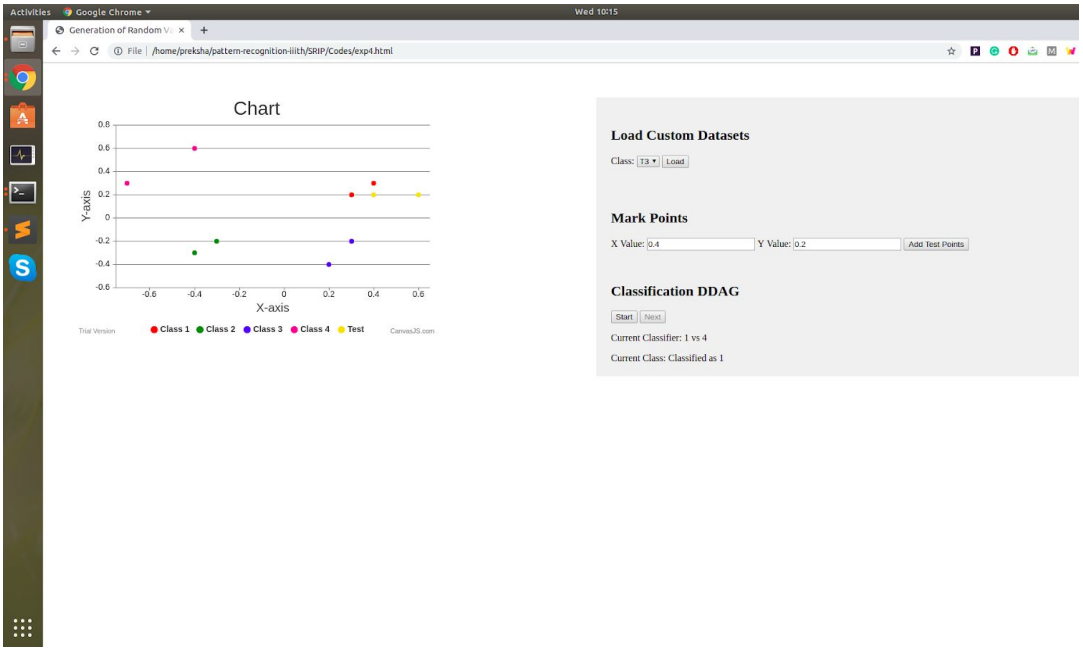


7. Click on the ‘Start’ button to start the classification



8. Click on the ‘Next’ button, until the test points are not classified in one of the 4 classes. The points are classified in the class to which they are the closest.





Formulas Used

1. Formula used to find the distance of the test point from each of the 4 classes.