Exercise

The following array represents a dataset with random values.

0.22, 0.34, 0

0.21, 0.37, 0

0.25, 0.31, 0

0.76, 0.19, 1

0.84, 0.14, 1

- Use the first two columns as features
- Use the third column as label. Don't forget to reshape the labels row vector into a column vector by giving: labels.reshape(dataset.shape[0],1) , where labels is the name of your label row vector (use your name if you want) and dataset is the name of the initial array (use your name if you want).
- Visualize the input data. Set appropriate labels to x and y axes and also give a title to the plot. Set grid on.
- Create a perceptron with 1 output neuron and train it with these parameters:

  Number of training epochs=100

  Learning rate =0.3

- Visualize the training progress. Set appropriate labels to x and y axes and give a title to the plot. Set grid on.
- Present to the trained perceptron the following two patterns: a) [0.83 , 0.14] b) [0.27 , 0.42]

  What will be the output?

Don't forget to use comments in your code. Compress the .ipnyb file and name it as Exercise_1_RN , where RN is your registration number

Good luck !!!