Q1) 80pt Please follow the instruction in the IPython notebook to provide your solutions. We will evaluate it using the notebook outcomes.

Q2) You are given a dataset for regression task. Table below show the (x,y) pairs for the input and target value. Estimate of the model is represented as f(x).

Instance ID	Labelled data (x,y)	Estimation f(x)
1	(0,2)	3
2	(2,10)	11
3	(2,12)	11
4	(5,20)	23

5pt • Draw the datapoints and regression curve

5pt • What is the MSE? Calculate error for each instance.

Q3) You are given a biased classifier that produce random results for any given query. Probability of getting positive label estimated to be 0.75

5pt • What will be the accuracy of such model on a dataset with a class imbalance 70% positive instances?

5pt • What is the entropy of the random model predictions?

Please share your assignment following the format below.

- Name your file as a compressed file **yourSUid-hw1**
- Share both IPython notebooks without removing the result cells.
- Questions that don't involve coding, please report your answers in a PDF file as a report.