**Assignment 2**

**Total Marks: 20**

**Polynomial Regression**

Q1: Calculate the sum square error for polynomial regression problem for polynomial degree=2, using the follwing values of X and Y:

X: {0,1,2,3,1,1.5}

Y= {1,2,1.5,2,1,2} (10)

*Hint: Determine the values of alpha0, alpha1,and alpha2.*

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**Data Visualization**

Q2: Generate a synthetic dataset by taking X and Y values as:

X: 6 random values in the range (1,3).

Y: generate the values using y= 1.7+ 0.5\*x

a) Find out cost funcion value for 3 iterations.

b) Draw the three different plots obtained for the three regression lines (in 2 (a)) for different combinations of alpha0 and alpha1 (or “m” and “c”).  (10)