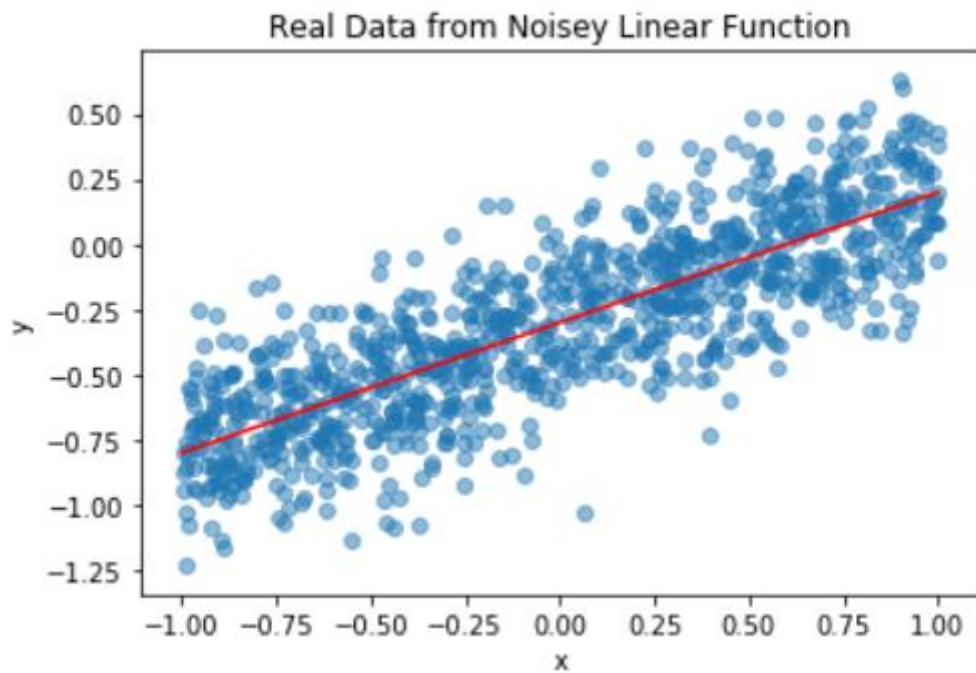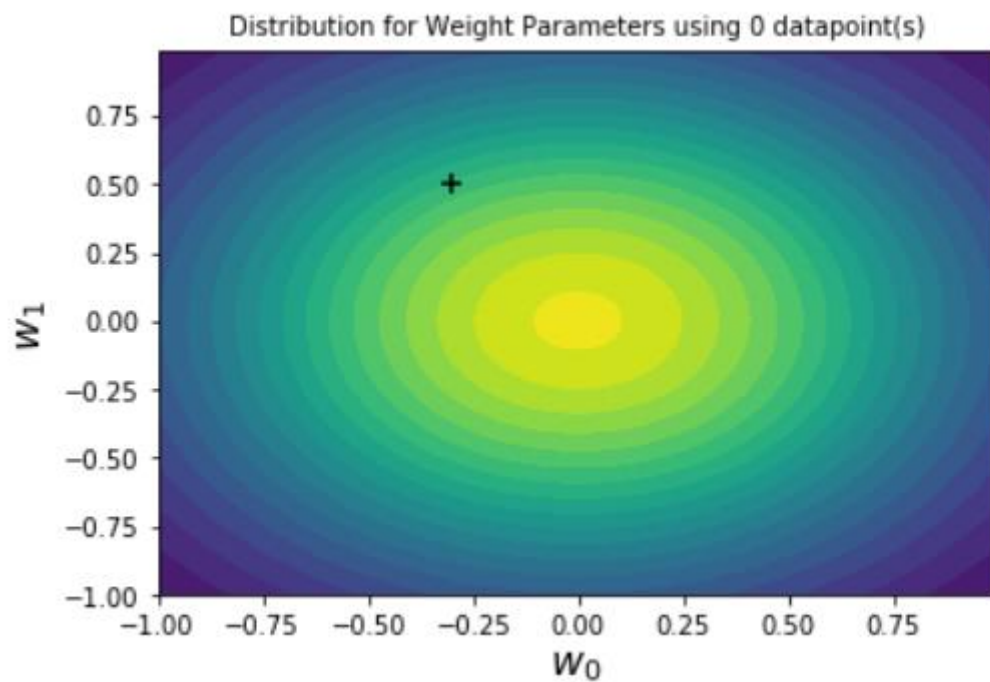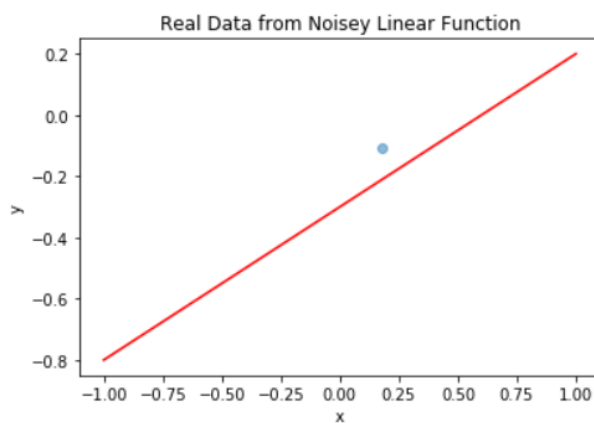# ML Lab Task 3

-    Sumith Sai Budde , 18BCS101

Real Noisey line of intercept = -0.3 and slope = 0.5 with gaussian noise having mean =0 and var = 0.04 :
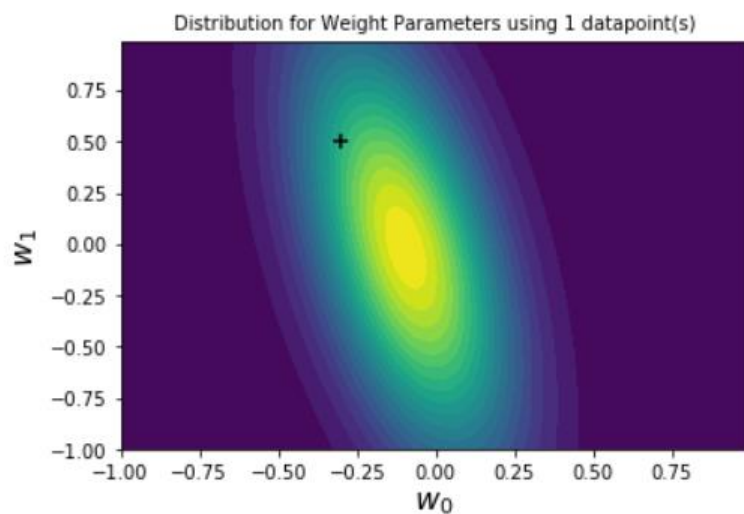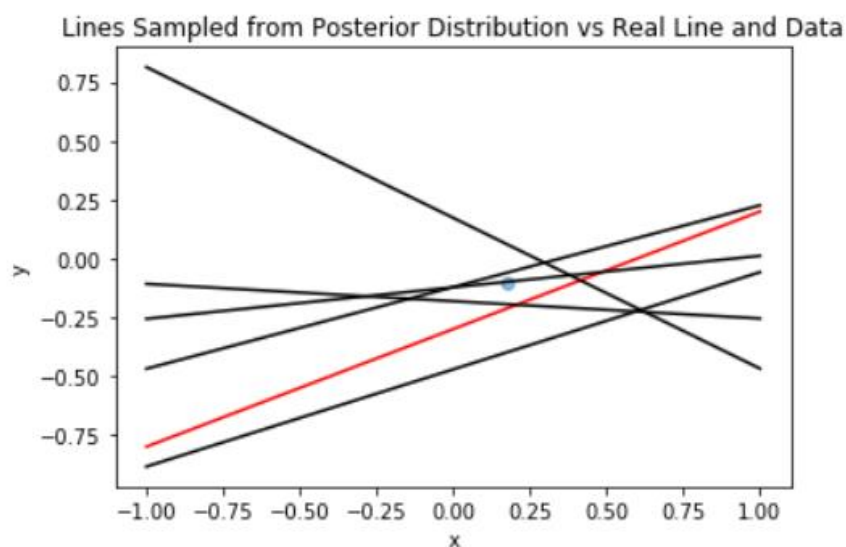

Parameter Distribution using 0 datapoints :

Let's pull out a single data point from our real data and see how it relates to the true function :

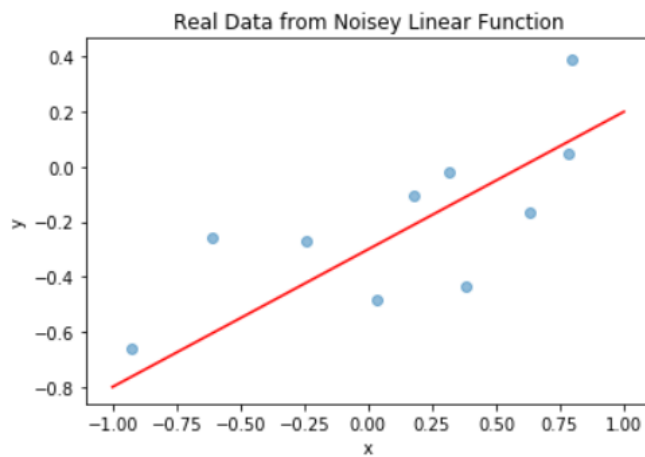Real Data from Noisey Linear Function

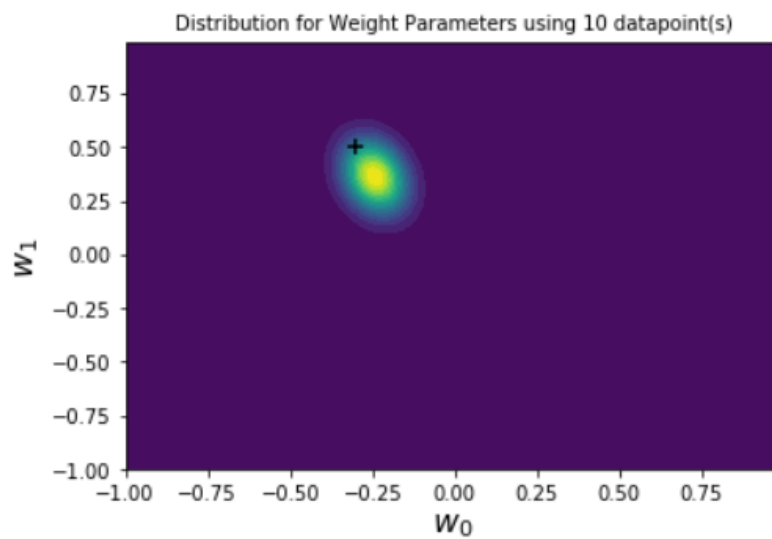Parameter Distribution using above data point :

Distribution for Weight Parameters using 1 datapoint(s)

Data Space : Red colour line is the real line.

Lines Sampled from Posterior Distribution vs Real Line and Data

Now let's use 10 sample points to get the distribution :

Real Data from Noisey Linear Function

Parameter Distribution using 10 data points :

Distribution for Weight Parameters using 10 datapoint(s)

Data Space : Red colour line is the real line.

Lines Sampled from Posterior Distribution vs Real Line and Data