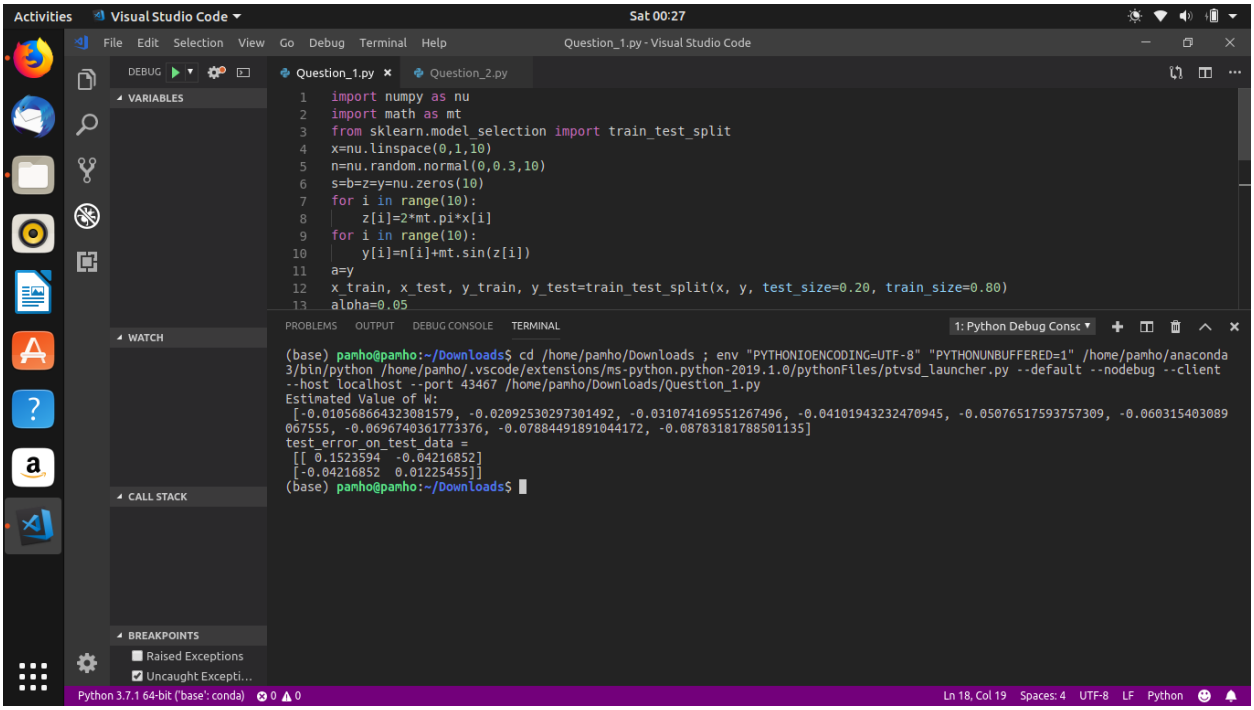
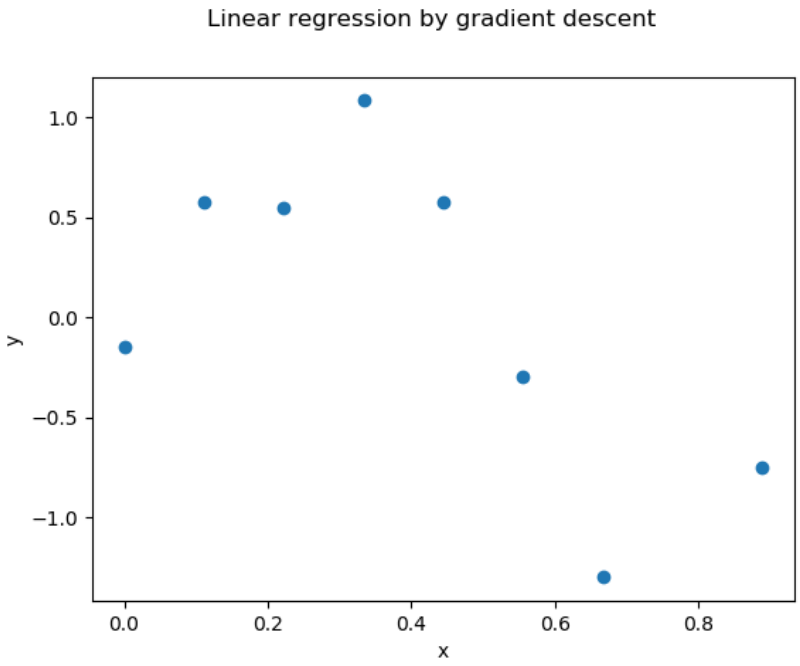
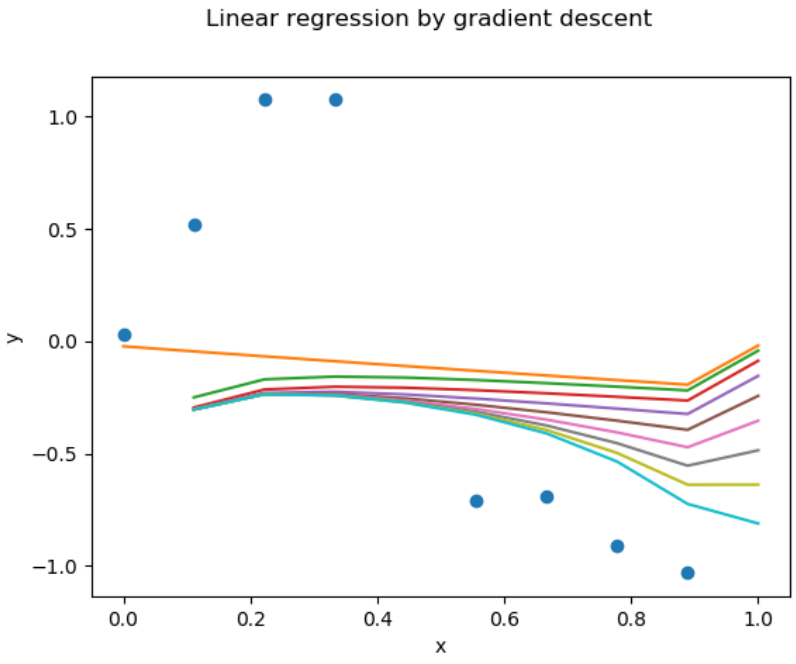
Q-1: Below is the output of the code where the estimated value of W and test error on test data are shown

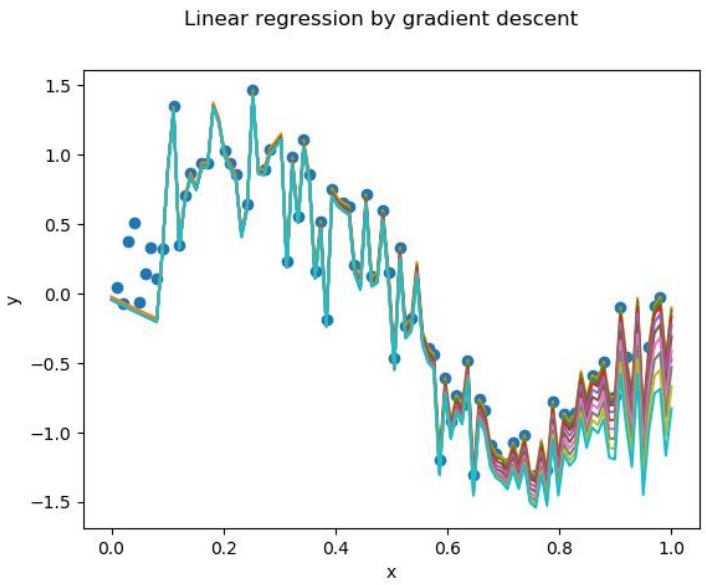


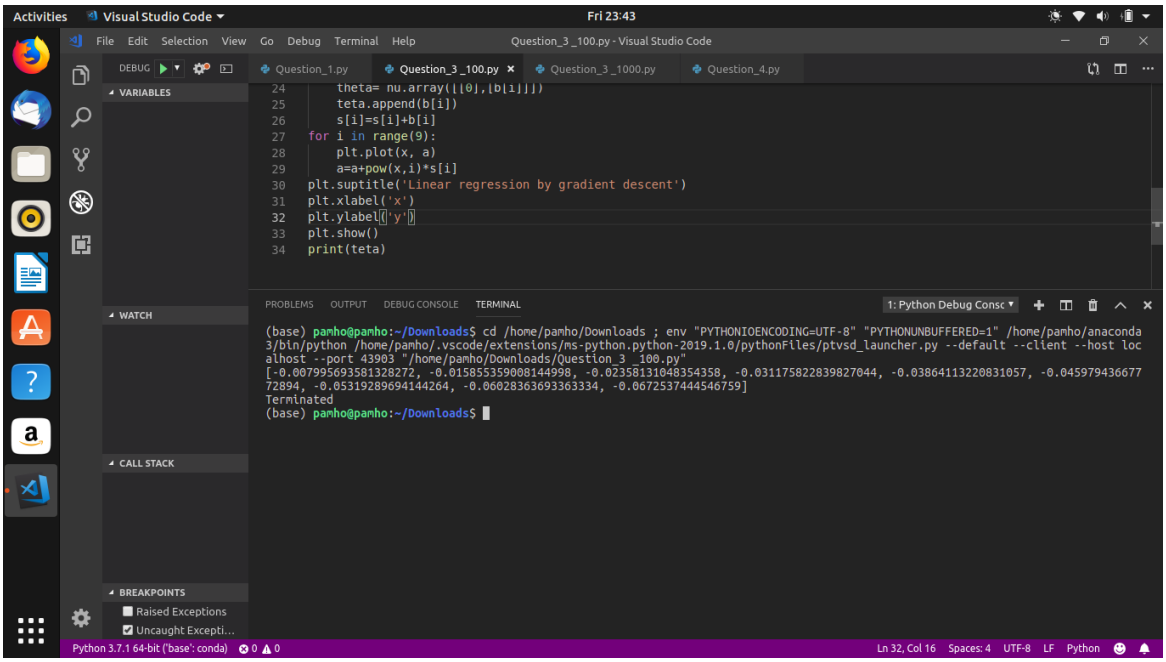
Q-2: Below is the plots of the datasets and the 9 fitted curves



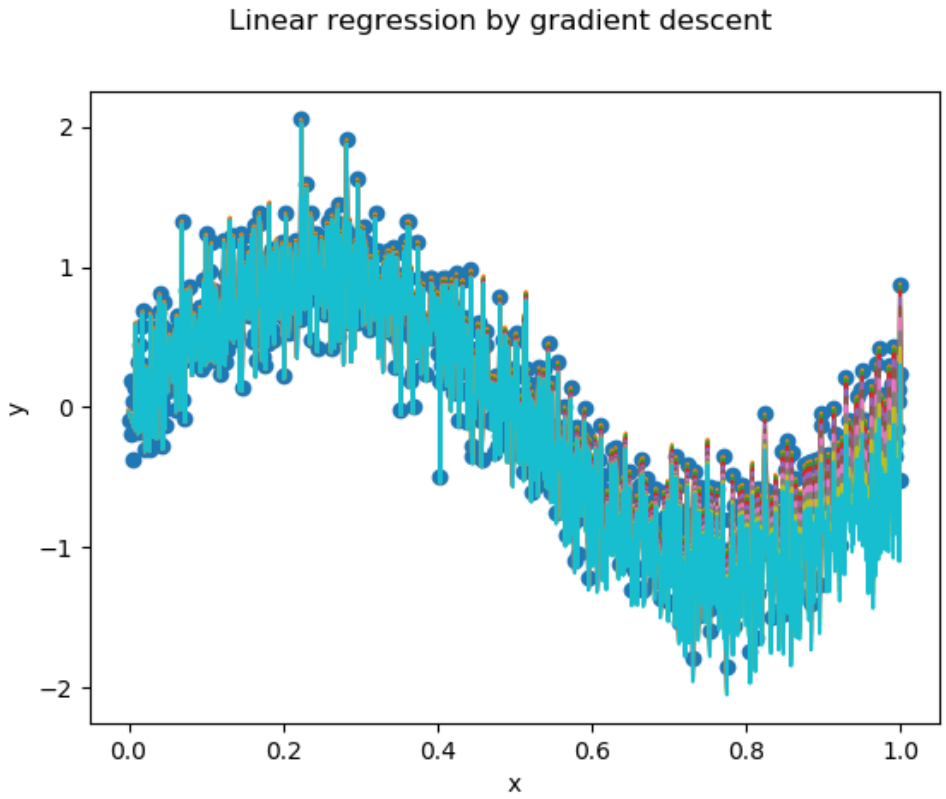


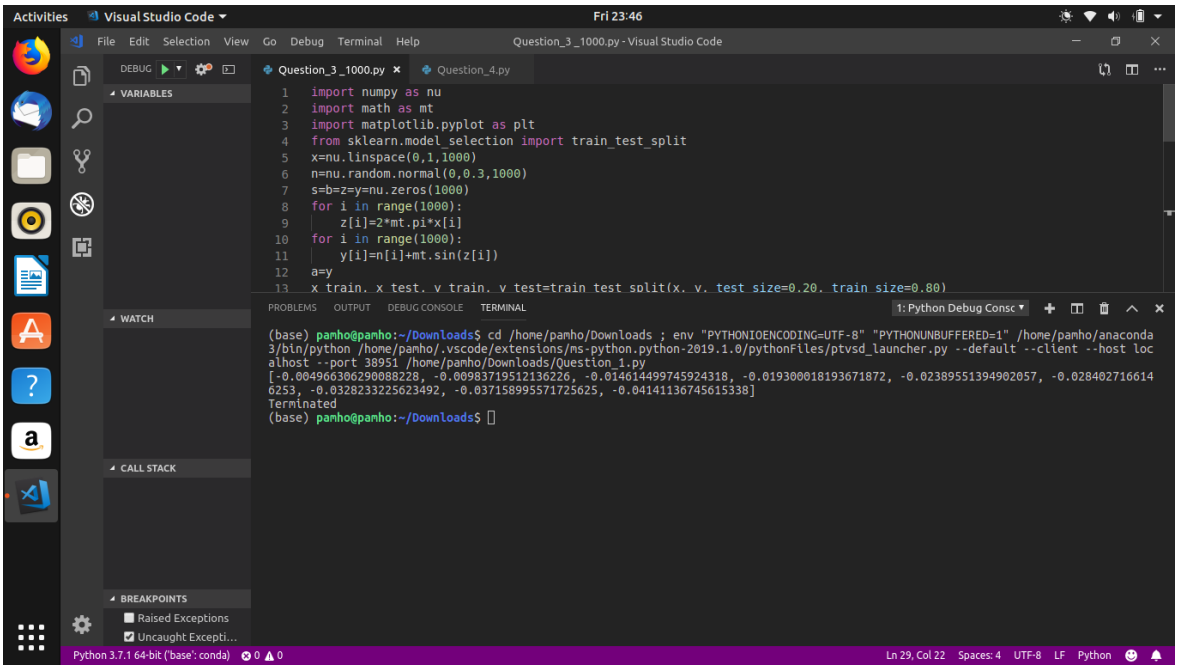
Q-3: Below is the output and plot of 100 datasets



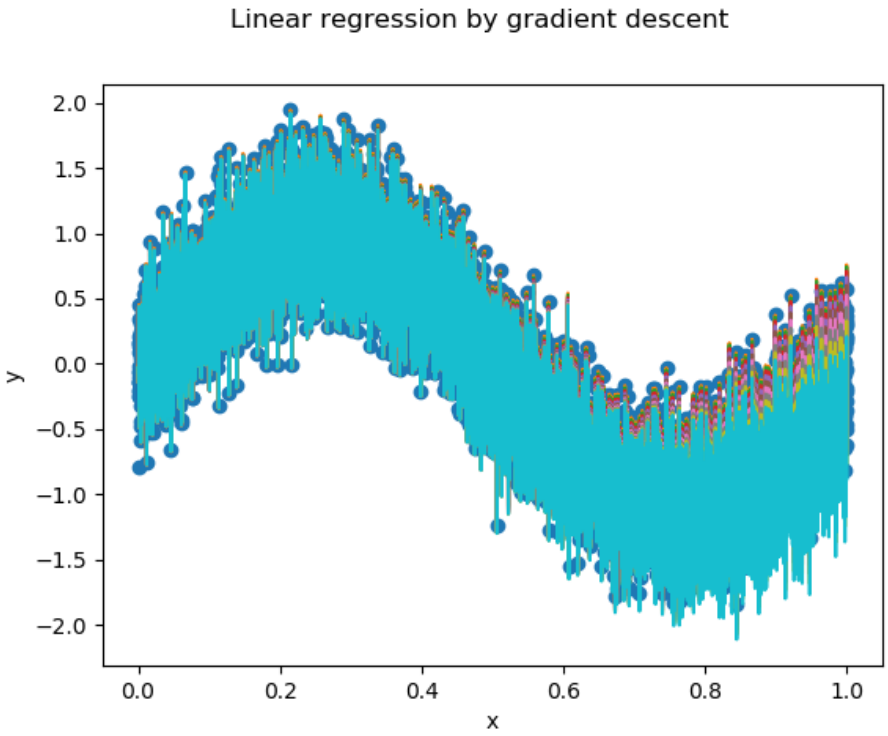


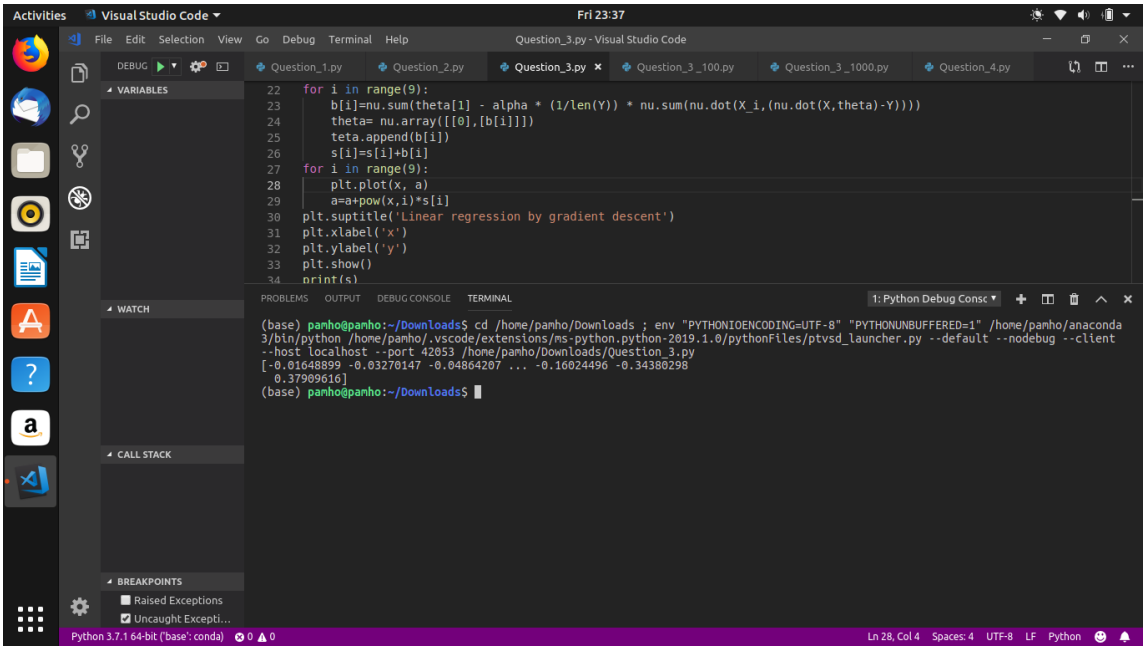
Q-3: Below is the output and plot of 1000 datasets





Q-3: Below is the output and plot of 10000 datasets





Q-4: Below is the output and plot of 100 datasets on modified cost function