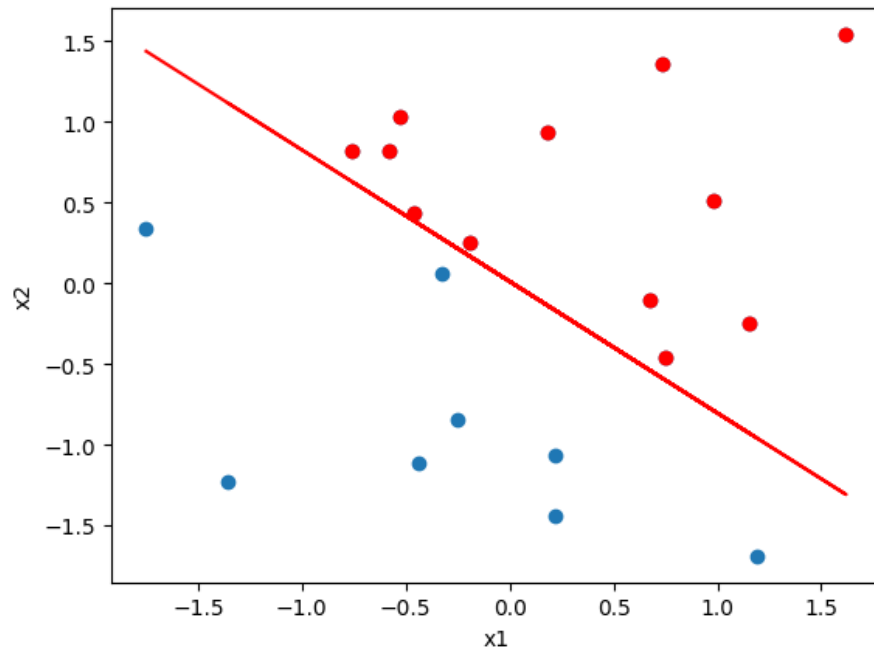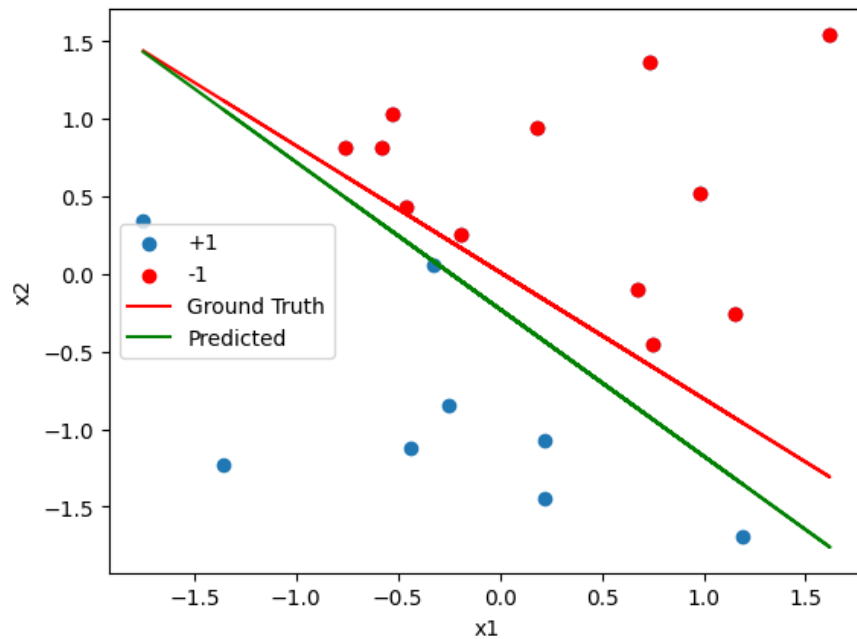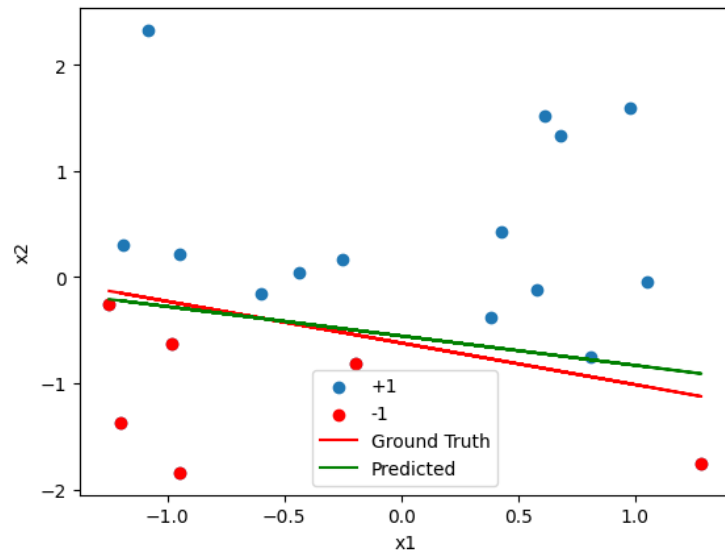Q2 Part A:

Q2 Part B:

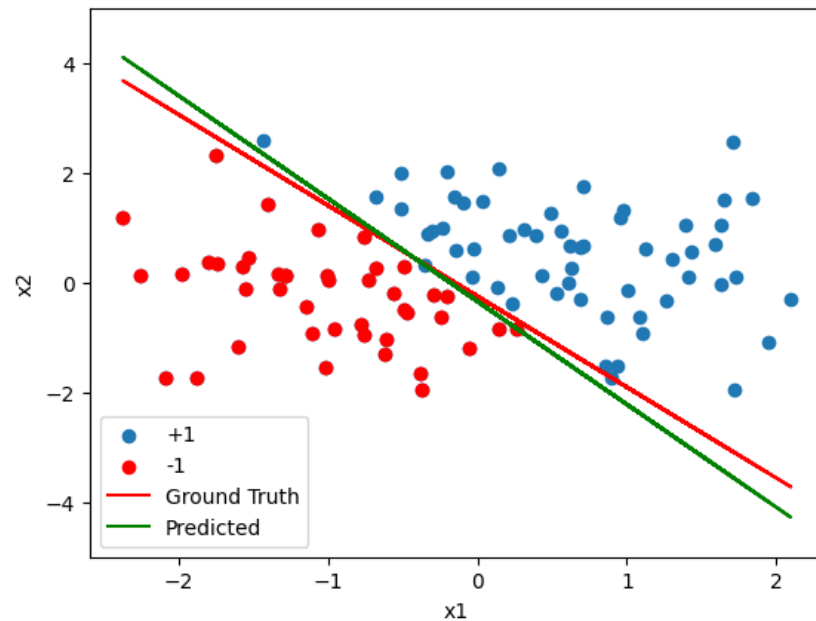Model: [-7.36959582 -7.78309663 -1.76645938]

Steps: 57

The models fit are slightly different yet both perfectly separate the data. They are about at the extremes of this.
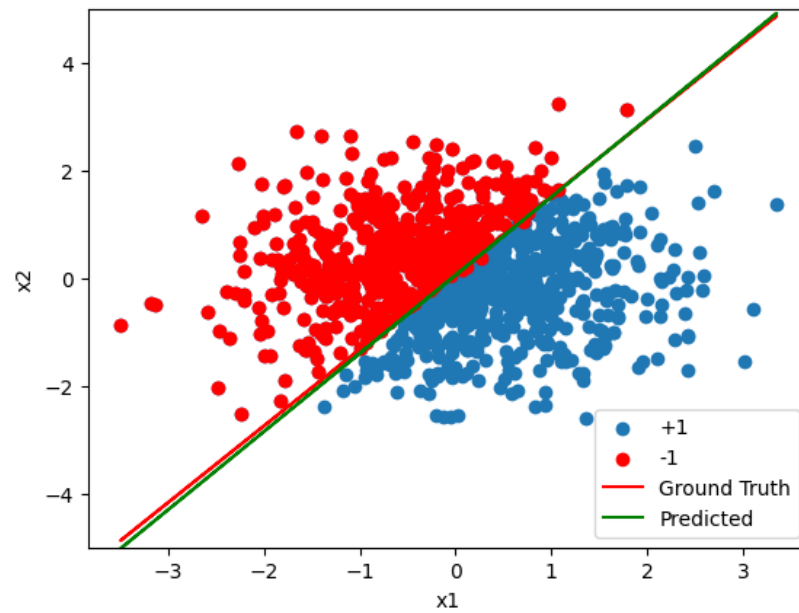
Q2 Part C

In this one the ground truth separates with decent amount of space while predicts just about touches the closest +1 and -1 points. This is different from part b but shows a similar agreement.
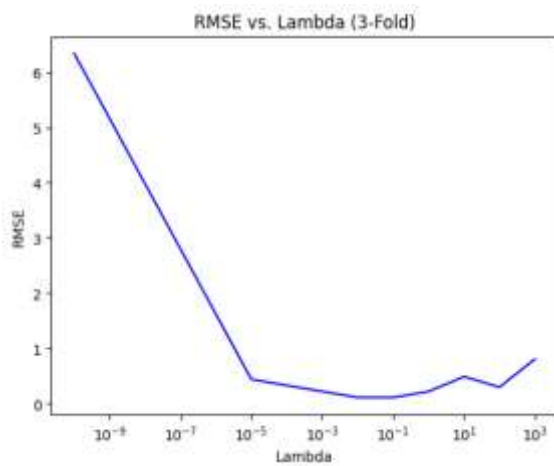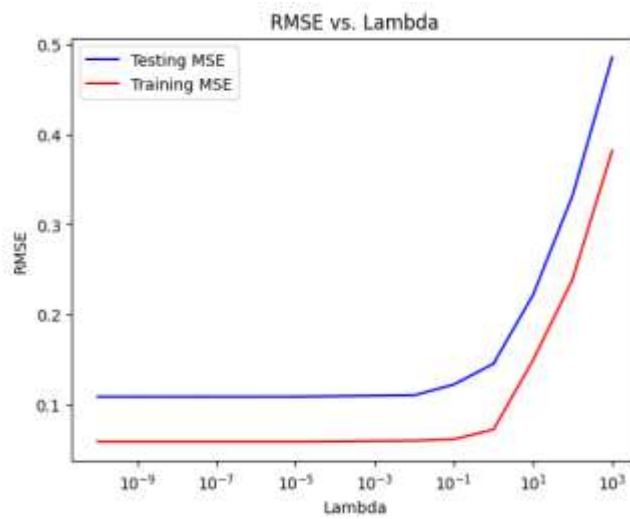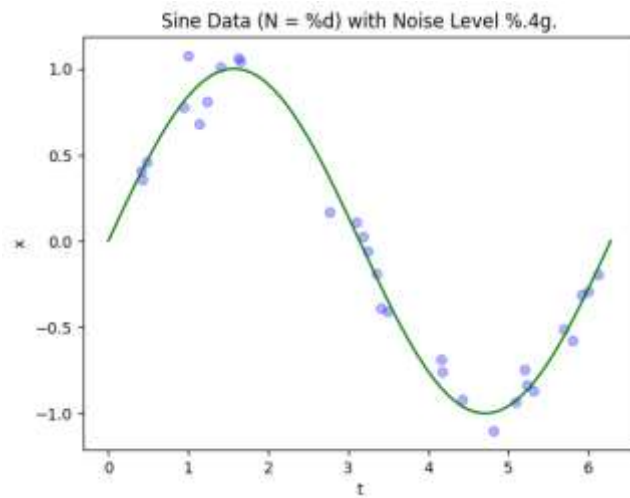
Q2 Part D

Since there are so many data points it makes the region in between the two categories smaller so the lines have to be in better agreement

Q2 Part e

Following the same logic as used in part d, the two models are almost exactly in agreement.

Q5

Sine Data (N = %d) with Noise Level %.4g.

RMSE vs. Lambda

RMSE vs. Lambda (3-Fold)

From the graph it appears that a lambda value of 0.1 looks best and 10**-6 is the worst.