- Problem 2:

	Batch size = 50	Batch size = 100	Batch size = 500
Learning rate = 1 (decrease rate = 0.95)	57.652657	57.969865%	59.635210 %
Learning rate = 0.1 (decrease rate = 0.95)	50.832672	53.370341	41.739360
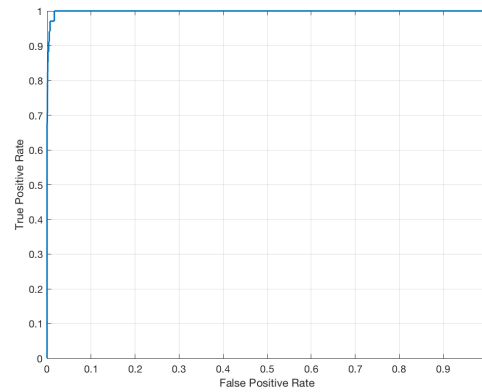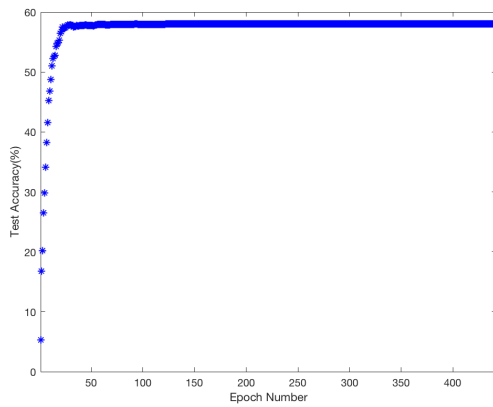
The best accuracy occurred using batch size as 500 and learning rate as 1 (decrease 5% every epoch). The accuracy reaches the top after around 40 epochs and converges after around 450 epochs. The ROC plot shows that the true positive rate is outperform false positive rate since there are too many true negatives in the category.