

Question 2(b).

For $\beta=0.1$, the accuracy is 0.6116
For $\beta=0.2$, the accuracy is 0.72165
For $\beta=0.5$, the accuracy is 0.9248
For $\beta=1.0$, the accuracy is 0.9977

Question 3(d).

Training accuracy: 0.934066666667
Test accuracy: 0.9252

Question 4(d).

Test accuracy: 0.98229795682

Figure 1: scatter plot of data

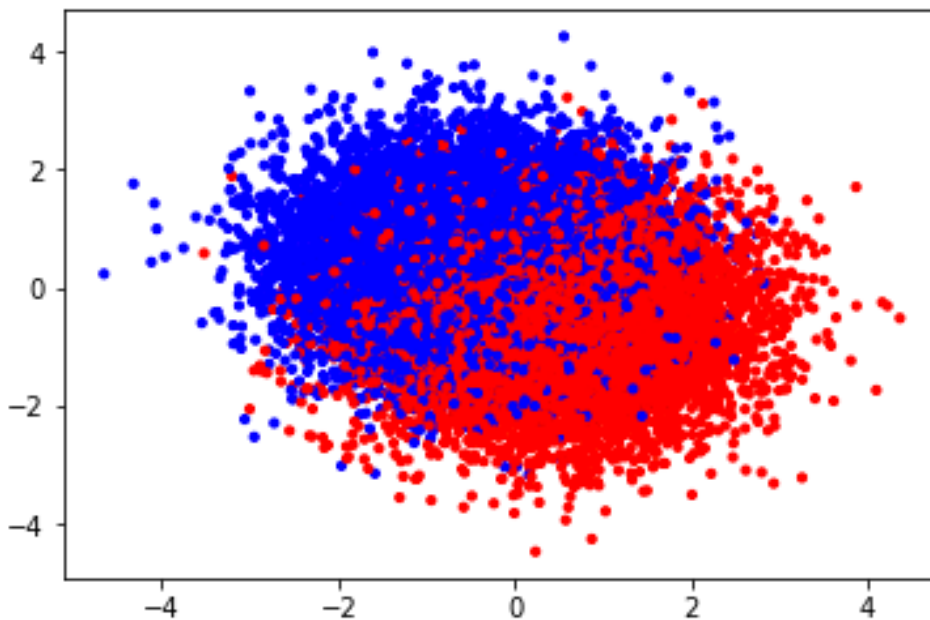


Figure 2: contour plots of logistic decision functions

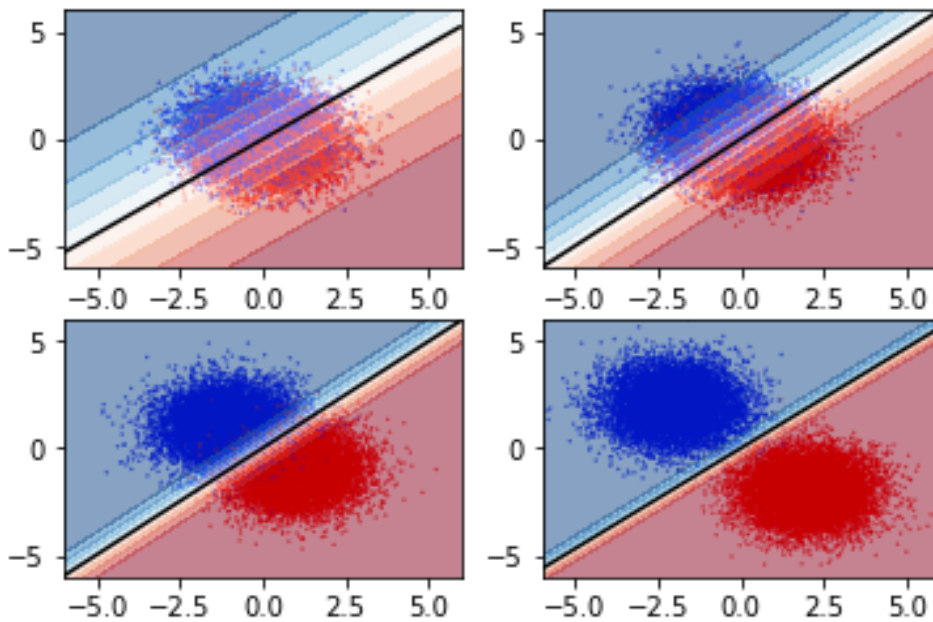


Figure 3: surface plots of logistic decision functions

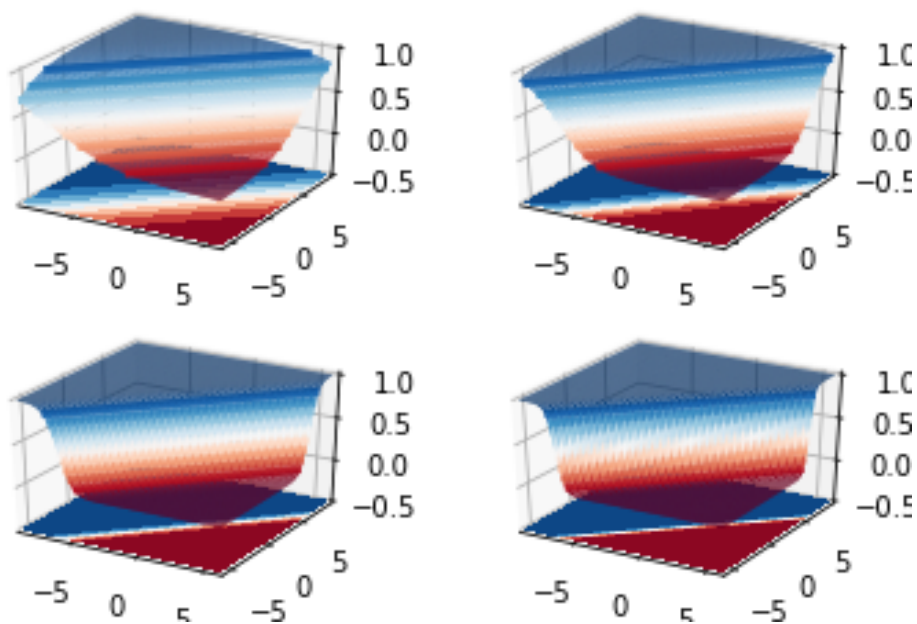


Figure 4: random MNIST images of the digit 5

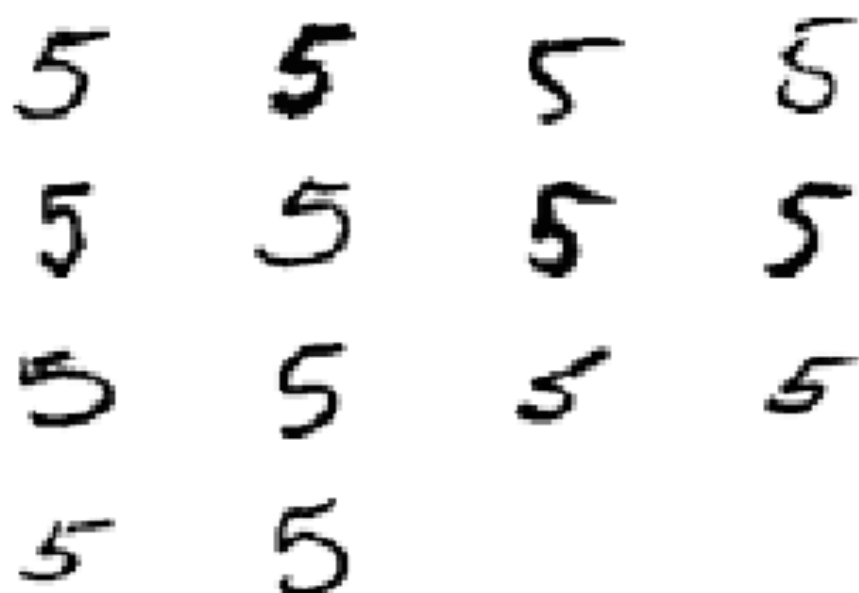


Figure 5: random sample of MNIST training images

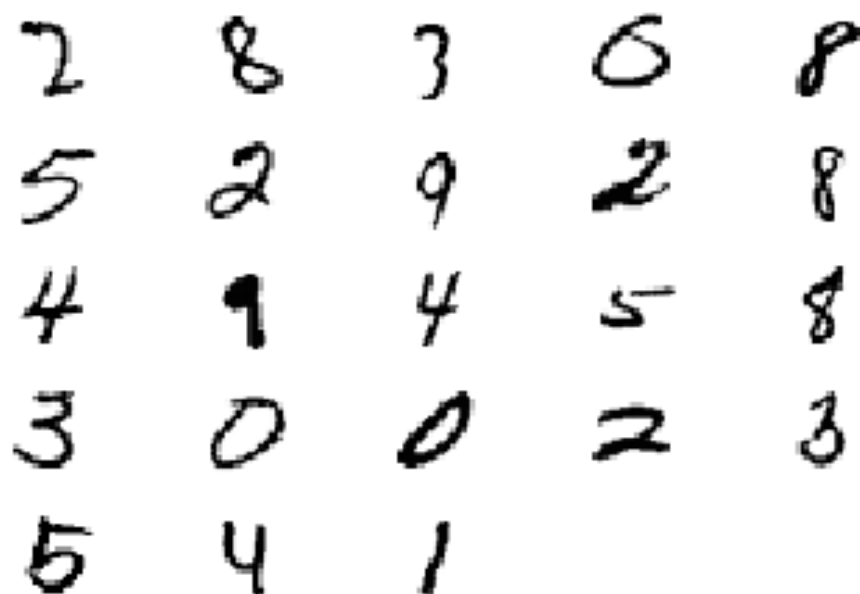


Figure 6: some misclassified images

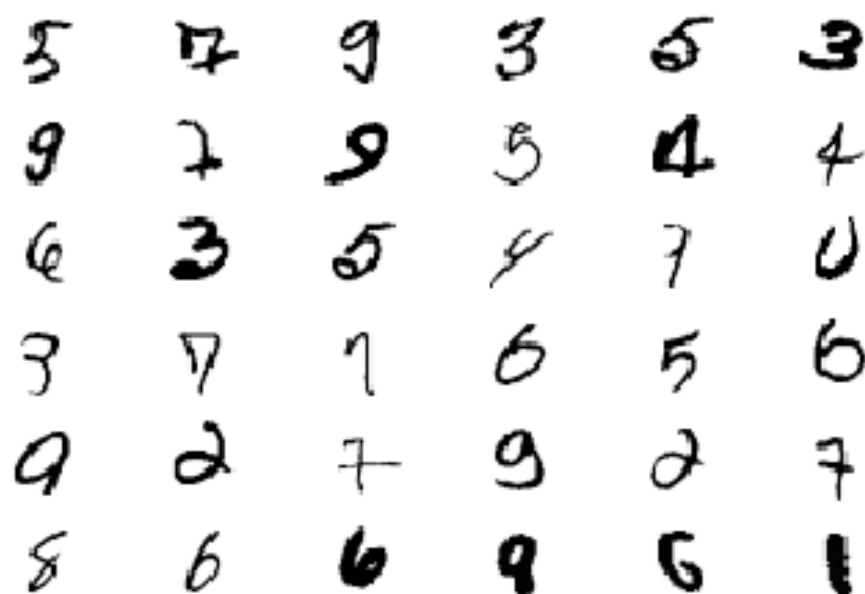


Figure 7: images with the least confident predictions

