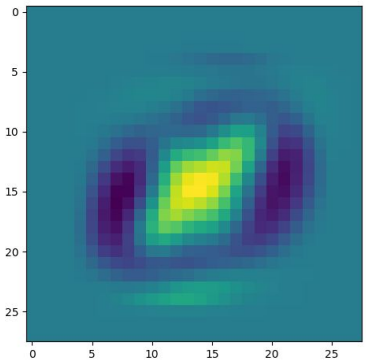
Question 1:

N	Mean Accuracy	5% Percentile	95% Percentile
5	0.9180348004094167	0.8380501535312179	0.9626407369498464
10	0.9440327533265098	0.9067809621289662	0.971417604912999
50	0.9621033776867965	0.9528659160696008	0.9759467758444217
100	0.9646315250767654	0.9554503582395087	0.9739252814738997
500	0.9655987717502561	0.9626151484135107	0.9682702149437052
1000	0.9659570112589558	0.9631525076765609	0.968295803480041
5000	0.9671750255885364	0.9662231320368475	0.9677584442169908

Question 2:

Here is a visual representation of the weight vector:



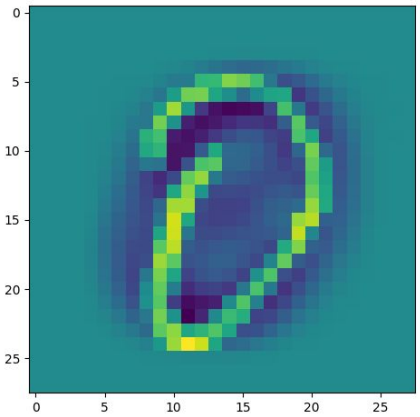
My intuition is that it prioritizes the center of the images over the margins.

Question 3:

The accuracy I received was 0.9672466734902764

Question 4:

I got a misclassification for the following image:



This makes sense - in this image the focus is on the margins and the center is “empty”, exactly the opposite of the Perceptron’s results.