Ps6_report

0:

size of X_train_1 = 41

size of X_train_2 = 43

size of X_train_3 = 44

1a:

class, feature 1 mean, feature 2 mean, feature 3 mean, feature 4 mean

1 [-0.93174288 0.87891503 -1.25205127 -1.20547937]

2 [0.01909745 -0.69404686 0.24587716 0.13814894]

3 [0.90124189 -0.15983495 1.01072286 1.06530441]

class, feature 1 stddev, feature 2 stddev, feature 3 stddev, feature 4 stddev

1 [0.40052271 0.87843056 0.21697509 0.23568102]

2 [0.5783238 0.70136163 0.26376504 0.23324836]

3 [0.76977843 0.75908501 0.34706387 0.40558971]

1b:

Accuracy was 88%

#2

Sigma_1 = (41x41)

Sigma_2 = (43x43)

Sigma_3 = (44x44)

Snapshot of sigma_1

[[0. 0. 0. ... 0. 0. 0.]

[0. 0.29191983 0.72459006 ... 0.43974914 0.41220383 0.68648978]

[0. 0.72459006 1.83945443 ... 1.0477646 1.01725205 1.67769499]

...

[0. 0.43974914 1.0477646 ... 0.73824488 0.65815172 1.0801792]

[0. 0.41220383 1.01725205 ... 0.65815172 0.61581767 0.99225826]

[0. 0.68648978 1.67769499 ... 1.0801792 0.99225826 1.64235385]]

#2b

Each mean vector is (4x1)

Ps6_report

#2c

The accuracy of the MLE classifier was also 88%, so on these examples they are exactly the same