Tristan Pitts
Intro to Machine Learning
Homework 6

1a)

Figure 1: output/ps6-1-a.png

1b)

t =

8×5 table

Class_0_Means	Class_1_Means	Class_0_STDEV	Class_1_STDEV	variables
3.181	4.9688	2.9558	3.7317	'Pregnancies'
109.45	141.76	27.301	31.859	'Glucose'
68.353	70.823	18.161	21.23	'BloodPressure'
20.098	22.74	14.928	17.803	'SkinThickness'
69.121	111.53	101.98	147.63	'Insulin'
30.157	35.127	7.8604	7.4389	'BMI'
0.42077	0.5681	0.30321	0.37546	'DiabetesPedigreeFunction'
31.115	37.135	11.587	11.045	'Age'

Figure 2: output/ps6-1-b.png

1c)

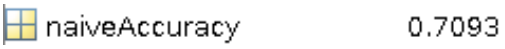

Figure 3: output/ps6-1-c.png

2a)

```
C =

   1.0e+04 *

    0.0011    0.0014    0.0008   -0.0002   -0.0021    0.0000   -0.0000    0.0023
    0.0014    0.1079    0.0098    0.0041    0.1386    0.0058    0.0002    0.0100
    0.0008    0.0098    0.0373    0.0065    0.0203    0.0044    0.0000    0.0059
   -0.0002    0.0041    0.0065    0.0257    0.0806    0.0052    0.0001   -0.0015
   -0.0021    0.1386    0.0203    0.0806    1.4830    0.0204    0.0008   -0.0006
    0.0000    0.0058    0.0044    0.0052    0.0204    0.0065    0.0000    0.0005
   -0.0000    0.0002    0.0000    0.0001    0.0008    0.0000    0.0000    0.0000
    0.0023    0.0100    0.0059   -0.0015   -0.0006    0.0005    0.0000    0.0138
```

Figure 4: output/ps6-2-a.png

2c)

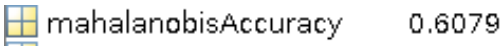

Figure 5: output/ps6-2-c.png

In this case, the naive-bayesian classifier preformed a good deal better than the mahalanobis classifier.