ECE 1395 Problem Set 6

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Ps6-1-a.)

These values will slightly change each run depedning how the X_train and X_test values shuffle.

Ps6-1-b.)

Class 0 Mean	Class 0 STDEV	Class 1 Mean	Class 1 STDEV
3.3352	4.9261	3.0238	3.7918
110.09	142.04	25.743	31.616
68.266	70.477	17.942	20.445
19.291	22.432	15.049	17.528
65.286	103.64	91.552	144.6
30.291	34.987	7.6605	6.8344
0.4191	0.55247	0.28195	0.3847
31.052	37.852	11.573	11.187

Ps6-1-c.)

```
Accuracy is: 68.7237
```

Ps6-2-a.)

```
C =

   1.0e+04 *

    0.0011    0.0014    0.0007   -0.0005   -0.0024    0.0000   -0.0000    0.0021
    0.0014    0.0996    0.0100    0.0029    0.1059    0.0057    0.0001    0.0102
    0.0007    0.0100    0.0354    0.0055    0.0186    0.0037    0.0000    0.0056
   -0.0005    0.0029    0.0055    0.0254    0.0764    0.0049    0.0001   -0.0032
   -0.0024    0.1059    0.0186    0.0764    1.2757    0.0173    0.0005   -0.0072
    0.0000    0.0057    0.0037    0.0049    0.0173    0.0060    0.0000    0.0001
   -0.0000    0.0001    0.0000    0.0001    0.0005    0.0000    0.0000    0.0000
    0.0021    0.0102    0.0056   -0.0032   -0.0072    0.0001    0.0000    0.0141
```

Ps6-2-c.)

```
Accuracy is: 66.5211
>>
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In this case the naïve classifier slightly outperfomred the Mahalanobis classifier. This is not always the case as multpile runs will show that one may perform better one run, but poorer the second time. Both methods are sutable, and often give comperable results, rarely deviating more than a few percentages from one another (although I have seen a 14% difference once).