STA 572 Practice Problems 1

1. List all of the multivariate statistical methods that we will discuss in this class and give examples (applications) of each method.

2. Problem 1.14 on page 41. In part **b.**, please comment on your findings.

3. Describe in your own words why statistical distances are preferred over Euclidean distances in statistical analyses. Are statistical distances preferred over Euclidean distances even in those cases when all the variables have roughly the same variation? Please explain.

4. Problem 2.17 on page 105.

5. Explain why eigenvalues and eigenvectors are useful in multivariate statistics. For what matrix do we find eigenvalues and eigenvectors and why use this matrix?

6. Problem 3.11 on page 146.

7. What does it mean when a vector or matrix is random? Please explain.

8. Conduct Mardia's MVN test for the data in problem 4 on Homework #4. See Handout 8 for details. What are your findings?