**Title: Assignment #xx: (*Indicate here the technique being studied, like PCA*)**

**Purpose:** *Here you can state a short (2-3 sentence) summary of what the assignment was about. For example, “This assignment studied the application of PCA, K-Means, and Hierarchical Clustering techniques.” Each assignment will target one or more techniques – this should be explained in the assignment.*

**Dataset(s):** *Indicate here what datasets were used in the assignment. If they came from a web link, include it here.*

**Approach:** *In this section, describe what steps you took in the assignment. I would suggest a list of bullet points, or a numbered list. Please do not* *include R Code here. This should be a short list of steps, like*

* *First we applied K-means clustering for various values of K, and determined that k=4 gave the best clustering results.*
* *Next we applied PCA to the dataset, and determined that 3 principal components were sufficient (see graph xx).*
* *Next we applied K-means clustering to the dataset transformed under PCA, and found that the betweenSS/TotalSS was reduced from xx% to yy%*

**Graphs:** *You may include any graphs you feel are important, but make sure they are labeled and that they are important to your conclusions. Do not simply print everything out and clutter up your report.*

**Summary:** *A short paragraph on what you learned from this exercise. Anything interesting you discovered (“PCA is very sensitive to scaling”). I would suggest bullet points.*

The entire report should only be a few pages; these are fairly open-ended assignments, where you are being given datasets to practice techniques on. See what you can learn. I would also suggest:

1. Set up individual projects in R for each assignment.
2. Keep the datasets – build your own collection of datasets, useful for learning later
3. Keep these reports
4. Save the R history files for each assignment – this will be useful later if you need to return to one of these methods in the future.