Data Clustering with Visualization plays an important role of understanding the structure of high-dimensional huge data. This project aims to develop software for *Data Clustering with Visualization* on a variety of data sets including

(a) data8OX.txt collected by measuring 8 features of each handprinted character among 45 characters 8, O, X, each was handprinted by 15 individuals.

(b) 6shapes.txt collected by computing 7 features of each shape among 120 shapes from 6 country maps of different sizes, including *Canada, China, France, Italy, USA, and Taiwan*.

(c) 53std.txt collected by computing 10 features of each texture image among 96 texture images obtained from 6 categories of textures from Brodatz’s Album: D04, D06, D15, D54, D68, D77.

(d) 1 ∼ 2 extra data sets of your choice.

A report with the results on data sets (a∼c) must at least meet the following requirements:

(1) Results of K-means clustering on data sets (a∼c).

(2) Plots of principal component projection on data sets.

(3) Dendrograms by hierarchical clustering on data sets.

◊ *Turn in* your *electronic report* as well as *paper report* in no more than four pages before the deadline.