Stochastic Models (Online)

Homework 4

Set: November 25th, 2016.
Due: December 23rd, 2016

1. The 31st Dáil Eireann (Irish Parliament) (March 11th, 2011 — February 6th, 2016) had 166 members who were affiliated with nine political parties or were independent.

   Prior to the disolution of the Dáil on Februrary 6th, the parliament had 23 votes. The dataset giving the votes is stored as `dailvotes.Rdata`.

   The data are stored as a data frame where the first three columns give the name of the member and the subsequent columns give each vote for that member; there is an (y/n/a).

   For simplicity, we want to analyze the data in terms of who supported (Voted yes) on each issue.

   The data can be turned into binary format using a command like:

   ```
   yes <- 1*(votes[,-(1:3)]=="y" )
   ```

   The latent class analysis model (Handout 10.2) can be used to investigate the following questions:

   (a) Do the politicians fall into clusters, where the politicians in each cluster tend to have similar voting behaviour?

   (b) How many clusters are there? Provide summaries of the clusters that you find.