**Activity:** Multiblock Sparse Canonical Correlation Analysis

**Learning Objective:** To perform and interpret the results from a multiblock sparse canonical correlation analysis of simulated data

**Description:** The package PMA in R can be used to conduct multiblock sparse CCA. The documentation (<https://cran.r-project.org/web/packages/PMA/PMA.pdf>) provides lines of code copied to *w12code1-example-multicca.Rmd* to illustrate a multiblock sparse CCA analysis of simulated data.

Run the code, and perform the following tasks:

1. Describe the matrix, u%\*%t(v1).
2. Describe the matrices x1, x2 and x3. How are they related?
3. If we run a multiblock cannonical correlation analysis, describe the characteristics of the 1st cannonical variable from each block.
4. How many variables are selected for the first canonical variable from each block, and how many were correctly selected?
5. Verify the output out$cors[1]= 1.902578.

HINT: cors[1] = cor(x1cc1,x2cc1) + cor(x1cc1,x3cc1) + cor(x2cc1,x3cc1) where xicc1 is the 1st canonical variable from block i