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CPSC 8490

PRINCIPLES OF SCIENTIFIC COMPUTING

ASSIGNMENT 1

Problem 1 –

Spectral clustering using k-means has been implemented using MATLAB.

sprabha-assign2.rar contains all the files required for this assignment. The contents are:

- sprabha-README.pdf
- spectralCluster.m
- netz4504_dual.mat
- x.dat

Instructions for running the program:

- Extract sprabha-assign1.rar
- Open MATLAB and change the directory to where sprabha-assign1.rar was extracted
- Run the program using the following code
    - spectralCluster(matFile, out, k);
        - where matFile is the *.mat file from the Matrix Market
            - (Eg: netz4504_dual.mat)
        - out is the filename of the output file where the cluster indices of the data points need to stored
        - k is the number of clusters.

Example:

The program is run for 'netz4504_dual.mat'. The output cluster indices for the data pints for this example is stored in 'x.dat'.

The clustering and original matrix for this example is visualized as shown below