This is code for biclustering method named “RelDenClu: A Relative Density based Biclustering Method for identifying non-linear feature relations

**RelDenClu.m:**

The main method is RelDenClu(d, ObsInMinBase, maxSingleLinkageFeat)

Input:

First input d is normalized data to be biclustered

ObsInMinBase is minimum number of observations in a bicluster

maxSingleLinkageFeat is maximum number of feature sets found for each observation set. Default is M/2, where M is number of features in the data

Output:

Matrices Clubase and Cludim

Clubase Each row is the set of observations in a bicluster

Cludim Each row is the set of feature in a bicluster

Demo.m

Shows how to use RelDenClu

preproFast.m

Is called by RelDenClu(). Finds high density connected cells. Input is data d

Output is ixmat connected regions for each feature pair

bicRMfunc.m

Is called by RelDenClu(). Finds intersection of observations forming dense regions for 3 features

Input is ixmat and ObsInMinBase

Output is impbase and impdim

Getbiclus.m

Is called by RelDenClu(). Finds final biclusters

Input data d, impbase from bicRMfunc, user input maxSingleLinkageFeat

Output

Clubase Each row is the set of observations in a bicluster

Cludim Each row is the set of feature in a bicluster

gridMICuneqmainstatEnt.m

Finds pairwise dependence between features for given data, called by getbiclus

Input data d

Power parameter to decide bin length should be close to 0

Output Triangular matrix with dependence values

Norm1.m

Input data d

Output normalized data d

Norm2.m

Useful for Gaussian data

Input data d

Output normalized data d