Linear Data Analysis
Week 12 Tutorial

Cain Susko

Queen's University
School of Computing

March 29, 2022

Degree Laplacian Matrix

you can calculate the Laplacian Matrix of a matrix `A` in matlab using:

```
L = diag(sum(Amat, 2)) - Amat
```

Sort

we can sort the Eigenvectors from largest to smallest using:

```
[lvec lx] = sort(EvecRaw, 'descend')
```

we can then sort the matrix of eigen-values using the sorted indicies (`lx`) such that:

```
eMat = eMat(:, lx)
```

such that we essentially permute eMat to be sorted.

Adjacency Matrix

we can calculate an adjacency matrix without a loop by doing:

```
% set A(i,j) to 1
A(elist(:, 2) + (elist(:, 1)-1)*mA) = 1;
% symmetric, handle edge duplicates
A = (A+A') > 0;
```