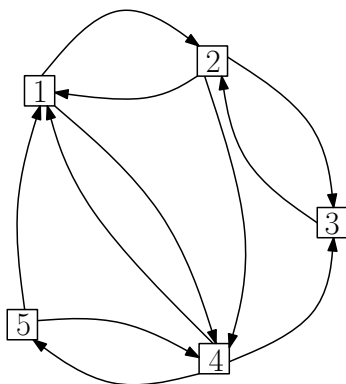


1. Consider the following web:



- (a) Find the link matrix A .
 - (b) Find the unique importance score vector \mathbf{x} .
2. (a) What is a *dangling node*?
 - (b) Why are these so problematic?
3. Prove that the eigenvalues of a column stochastic matrix are all less than or equal to 1 in absolute value. (To simplify your proof, you may assume the matrix has real eigenvalues. But this is not true in general.)