SMMG - Incidence Matrices

Activity 4

Given a Network with n nodes, we define the *incidence matrix* to be the matrix which indicates if there are paths from node i to node j. More precisely, let $A = (a_{ij}) \in \mathcal{M}(n \times n)$ where $a_{ij} = 1$ if there is a path from j to i.

a) Compute the incidence matrix of network A, call it A

b) Compute A^2, A^3 and A^4.

c) Compute the incidence matrix of network B, call it B

d) Compute B^2, B^3 and B^4.