LARSON—OPER 731—CLASSROOM WORKSHEET 14
Totally Unimodular Matrices & Matchings

1. Draw a directed graph with 3 vertices and 2 “arrows”, with the arrows meeting at one of the vertices. Label the vertices.

2. Find its directed vertex-edge incidence matrix.

3. List all its square submatrices and find the determinant of each.

4. Is it totally unimodular?
5. Find a maximum matching.

6. Find a minimum vertex cover.