3.15 Further matrices

Checklist

What you should know

By the end of this subtopic you should be able to:

- create an adjacency table for undirected graphs, directed graphs, and weighted graphs
- find the degree of a vertex by summing the values in its column or row of an adjacency table
- state that the sum of all values in the adjacency table of an undirected graph is equal to twice the number of edges in the corresponding graph
- describe the symmetry of the adjacency table for an undirected graph
- find the number of edges that allow you to travel from vertex i to vertex j by stating the value A_{ij} in the adjacency table for the directed graph
- calculate the number of k -length walks (or less than k -length walks) between two vertices
- construct a transition matrix for a random walk.