Chapter 1: Introduction

1. Graphs can represent road maps, electrical circuits, system of bridges, networks, tournament, etc.

2. What is a graph?
   - Graph of a function
   - Graph, vertices, edges, degree
   - Ways of describing a graph: Set, Matrix, Picture
   - Length of edges are irrelevant, as are crossings without a vertex

3. Other Definitions:
   (a) Graphs are the same if two vertices are joined by an edge in one graph if and only if the corresponding vertices are joined by an edge in the other.
   (b) Multiple edges, loop, simple graph
   (c) Directed graph (Digraph, Chapter 7)
   (d) Walk - way or getting from one vertex to another or sequence of edges
   (e) Path - a walk in which no vertex appears more than once
   (f) Cycle - closed path
   (g) Eulerian Graph and Hamiltonian Graph (Chapter 3)
   (h) Connected Graph and Disconnected Graph (Chapter 3)
   (i) Trees (unique path between vertex pair Chapter 4), Planar graph (Chapter 5)

4. Problem 1.7
   Snakes eat frogs and birds eat spiders; birds and spiders both eat insects; frogs eat snails, spiders and insects. Draw a digraph representing this predatory behavior.