ECE 3020 Homework 10
Due Date: Friday, March 29, 9:05 AM

1) Write a program to implement Prim's Algorithm to determine a minimum-weight spanning tree for an arbitrary graph. Test your program on the graph below and a few others. Your program should be as close to the pseudocode given in lecture (see notes on course Web site) as possible. Use an adjacency matrix to represent the graph and do not use a heap to keep track of the minimum weights to the partial spanning tree at each step (the book uses a heap for the similar Dijkstra's algorithm and implementations available on the Web also use a heap for this). Instead of the heap, just go through all of the min_weight values to find the min_overall value each time a new node is added to the tree.

   Output the adjacency matrix of the minimum-weight spanning tree (or just list the edges of the tree) and the total weight (the sum of the edge weights).