Lab 7: Graphs I

due date: October 16

Problem 1:

Write a program that can read a graph that is described by an edge list:

- read the edge list of a graph;

- compute and print the number of edges;

- print the edge list;

- compute and print the number of nodes;

- compute and print the degree of each node.

Demonstrate your code on the "Walther" graph.

Problem 2:

Write a program which can determine whether there is a path from one node to another in a graph:

- read the edge list of a graph;

- read the numeric indices of two nodes;

- determine if there is a path from one node to the other and print "path" or "no path".

Demonstrate your code on the "Paths" graph, and the following pairs of nodes:

1. from node G (7) to node H (8);

2. from node G (7) to node I (9);

DATA FILES

The following files will be of use to you:

- **paths_edges.txt**, the edge list for the "Paths" graph;

- **walther_edges.txt**, the edge list for the "Walther" graph;

These files will be available from the class's Blackboard site, or you can get them by going to
http://people.sc.fsu.edu/~jburkardt/data/graph_representation/graph_representation.html
or
http://people.sc.fsu.edu/~pbeerli/isc4221/graph_representation/graph_representation.html or
http://www.peterbeerli.com/classdata/ISC4221/graphics