Recitation 2

In this recitation, we will write an AMPL model for the maximum flow problem.

You can work in pairs or individually. Answer the questions in the blank space provided, and turn this handout in to your section TA. If you work with a partner, you and your partner need only turn in one copy.

Name and NetID:
Section:

In this model, you should let `VERTICES` be the name of the set used for the nodes in the input directed graph. Similarly, let `EDGES` be the name of the set used for the edges, `SOURCE` the name used for the source node, and `SINK` the name used for the sink node. Finally, let `FLOW[i, j]` be the variable name used for the maximum flow to be computed.

Write out the full AMPL model:

Now, construct a sample input, by drawing a directed graph with seven nodes (including the source and the sink), a reasonable number of edges, along with the associated edge capacities. Attempt to find an optimal solution by inspection first.

Finally, construct an AMPL data file corresponding to the graph you drew above. You do not need to write your .dat file below. Use AMPL to solve for an optimal flow, and write down the optimal solution that you found and the corresponding objective value.