MA515 Homework #9
Due Friday, November 19

1. Problem (Minimum-weight dipaths by linear programming), p. 77. You may assume that you solve the linear program using the simplex method.

2. Exercise (Shortcut), p. 95.

3. Exercise (Scheduling), p. 99.

4. Suppose that you use the matroid intersection problem to solve the problem of finding a maximum cardinality matching in a bipartite graph.

   (a) Interpret and describe the steps of the algorithm directly in terms of the graph.

   (b) Use this interpretation and the Matroid Intersection Duality Theorem to prove that at the termination of the algorithm you can find a matching M and a subset S of the vertices such that $|M| = |S|$ and every edge of G has at least one endpoint in S.