MA515 HOMEWORK #6
Due Wednesday, October 24

1. A *vertex packing* in a graph is a set of vertices, no two of which are joined by an edge. A *covering of vertices by edges* in a graph is a set of edges such that every vertex is an endpoint of at least one of these edges. Prove the following, using the techniques similar to those that we used for the proof of König's Theorem.

   If G is a bipartite graph such that every vertex is incident to at least one edge, then the size of a maximum cardinality vertex packing equals the size of a minimum cardinality covering of vertices by edges.

2. Jon Lee's text, Problem (Unique-circuit property), p. 53.

3. Jon Lee's text, exercise [Linear over GF(2)$\not\Longleftrightarrow$graphic], p. 54.

4. Jon Lee's text, Problem (Scheduling), p. 59.

5. Jon Lee's text, Problem (Swapping Algorithm), p. 60.

6. Do on your own, but do not hand in:

   (a) Exercise (Maximum-weight spanning tree), p. 58.

   (b) Exercise (Scheduling), p. 59.