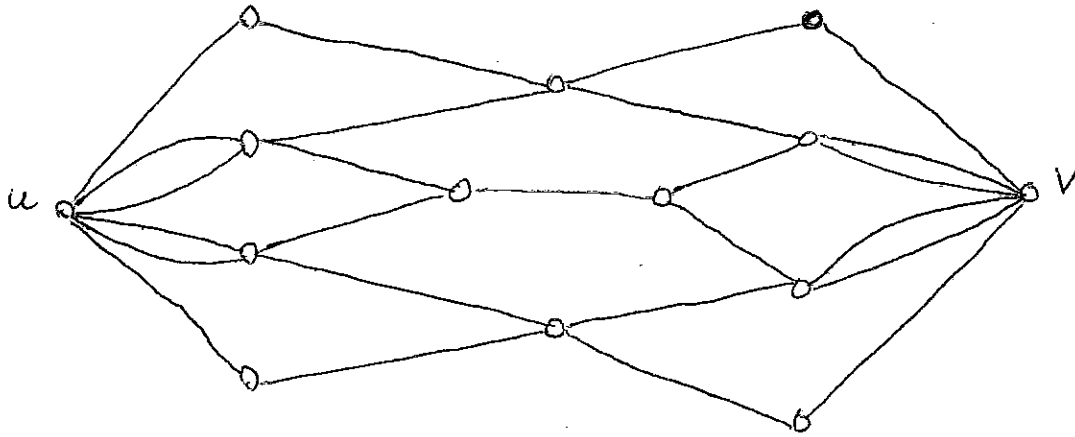


# Homework 9

- 9.1 Determine  $\chi(u,v)$  and  $\chi'(u,v)$  in the graph drawn below.  
(Hint: Use the dual problems to give short proofs of optimality)



- 9.2 Construct a connected graph  $G$  that is neither a complete graph nor an odd cycle but has a vertex ordering relative to which greedy coloring uses  $\Delta(G)+1$  colors.

- 9.3 For the graph  $G$  below, compute  $\chi(G)$  and find a  $\chi(G)$ -critical subgraph.

