1. Write an Integer Program (IP) whose optimum is the size (cardinality) of a maximum vertex packing. Guess an optimal solution.

2. Find an optimum (guess and test).

3. Use the Simplex Method to solve the corresponding LP. Show your work. (If you are rusty, imitate Chvatal—that’s what I did in class).

4. Use your LP solution to prove that your IP solution is optimal.

5. Write the dual to the LP.

6. Find a feasible solution that proves that your LP solution is in fact optimum. (You don’t need to use the Simplex Method—the Duality Theorem shows that a feasible solution to the dual that has the same optimum as the LP solution you are checking is enough.)