Problem Set 8
COSC 240
Spring 2019
Due April 30, 2019
40 points (20 points for each question)

1. Using the discussion on slides 74-75 of
   https://courses.engr.illinois.edu/cs473/fa2010/Lectures/lecture20.pdf   show that there is a
   polynomial time reduction from the vertex cover problem to the set cover problem.

2. Hamiltonian cycle in an undirected graph G(V,E) is a cycle that contains each vertex in V
   exactly once. Consider the following *decision* problem:

   Does a graph G have a Hamiltonian cycle?

   Explain briefly why the above problem is in NP.

   Hint: Show that the there exists a polynomial time verification algorithm.