

CS113/DISCRETE MATHEMATICS-SPRING 2024

Worksheet 25

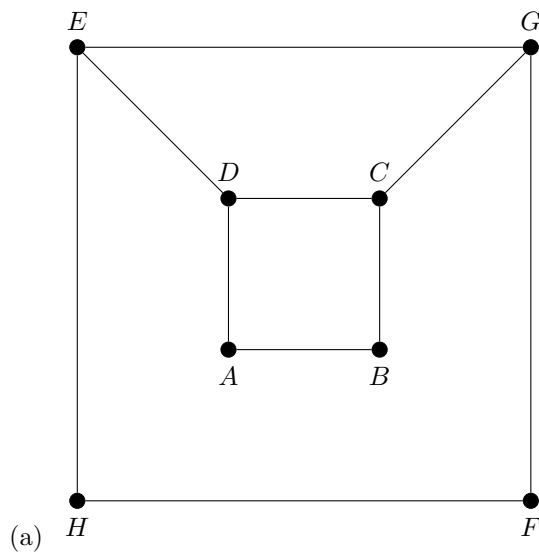
Topic: Paths, Circuits, Graph Connectivity

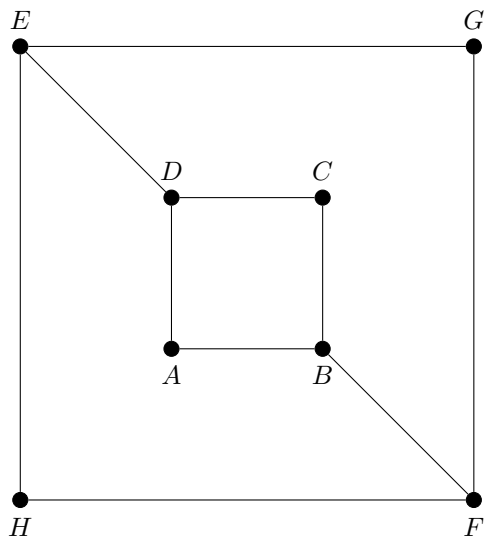
Today, we're once again diving into the world of graphs, exploring two fundamental concepts: paths and connectivity. These ideas are at the core of graph theory, from planning efficient routes to analyzing communication networks, understanding paths and connectivity empowers us to make smart decisions. Happy Learning!

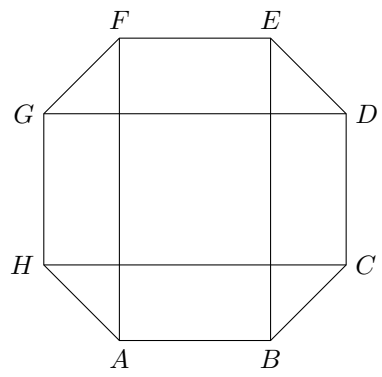
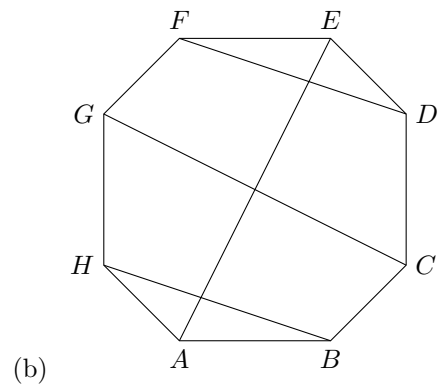
Student's Name and ID: _____

Instructor's name: _____

1. Use paths either to show that these graphs are not isomorphic or to find an isomorphism between these graphs.







2. Show that every connected graph with n vertices has at least $n - 1$ edges.

3. Show that a vertex c in the connected simple graph G is a cut vertex if and only if there are vertices u and v , both different from c , such that every path between u and v passes through c