



HANU
HANOI UNIVERSITY

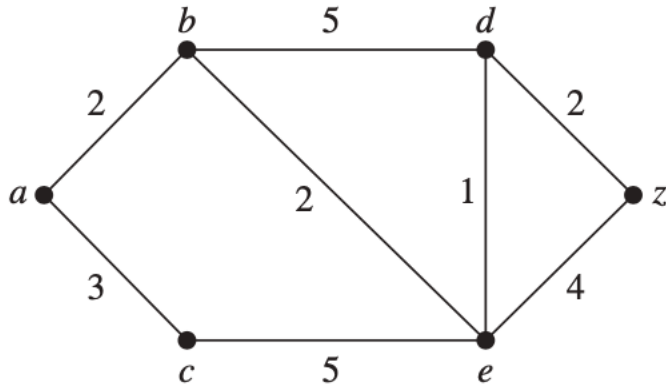
FACULTY OF INFORMATION TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE

HOME WORK

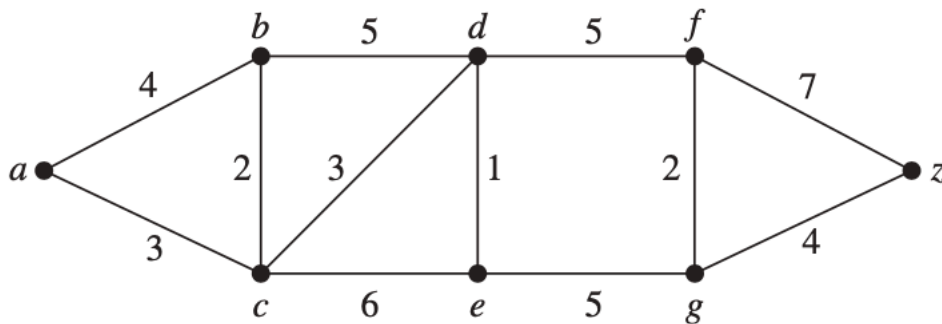
Discrete Mathematics

PROBLEM SET 10: GRAPH (PART 2)

Problem 1: Find the length of a shortest path between the vertices a and z in the weighted graph displayed in the following figure.

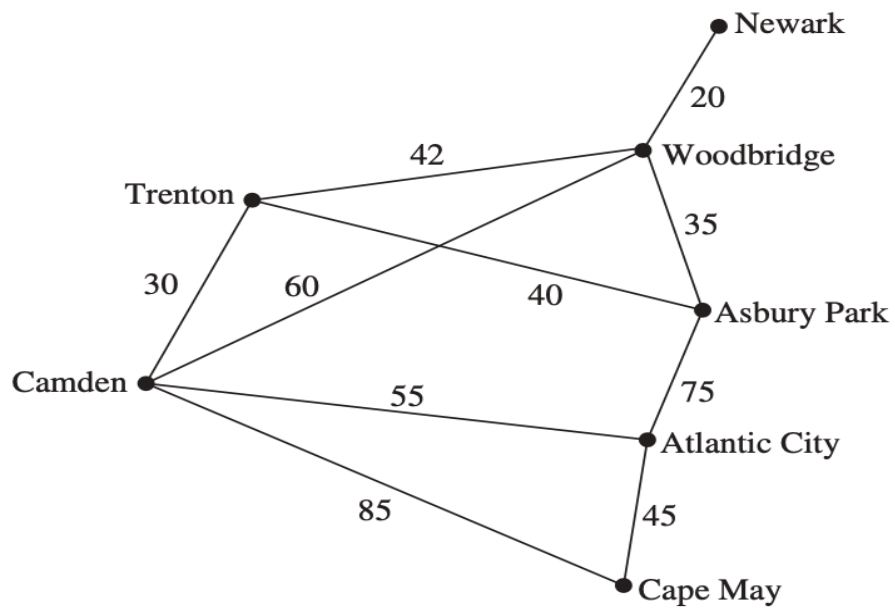


Problem 2: Use Dijkstra's algorithm to find the length of a shortest path between the vertices a and z in the weighted graph displayed in the following figure.

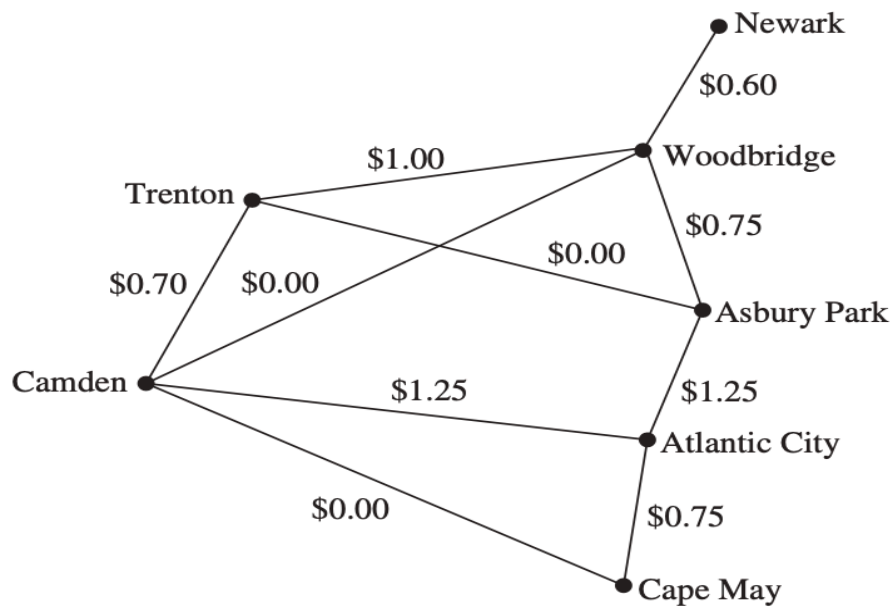


Problem 3: The weighted graphs in the figures here show some major roads in New Jersey. Part (a) shows the distances between cities on these roads; part (b) shows the tolls.

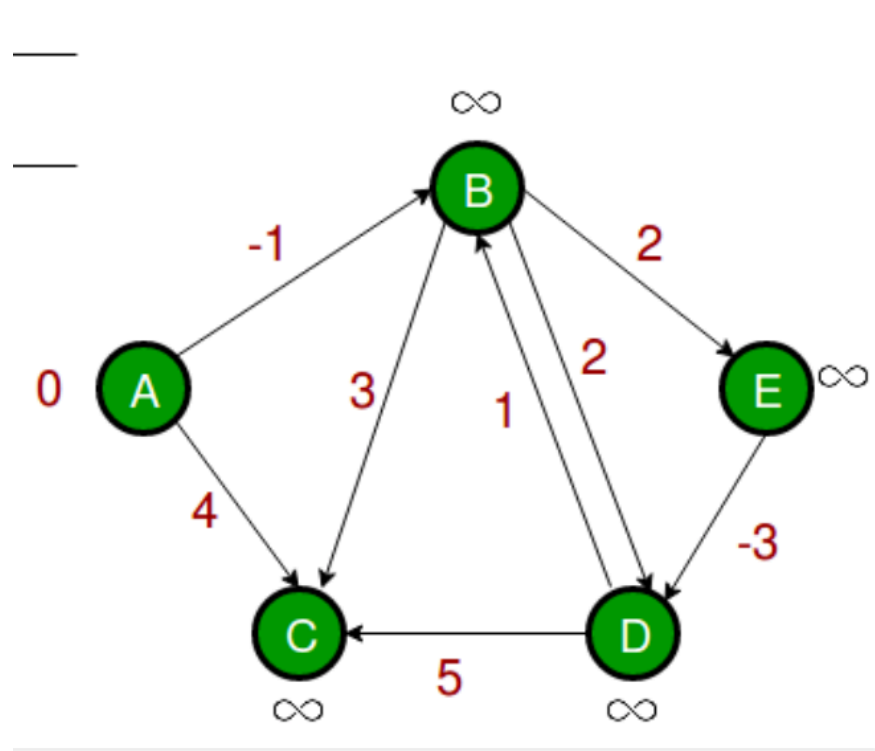
- a) Find a shortest route in distance between Newark and Camden, and between Newark and Cape May, using these roads.
- b) Find a least expensive route in terms of total tolls using



(a)



Problem 4: Use Bellman Ford algorithm to find the length of a shortest path to all vertices from A



Problem 5: In the graph below, determine whether the following walks are trails, paths, closed walks, circuits, simple circuits.

