

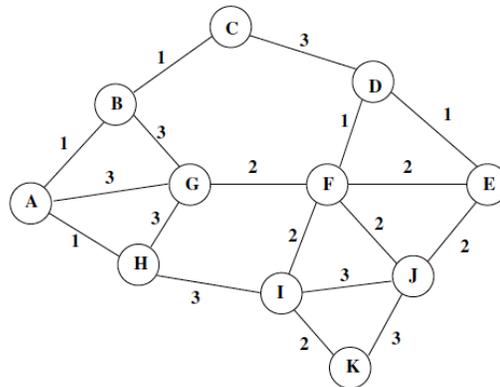
CPSC 3200: Algorithm Analysis and Advanced Data Structure

Summer 2013

Home Assignment 5

Question #1:

Consider the following graph and answer the following questions.



- List the graph nodes (vertices) using Breadth-First Search (Show your work).
- List the graph nodes (vertices) using Depth-First Search (Show your work).
- Using Dijkstra's shortest path algorithm, find the shortest path from node A to K (show your work).

Question #2:

Consider the following sequence of integers:

22, 1, 3, 4, 9, 13, 29, 25, 5, 8, 6

Illustrate the execution of in-place sorting for the sequence of numbers using:

- Selection-sort** algorithm.
- Insertion-sort** algorithm.
- Bubble sort** algorithm.
- Merge sort** algorithm.
- Quick sort** algorithm.