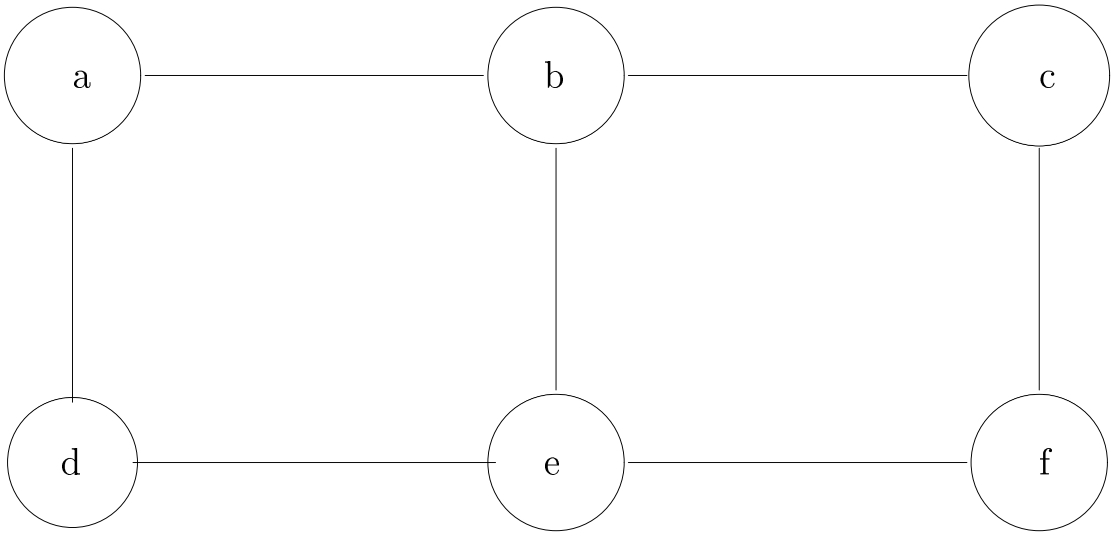
HW1

Hu, CSE 101, Fall 2002

Problem 1



Do the following for each of the sequnces of vertices below:
Assign each edge in the above graph a weight of either 1 or 2, such that when Dijkstra's algorithm is performed on the graph, starting from vertex a, the order that the vertices are visited (i.e when the label gets and * in the books description of the algorithm,) is that of the given sequence. Represent the progression of the algorithm by drawing a series of graphs representing which vertices have been added at each point. Do this by labeling the edges in the paths to the added vertices with a color seperate from that used to draw the rest of the graph. Each graph should have only one more edge colored than the previous. In other words use the same coloring scheme as described in page 6 of the book. (Though we won't hold you to using brown and green.) If it is impossible to attain the sequence, state why.

i d, b, c, e, f

ii b, c, d, f, e

iii b, e, f, d, c

Note: In case of a tie, break the tie alphabetically.