

CSE 332 Winter 2011
Section Worksheet 7

Dijkstra's Algorithm – Shortest Paths

Draw the following graph:

$V = \{a, b, c, d, e, f, g, h, i\}$

$E = \{ (a,b):4, (a,e):1, (a,d):10,$
 $(b,e):11, (b,c):3,$
 $(c,e):12, (c,f):4,$
 $(d,e):7, (d,g):6,$
 $(e,g):5, (e,h):7,$
 $(e,i):2, (e,f):8,$
 $(f,i):3,$
 $(g,h):9,$
 $(h,i):6 \}$

where $(x,y):z$ represents an undirected edge between x & y with weight z .

Find the shortest path from vertex **a** to each vertex using Dijkstra's algorithm. As with your homework problem, please show (1) the *order* in which the vertices are added to the "known" cloud, and (2) table with best-known distance and predecessor node on the path.