Zach Domke

4/29/18

CIS 315

Chris Wilson

1. Kruskal’s:

(F,K)(A,F)(J,K)(B,F)(C,G)(H,L)(E,J)(F,G)(D,H)(G,H)(F,J)

Prim’s:

(A,F)(F,K)(B,F)(A,E)(F,G)(J,K)(C,F)(D,K)(K,L)(G,H)(E,I)

1. Dijkstra(G,w,s):

Initialize-Dingle-Source(G,s)

S = 0

Q = G.V

Array[] = [0 for x in G.V]

while Q != 0:

u = Extract-Min(Q)

S = Union(S, {u})

for each vertex v in G.Adj[u]

Relax(u, v, w)

Array[u] += 1

1. s.path = infinity

for v in V:

v.path = max{u.path : (u, v) is in E}

if B[u, v] < u.path:

v.path = B[u, v]

return t.path

1. s.relaibility = 1

for v in V:

v.reliability = max{(u x r(u, v)) : (u, v) is in E} //where u is a parent of v

return t.reliability

1. Bellman-Ford(G,w,s): // added helper function to return vertices as an array

Initialize-Single-Source(G,s)

for i = 1 to |G.V| - 1:

tempA[] = values-of-vertices-to-array() // added line

for each edge (u.v) in G.E:

Relax(u,v,w)

tempB[] = values-of-vertices-to-array() // added line

if tempA == tempB: // added line

break // added line

for each edge (u,v) in G.E:

if v.d > u.d + w(u,v):

return False

return True