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Assignment 8

Problem 1: Here is the solution for problem 1.

Exercise 22.3-2

The graph has been drawn by hand and attached to the document.

Edge	Type
(q,s)	Tree
(s,v)	Tree
(v,w)	Tree
(w,s)	Back
(q,w)	Forward
(q,t)	Tree
(t,x)	Tree
(t,y)	Tree
(y,q)	Back
(x,z)	Tree
(z,x)	Back
(r,u)	Tree
(r,y)	Cross
(u,y)	Cross

Exercise 24.1-1

The graph has been drawn by hand and attached to the document.

Part A: using z as source

D Values:

s	t	x	z	y
∞	∞	∞	∞	∞
∞	∞	∞	∞	∞
∞	∞	∞	∞	∞
∞	∞	∞	∞	∞
∞	∞	∞	∞	∞

Part B: changing edge weight (z,x) to 4

Problem 2: Here is the solution for problem 2.
Code Description:
-Input of a maze that defines weights betwen each node with N x N defined terms for size
-Creates Nodes and Edges(weighted distances between each node) and stores them within a weighted graph scheme, modified to store maze values
-Using input of the first and last nodes of the graph, uses Dijkstra alg. To find the shortest path from (0,0) to (4,4), using a map.