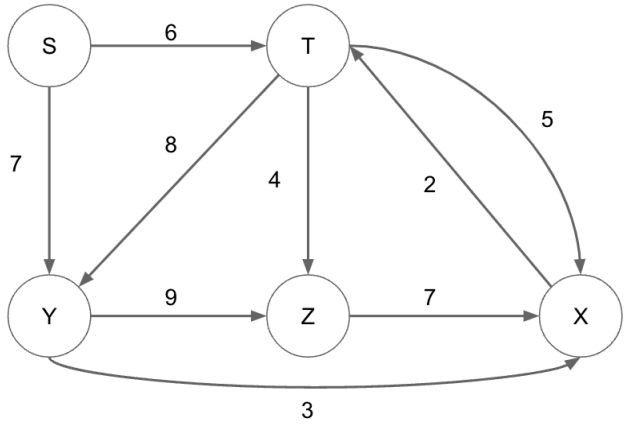
Section 08: Seam Carving

1. Dijkstra's (Shortest Paths Tree)

Calculate the Shortest Paths Tree starting from S.



Vertex	distTo	edgeTo	Processed
S	0	--	
T			
X			
Y			
Z			

2. Graph Design: Scenario 1

Consider the following scenario:

Anna is commuting from her home to campus to teach lecture. However, before stepping foot in the lecture hall, she needs to print out the lecture worksheets. With this in mind, Anna is trying to calculate the shortest path she can take from her house to the lecture hall that includes a stop at a printer. How might she achieve this?

Assume multiple places on campus have a printer.

Assume edge weights are by distance and nodes are buildings on campus and her home.

Your solution:

3. Graph Design: Scenario 2

Consider the following scenario:

Anna is walking her dog Percy and knows Percy's favorite spots to use the bathroom. She wants to try to make it home whilst simultaneously minimizing the amount of times that she has to stop and let Percy use the bathroom. Return any 5 distinct paths Anna can take to get to her house that minimize the amount of times she has to stop and let Percy use the bathroom?

Her dog can use the bathroom multiple times

No edge weights, and we don't care about distance

Bathroom spots will be marked on the graph as special nodes

Your solution:

4. Affordance Analysis

Give an affordance analysis of the `DualGradientEnergyFunction` for Seam Carving. Remember this is the affordances/functionalities of what the technology interface affords/allows us to do.

1.

2.

5. Value Sensitive Design

Human Values: **How do the affordances of the `DualGradientEnergyFunction` for Seam Carving foreground or fail to consider human values.** What is important to people in their lives? It may help to think about past/existing technologies and limitations of them as well. Identify at least **two** human values.

1.

2.

Pervasive Uptake: **What are the impacts of using the DualGradientEnergyFunction interface for Seam Carving by the general public?** Identify at least **two** pervasive uptakes.

1.

2.

Stakeholders: **Who are the direct and indirect stakeholders and how might they be impacted?** Consider both those who are directly and indirectly impacted by the use of the `DualGradientEnergyFunction` interface for Seam Carving. Identify at least **one direct** and **one indirect** stakeholder.

1.

2.

6. Iterative Design

What is a revised or new affordance/functionality that you would like to add to the `DualGradientEnergyFunction` for the Seam Carving interface? Think about an affordance/functionality you may want to change or add to the interface that ties back to the Value Sensitive Design Principles you thought about with the current interface.