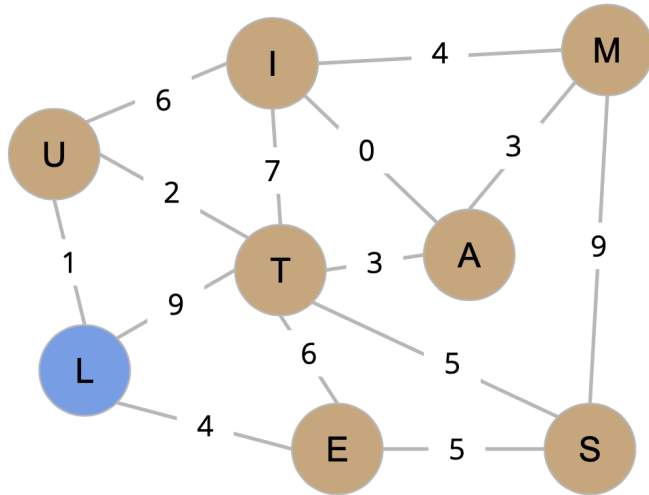


# Dijkstra's and A\*

Given the graph below, answer the following questions:



- (a) What edges are in the shortest paths tree (SPT) starting from **L**?
- (b) Decreasing **which edge** by 2 changes the SPT from **L**? Assume the SPT tree was created by running Dijkstra's from **L**. There may be more than one correct answer, determine **all**!
- (c) We will define the heuristic of a vertex  $v$  as the shortest distance from  $v$  to **I**. For instance, the heuristic of **T** is 3.

Given that **I** is the end vertex, what start vertex would visit the most vertices on one run of A\*? Recall that A\* terminates after removing the goal. If multiple answers produce the maximum, select all.