

## **Assignment 1 – AI**

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### **Heuristic Function:**

We chose our heuristic function to be the sum of weights in the MST containing only the state's current vertex and the vertices with people that needs saving, as it was defined in class.

We ignore the vertex forms (safe/brittle/broken), as it simplifies the problem that we are trying to solve. Thus, providing an optimistic heuristic. It returns a value greater or equal to 0. Since, the sum of edge weights always greater than 0, unless there are no edges, and then returns 0. If there are no edges, we arrived at a goal, because then the only vertex in the graph is our state's current vertex, and there are no remaining vertices with people to save.

It follows that our heuristic is admissible.