HelpFromRabbeim

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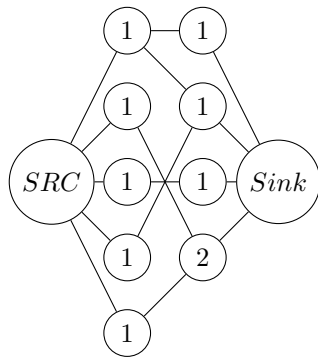
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1 Network Flow Problem

Help From Rabbeim was a network flow problem with the goal of scheduling as many rabbis as possible to the appropriate topic. The reason it is a network flow issue is that we would want to in a sense flow as many rabbis through the course search as possible. We would set it up by having our root flow through each of the rabbis, we would then have each rabbi pointing at the courses they can teach and then we would have the courses pointing to the sink node. From there we would just have to find the right flow or path of which each rabbi should be teaching.

2 Justified Modeling

By putting each Rabbi into a bipartite graph pointing to each course. We then use Fork-Fulkerson to get the maximum flow of our graph. Once we have the maximum flow of our graph we can simply just go through our network and take each rabbi that is assigned based on where their node would flow to in the network. We find which rabbis flow to which topic and from there we can make the most optimal schedule

3 Network Flow Graph

The Graph below is a representation of a Network The first Node is the source and the Last node is the Sink. Each number within each node is the capacity of the Graph

The graph flows from the source into each of the Rabbeim nodes. Then it'll flow from the Rabbeim nodes into each of the HelpTopics Nodes and then from there will flow into the Sink