1 Questions

Q: How do I generally approach answering DP Questions?

- Try to come up with a recursive solution. Then, rewrite the algorithm to run bottom up. (ie. The base case is the same but it is used at the start of memoization instead of the deepest/last recursive call.)

Q: How do I approach test #3 type questions? (incorrect proofs)

- Make sure to follow the instructions. Many students did not give a greedy algorithm but the result of a greedy algorithm. (ex for Dijkstra: least nodes between source and destination. How is that found? BFS.)
- Make sure that algorithm has some meaning. There were answers that had no ending and took all edges for MST or Dijkstra.
- Try to keep the answer similar (lose min/max constraints). For example, it would've been sufficient to have a non-minimum spanning tree for MST and a non-minimum path tree for Dijkstra.

2 Midterm

- Big Oh. If you had any troubles with #1 on the midterm (especially a), make sure to review some Big Oh proofs. Try to use this method for fractions:

$$\frac{n}{d} < \frac{n`}{d`}$$

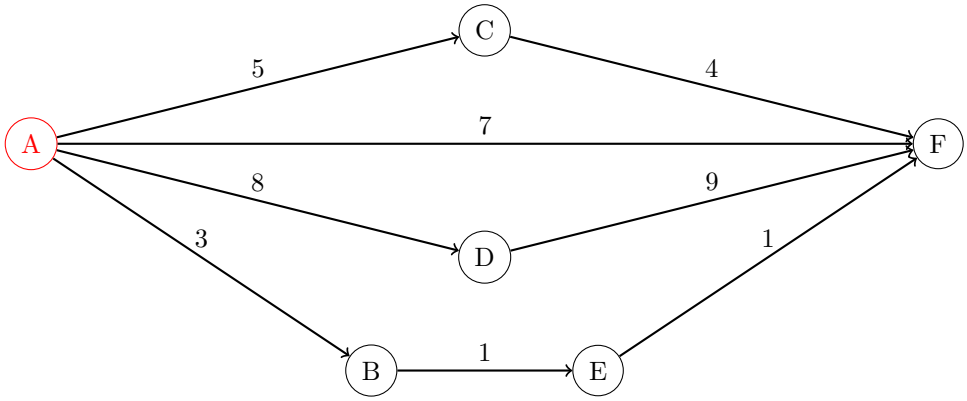
where

$$n < n`, d > d`$$

Basically, make the numerator larger and the denominator smaller to make the fraction larger to find a upper bound.

3 Flow Network

Find the max-flow of the following network. Show the residual network. Using the max-flow, what is the min cut?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