

Augment the Study

-Finding our lower bound-

Has to be:

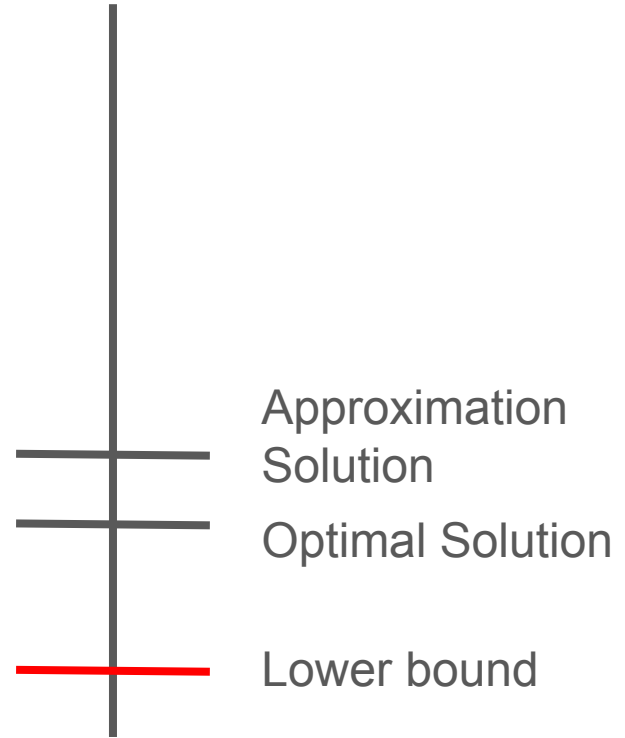
Lower Bound cost \leq Optimal cost \leq Approx cost

Poly time

Exp time

Poly time

It is important because it provides a baseline so we know how close our approximation is to our optimal



How to get our lower bound – 1 tree bound

Step 1 - pick a root

Step 2 - build an MST with on all nodes except the root

Step 3 - add the two cheapest edges incident to the root

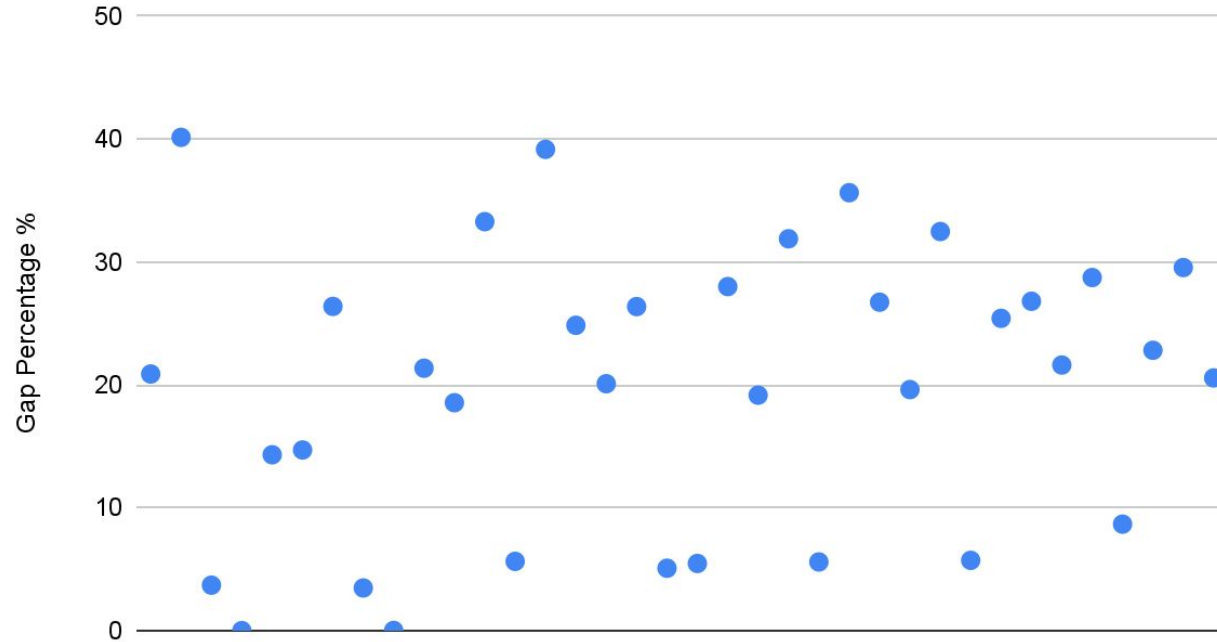
Runtime $O(n^2 \log n)$



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Comparing values - Gap Percentage

Gap Percentage Lower Bound vs Approximation



The average:
19.9%



What does this mean?



Thank you

