Augment the Study

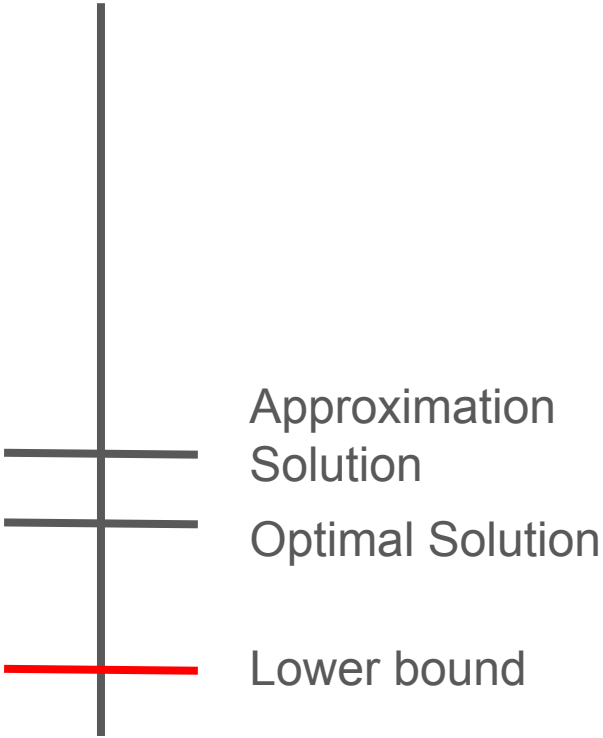
-Finding our lower bound-

Has to be:

Lower Bound cost ≤ Optimal cost ≤ 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

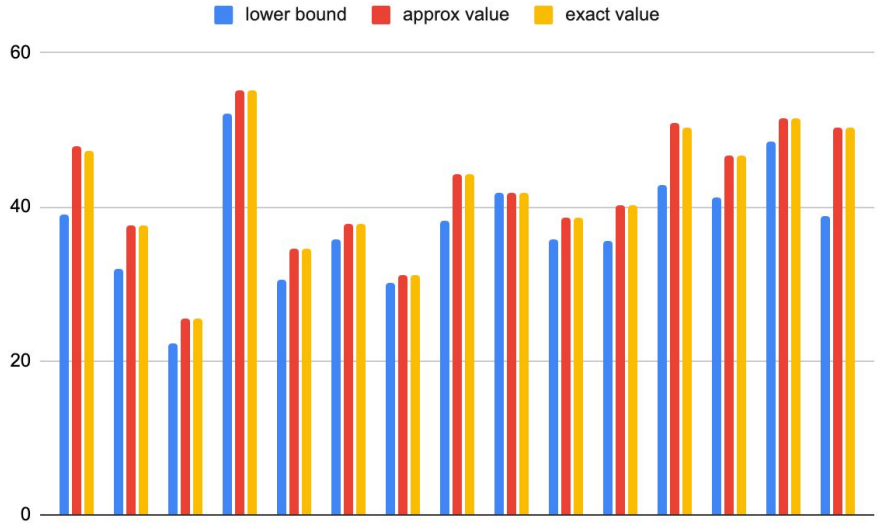
Step 1 - pick a root

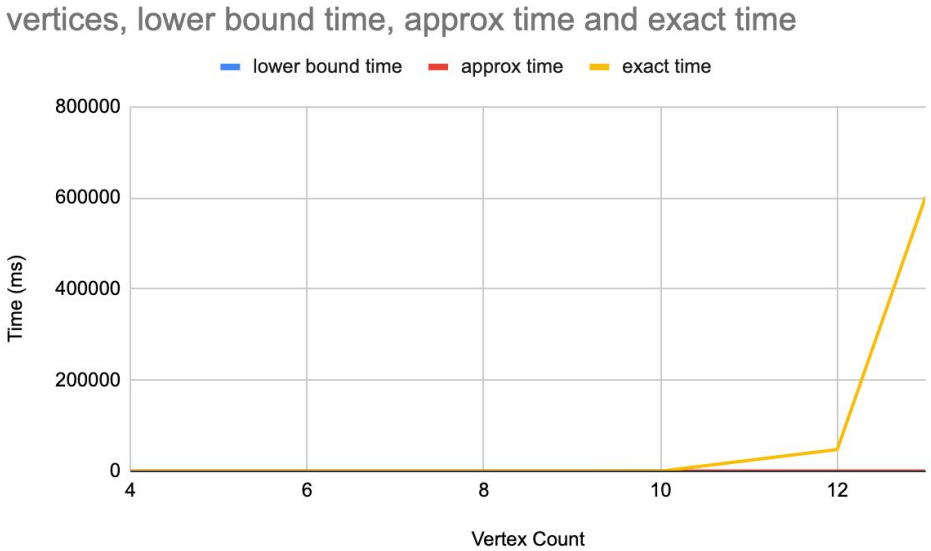
Step 2 - build an MST with on all nodes except the root

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

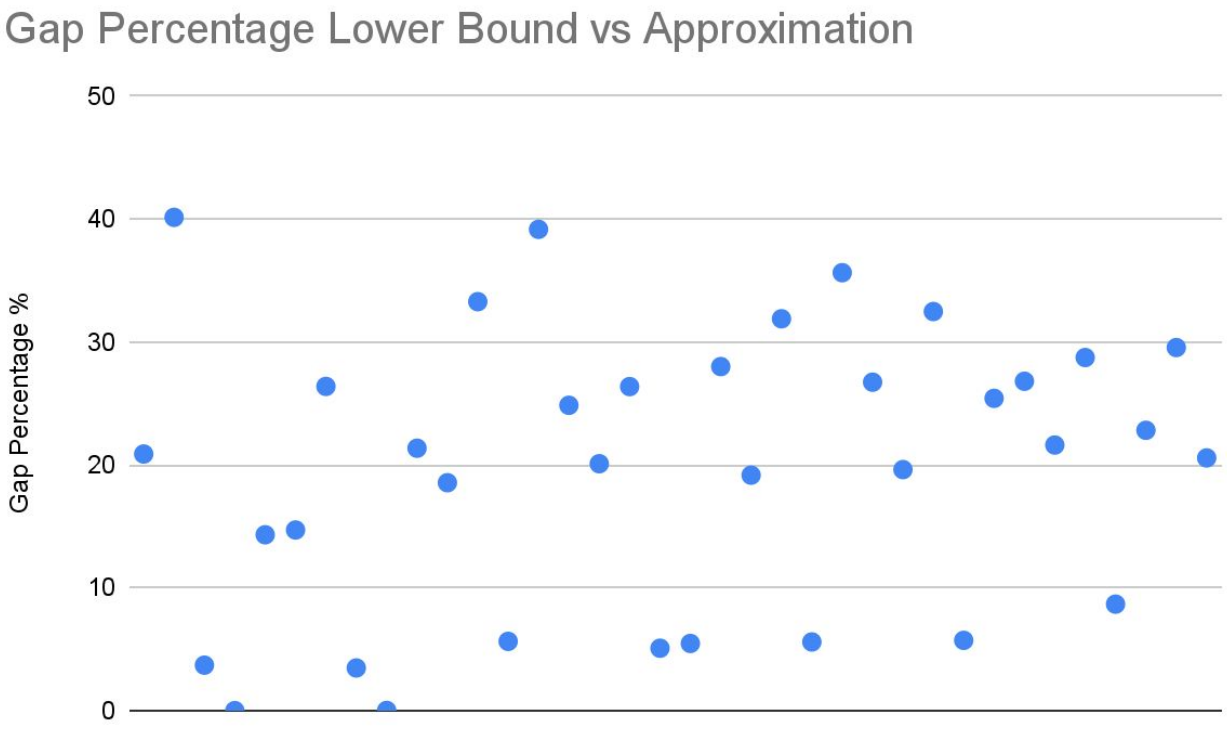
Runtime $O(n^2 \log n)$

Comparing - lower bound - approx - exact-





Comparing values - Gap Percentage



The average:
19.9%

What does this mean?

Thank you