Programming Assignment #2

Due: June 26, 2020 23:59

- The purpose of this programming assignment is:
  - to implement a ***best-first branch and bound*** algorithm that solves the Traveling Salesperson Problem and
  - to conduct some experiment with different bound functions to compare their performance on pruning the tree search.

- To check the effect of the bound function on the performance of the algorithm:
  - you need to do some experiments using two different bound functions:

    textbook version and your own bound function
  - to do this, devise and implement a ***reasonable bound function*** that is different from the one in the textbook.

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- Your program should count and print
  - the number of tree nodes generated when each bound function is used,
  - the time it takes to find the optimal solution,
  - and the time it takes to execute the bound function.

- You need to conduct experiments with 5 different graphs (some dense, some sparse) and include the experimental results in your report.

- You report should also include the descriptions of your bound function and your thoughts on how it can be improved.