"Speed Up Your Algorithm" Assignment

Improve the running time of the algorithm you submitted for one of these assignments:

- MST
- Bin packing

You are to accomplish this by applying at least one of these methods:

- Using an appropriate data structure (heaps, hash tables, hash sets, etc.)
- Parallel processing
- Exploiting the characteristics of the problem and/or its data attributes
- Recursive function calls (possibly)

The deliverables are as follows:

- Submit the original Python assignment file and your improved code for this assignment to one of your team's networked folders, as directed below
- Submit a short write-up to Blackboard providing this information:
    - What methods did you use to speed up your algorithm and why did you choose that method?
    - Run your original algorithm on the larger data sets for this problem and compare its running time versus the running time of your new, faster algorithm. What percentage reduction in running time did you achieve?
    - Compute the running times of your original and improved algorithms using Big-Oh notation.
- Besides learning how to speed up your algorithm, did you make any other notable observations in the course of this assignment?

Code Submission Details

If you worked on the MST Problem:

- Github URL: `https://github.com/jrb28/BUAD5042MSTFast`
- Development file provided: `MSTFastDev.py`
- Filename: `mst.py`
- Function name within file: `mst_algo()`
- Database dump file: `mst_fast.sql`

If you worked on the Bin packing problem

- Github URL: `https://github.com/jrb28/BUAD5042BinpackingFast`
- Development file provided: `BinpackingFastDev.py`
- Filename: `binpacking_fast.py`
- Function name within file: `binpack()`
- Database dump file: `binpack_fast.sql`