Programing Assignment 2

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1. Screenshot

A screenshot of a computer

Description automatically generated

e. The measuring results for mergeSort and quickSort change based on the number sequences. However, based on the performance, quickSort is faster than mergeSort. Since mergeSort time complexity is O(nlogN), while quicksort time complexity is O(n2).

1. Extra
2. Read N points (x, y) and store them in an array.
3. Create a hash table and store a line equation (y = mx + b). The hash table will have the line equation as the key and the list of point as a value.
4. Sort in ascending order of the x-coordinate.
5. For each point, calculate the slope and y-interception.
6. Make sure there is a line equation in the hash table.
7. Iterate the hash table and look for any pair of key and value that has four or more point.