Chapter 5 Programming – Searches

Text

Description automatically generated

This works in the same way as outlined in the instructions. It will randomly check a value, and if it is checking that value for the first time, it will switch the Boolean at that spot to true. A true Boolean means that its been checked. Once all of the values have been checked, the counter will reach the same size as the array and the target must not have been found.

A screenshot of a computer

Description automatically generated with medium confidence

These ones were quite simple to throw together. They both perform a linear, deterministic search. I pulled in the permuteWithAll method from the previous assignment to scramble the search.

Text

Description automatically generatedText

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The main method creates random sequences of an array containing 1 to 10000, and then adds the slot a random integer is found from each algorithm. Once its done this 10000 times, it divides the sums by the same number to find the average. The output suggests that the average number of spots that need to be checked is about half of the 10000 spots.

For Random Search, you must check every spot in the array to know that the target is not in there.