Big O Notation Lab

1. Observe the main.java in the base_code folder
    a. You are given code that tracks the nanosecond of the execution of code
    b. You are given an empty array that changes sizes as designated below
2. You will create 5 methods
    a. Randomize - Generates random numbers and assigns them to index in the array
        i. Range - 0 to 200,000
    b. Search - Generate a random number (0 to 200,000), search the array
        i. This requires Randomize
        ii. If found, return true. Otherwise, false
    c. Bubble Sort
        i. Sorts the randomized array
    d. Insertion Sort
        i. Sorts the randomized array
    e. Selection Sort
        i. Sorts the randomized array
3. Test each of these methods out with the code given. Document the results below
4. Estimate the Big O of each of the following

Array Size	**Randomize**	**Search**	**Bubble**	**Insertion**	**Selection**
Big O Estimate					
Big Ω Estimate					
10					
100					
1,000					
10,000					
100,000					
1,000,000					
10,000,000					