Dou Jin (001098640)

**Program Structures & Algorithms**

**Fall 2021**

**Assignment No. 2**

* **Task (List down the tasks performed in the Assignment)**

1. You are to implement three methods of a class called Timer.
2. Implement InsertionSort (in the InsertionSort class)
3. Implement a main program (or you could do it via your own unit tests) to actually run the following benchmarks.

* **Relationship Conclusion:**

1. The time used for sorting the array, from the fastest to the slowest:

**Ordered Array -> Partial Ordered Array -> Random Array ->**

**Reserved Array**

(The speed of partial ordered array depends on how many numbers are already sorted, so sometimes it may slower than Random Array.)

1. The time complexity of ordered array is O(n).
2. The time complexity of sorting a random array / reversed array / partial ordered array would be O(n^2).

* **Evidence to support the conclusion:**

1. **Output (Snapshot of Code output in the terminal)**

**Text

Description automatically generated**

1. **Graphical Representation (Observations from experiments should be tabulated and analyzed by plotting graphs (usually in excel) to arrive on the relationship conclusion)**

* **Unit tests result:(Snapshot of successful unit test run)**

Graphical user interface, text, application

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