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**Program Structures & Algorithms**

**Fall 2021**

**Assignment No. 02**

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

(Part 1) You are to implement three methods of a class called *Timer*.

(Part 2) Implement *InsertionSort*(in the *InsertionSort* class) by simply looking up the insertion code used by*Arrays.sort.*

(Part 3) Implement a main program (or you could do it via your own unit tests) to actually run the following benchmarks: measure the running times of this sort, using four different initial array ordering situations: random, ordered, partially-ordered and reverse-ordered.

* **Relationship Conclusion:**

As the growth of the array length, time consumed with a quadratic trend (except the Ordered Array, it is with a linear trend).

Approximate inequality (T represents time):

Approximate formula represented in *Graphical Representation*.

* **Evidence to support the conclusion:**

See Graphical Representation.

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

**电脑屏幕截图

描述已自动生成**

1. **Graphical Representation**

**图表, 折线图

描述已自动生成**

* **Unit tests result:**

文本

描述已自动生成

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