Homework 7
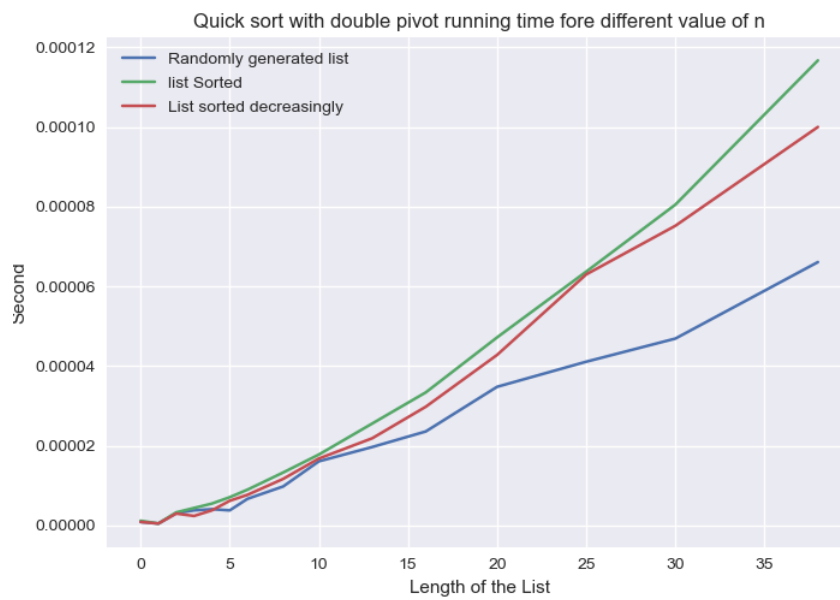
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Homework 7.1:
a) b) c) Quick sort.py

d)After running quick sort with the 3 implemented partitions, for 100000 randomly generated sequences of fixed length 1000, we find that:

```
Lomuto's partition average time: 0.002295 second
Hoare's partition average time: 0.011915 second
Median of three's partition average time: 0.003278 second
```

We can conclude that for n around 1000, Lomuto's partition is more efficient than Hoare's partition, The Median of three's partition having the worst time complexity.

Homework 7.2:
a) Quick sort.py
b)

Quick sort with double pivot running time fore different value of n

We notice that this implementation of quick sort is more efficient for randomly
generated lists, and less efficient for lists already sorted.

c) Quick sort.py