# Sorting | Time Complexity - 1

## Pre Lecture

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## Understanding log : <https://www.mathsisfun.com/algebra/logarithms.html>

## AP: [https://www.mathsisfun.com/algebra/sequences-sums-arithmetic.htm](https://www.mathsisfun.com/algebra/sequences-sums-arithmetic.html)l

## GP: <https://www.mathsisfun.com/algebra/sequences-sums-geometric.html>

## Bubble Sort

## <https://www.interviewbit.com/courses/programming/arrays/bubble-sort/>

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##### **Using the inbuilt sort method**

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##### **PYTHON :**

## l **=** [**...**]

##### l**.**sort()

## Post Lecture

Extra Reading material on Time complexity :

* <https://medium.com/@abdurrafeymasood/understanding-time-complexity-and-its-importance-in-technology-8279f72d1c6a>
* <https://www.freecodecamp.org/news/big-o-notation-why-it-matters-and-why-it-doesnt-1674cfa8a23c/>

How to deal with TLEs :

<https://www.geeksforgeeks.org/overcome-time-limit-exceedtle/>

Comparison of different time complexities:

[https://cdn-media-1.freecodecamp.org/images/1\*KfZYFUT2OKfjekJlCeYvuQ.jpeg](https://cdn-media-1.freecodecamp.org/images/1*KfZYFUT2OKfjekJlCeYvuQ.jpeg)

Further Extra References:

1. <https://facultyweb.cs.wwu.edu/~wehrwes/courses/csci241_20s/lectures/L08/runtime_practice.pdf>

2. <https://www.happycoders.eu/algorithms/big-o-notation-time-complexity/>

3. <https://medium.com/@manishsundriyal/overview-time-space-complexity-f973513b701e>

4. Asymptotic Notation Cheat Sheet: <https://www.codecademy.com/learn/asymptotic-notation-and-big-o-js/modules/asymptotic-notation-js/cheatsheet>

* <https://www.kaggle.com/code/delayedkarma/understanding-time-complexity-via-python-examples>

# Sorting | Time Complexity - 2

## Pre Lecture

1. Selection Sort: <https://www.interviewbit.com/courses/programming/arrays/selection-sort/>
2. Insertion Sort:  
   <https://www.interviewbit.com/courses/programming/arrays/insertion-sort-algorithm/>
3. Merge Sort:  
   <https://www.interviewbit.com/courses/programming/arrays/merge-sort-algorithm/>

## Post Lecture

## Tim Sort :

## <https://www.youtube.com/watch?v=_dlzWEJoU7I>