



SIMON FRASER UNIVERSITY
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CMPT 125 - Introduction to Computing Science and Programming II - Fall 2022

Lab 6. Sorting Algorithms

- Some examples of popular sorting algorithms:
 - Insertion sort
 - Selection sort
 - Merge sort
 - Quicksort (next slide)
- Comparison sorts/Non-comparison sorts
- In place sort vs out of place
- There are also other algorithms:
 - Heapsort, Bubble sort, Bucket sort, Counting sort, Radix sort, etc.
- For some visualizations, please see the following link:
 - <https://visualgo.net>

Make sure you understand the different sorting algorithms

Compare the running times of different algorithms. See the link below to learn how to measure time in C

<https://stackoverflow.com/questions/3557221/how-do-i-measure-time-in-c>

Change to the length of the arrays to 100, 10,000, 1,000,000.
How does it affect the running time?

For each algorithm, try to find the best and the worst inputs considering the running time.

Learn the syntax of `qsort`. Note that `qsort` uses function pointers we discussed in Lecture 7.

Implement `merge_sort` we saw in class, and compare its running time to other algorithm.