CS62: Spring 2025 | Lecture #14 (Quicksort) worksheet | Jingyi Li

The main idea behind Quicksort is we pick a **pivot, x,** to **partition** the array such that:

All entries to the left of x are <= x (smaller).

All entries to the right of x are >= x (bigger).

x is in the right place in the final, sorted array.

1. Which of the following are valid partitions of this array if the highlighted 10 is the pivot?

5	550	10	4	10	9	330

A

4	5	9	10	10	550	330

C

4	5	9	10	10	330	550

B

5	9	10	4	10	330	550

D

5	9	10	4	10	550	330

2. Please draw what happens after the first partition for this array.

5	3	6	2	4	0	4

3. What is the best case run time for Quicksort? Why?

4. What is the worst case run time for Quicksort? Why? Give an example of an array that would result in the worst case.