CS62: Fall 2025 | Lecture #12 (Quicksort) worksheet | Prof. 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

B

5	9	10	4	10	330	550

C

4	5	9	10	10	330	550

D

5	9	10	4	10	550	330

2. Draw what happens after the first step of Quicksort (ie the first partition) of the following 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 will result in the worst case.