Quick Sort Handout

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Definition - What is a quick sort?

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_____

Key Words: Pivot, partition, recursion, divide and conquer

Algorithm - fill in the blanks

1. All items greater than the _____ are moved to one side, less than, moved to the other side
2. List is now divided into two _____.
3. With _____, repeat with a new pivot for each side of the list, until the list is sorted.

How many passes and comparisons can quick sort have up to and why?

Worst Case/Best Case/Average - Fill in the table(Big O ONLY)

Worst Case	Best Case	Average Case

1. How many passes and comparisons are required to sort the following cases?

a. "1, 2, 3, 4, 5"
b. "1, 3, 2 ,5, 4"

2. Which case has fewer passes and why?

_____

_____

_____

_____

3. Fill in the following quicksort methods with pseudo or Java code

static void quicksort( ){

}

static int partition( ){

}

4. Draw a stack diagram for quick sorting {4,2,1,3}

5. Write a program that sorts an array of 7 integers in ascending order using quicksort.

6. Write a program that sorts an array of names in ascending order using quicksort.