

## CS:1210 Quiz 12 (b)

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You have 15 minutes to complete this quiz.

1. What is the output produced by the following function when it is called as `partition([4, 5, 1, 9, 1, 2, 3, 10], 0, 7)`

```
def partition(L, first, last):
    p = first

    for current in range(p+1, last+1):
        print(L[first:p], L[p], L[p+1:current])
        if L[current] < L[p]:
            swap(L, current, p+1)
            swap(L, p, p+1)
            p = p + 1

    return p
```

2. This question is based on understanding the working of the following implementation of the quick sort algorithm.

```
def generalQuickSort(L, first, last):
    if first < last:
        p = partition(L, first, last)
        generalQuickSort(L, first, p-1)
        generalQuickSort(L, p+1, last)
```

Insert the statement

```
print(L[first:p], L[p], L[p+1:last+1])
```

just after the line of code `p = partition(L, first, last)` in the above function. What output do we get if make the call

```
generalQuickSort([1, 9, 3, 4], 0, 3)
```