22C:16 (CS:1210) Quiz 11

You have 20 minutes to complete this quiz.

1. Write down the output produced (via the print statement) when the function given below is called as

   `generalQuickSort([4, 9, 10, 2, 1, 1, 7] , 0, 6)`

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

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

    return p

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

2. Write down a length-7 list of positive integers that causes `partition` to split the list into exactly two halves each time `partition` is called as part of the call to `generalQuickSort` on this list. In other words, the first time `partition` is called, it is called on a length-7 list, and it should split the list into two sublists of size 3 each. Subsequently, `partition` will be called on two length-3 lists. In each case, `partition` should split the given length-3 list into two length-1 lists.