QuickSort HOA1.1

Problem A

Double-click (or enter) to edit

```python
#Quicksort function
def quicksort(arr, left, right):
    if left < right:
        partition_pos = partition(arr, left, right)
        quicksort(arr, left, partition_pos -1)
        quicksort(arr, partition_pos + 1, right)

#Partition to sort simultaneously
def partition(arr, left, right):
    i = left
    j = right - 1
    pivot = arr[right]

    while i < j:
        while i < right and arr[i] < pivot:
            i += 1
        while j > left and arr[j] >= pivot:
            j -= 1
        if i < j:
            arr[i], arr[j] = arr[j], arr[i]
    if arr[i] > pivot:
        arr[i], arr[right] = arr[right], arr[i]

    return i

#given array
arr = [9, -3, 5, 2, 6, 8, -6, 1, 3]
quicksort(arr, 0, len(arr) -1)
print(arr)
```

    [-6, -3, 1, 2, 3, 5, 6, 8, 9]