Algorithm 1: Partition

```
   Input: Input
   Output: Output
1  Procedure Partition(A, low, high)
2      p := ChoosePivot(A, low, high)
3      swap A[p] with A[high]
4      pivot ← A[high]
5      left ← low
6      right ← high − 1
7      while left ≤ right do
8          while left ≤ right ∧ A[left] ≤ pivot do
9              left ← left + 1
10         end
11         while right ≥ left ∧ A[right] ≥ pivot do
12             right ← right − 1
13         end
14         if left < right then
15             swap A[left] and A[right]
16     end
17     swap A[left] and A[high]
18     return left
```

Algorithm 2: QuickSort

```
   Input: Input
   Output: Output
1  Procedure QuickSort(A, low, high)
2      if low ≥ high then
3          return A
4      p ← Partition(A, low, high)
5      QuickSort (A, low, p - 1)
6      QuickSort (A, p + 1, high)
7      return A
```