```
proc quicksort(A, low, high):
    if low ≥ high:
        return A
    pivot ← partition(A, low, high)
    quicksort(A, low, pivot-1)
    quicksort(A, pivot+1, high)
    return A

proc partition(A, low, high)
    pivot ← choosePivot(A, low, high)
    A[pivot], A[high] ← A[high], A[pivot]
    pivotValue ← A[high]
    left ← low
    right ← high - 1
    while left ≤ right:
        while left ≤ right and A[left] ≤ pivotValue:
            left ← left + 1
        while right ≥ left and A[right] ≥ pivotValue:
            right ← right - 1
        if left < right:
            A[left], A[right] ← A[right], A[left]
    A[left], A[last] ← A[last], A[left]
    return left
```