algorithm QUICKSORT (A, l, r)
1. **if** $r > l$ **then**
2. $v = A[r]$
3. $q = $ PARTITION (A, l, r, v)
4. QUICKSORT $(A, l, q - 1)$
5. QUICKSORT $(A, q + 1, r)$
6. **end if**
end algorithm

```
algorithm PARTITION(A, l, r, v)
    i = l − 1
    j = r
    repeat
        repeat
            i = i + 1
        until A[i] > v
        repeat
            j = j − 1
        until A[j] ≤ v
        if j > i then
            SWAP(A[i], A[j])
        else
            fertig = true
        end if
    until fertig
    SWAP(A[i], A[r])
    return i
end algorithm
```