

PARTITION(A, p, r)

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1   $x = A[r]$  // the pivot
2   $i = p - 1$  // highest index into the low side
3  for  $j = p$  to  $r - 1$  // process each element other than the pivot
4      if  $A[j] \leq x$  // does this element belong on the low side?
5           $i = i + 1$  // index of a new slot in the low side
6          exchange  $A[i]$  with  $A[j]$  // put this element there
7  exchange  $A[i + 1]$  with  $A[r]$  // pivot goes just to the right of the low side
8  return  $i + 1$  // new index of the pivot
```