Algorithm 1 QuickSelect

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procedure QUICKSELECT(A, k, l , r)
    if $l == r$ **then**
        return l
    end if
    $x = Partition(A, l, r)$
    if $k == x$ **then**
        return $A[x]$
    else if $k < x$ **then**
        return $QuickSelect(A, k, l, x - 1)$
    else
        return $QuickSelect(A, k, x + 1, r)$
    end if
end procedure