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// Linear time deterministic algorithm for selection.
select(A, j):
  n = |A|    // n = Number of elements in A: A = A[1..n]
  Form lists  $L_1, L_2, \dots, L_{\lceil n/5 \rceil}$  where  $L_i = \{A[5i - 4], \dots, A[5i]\}$ 
  Find median  $b_i$  of each  $L_i$  using brute-force
   $B = [b_1, b_2, \dots, b_{\lceil n/5 \rceil}]$ 
   $b = \text{select}(B, \lceil n/10 \rceil)$  // Find median of medians
  Partition A into  $A_{\text{less}}$  and  $A_{\text{greater}}$  using  $b$  as pivot
  if ( $|A_{\text{less}}| = j$ ) return b
  else if ( $|A_{\text{less}}| > j$ )
    return select( $A_{\text{less}}, j$ )
  else
    return select( $A_{\text{greater}}, j - |A_{\text{less}}|$ )

```