```
SELECT3(A, p, r, i)
1  while (r − p + 1) mod 9 ≠ 0
2      for j = p + 1 to r                          // put the minimum into A[p]
3          if A[p] > A[j]
4              exchange A[p] with A[j]
5      // If we want the minimum of A[p : r], we're done.
6      if i == 1
7          return A[p]
8      // Otherwise, we want the (i − 1)st element of A[p + 1 : r].
9      p = p + 1
10     i = i − 1
11 g = (r − p + 1)/3                               // number of 3-element groups
12 for j = p to p + g − 1                          // run through the groups
13     sort ⟨A[j], A[j + g], A[j + 2g]⟩ in place
14 // All group medians now lie in the middle third of A[p : r].
15 g′ = g/3                                        // number of 3-element subgroups
16 for j = p + g to p + g + g′ − 1                 // sort the subgroups
17     sort ⟨A[j], A[j + g′], A[j + 2g′]⟩ in place
18 // All subgroup medians now lie in the middle ninth of A[p : r].
19 // Find the pivot x recursively as the median of the subgroup medians.
20 x = SELECT3(A, p + 4g′, p + 5g′ − 1, ⌈g′/2⌉)
21 q = PARTITION-AROUND(A, p, r, x)               // partition around the pivot
22 // The rest is just like lines 19–24 of SELECT.
23 k = q − p + 1
24 if i == k
25     return A[q]                                 // the pivot value is the answer
26 elseif i < k
27     return SELECT3(A, p, q − 1, i)
28 else return SELECT3(A, q + 1, r, i − k)
```