06 Nov 2019 # Sorting algorithm

QUICKSORT

(convention is to pick, the last element as pivot)

array = [8, 3, 1, 7, 0, 10, 2]

(pivot

Step 1

[8, 3, 1, 7, 0, 10, 2] = [10, 3, 1, 7, 0, 2, 8] = [0, 3, 1, 7, 2, 10, 8] = [0, 7, 1, 7, 2, 3, 10, 8]

8 > 2 ; 10 ? 2 ⇒ > ; 3 ? 2 ⇒ > ; 0 ? 2 ⇒ <

[0, 7, 1, 2, 3, 10, 8] = [0, 1, 2, 7, 3, 10, 8]

7 ? 2 ; all before pivot(2) less than it

From this step we can conclude that our pivot (2) is in the right place and don't need to be moved again.

Step 2

* Let select the new pivot for the part less than our previous pivot,

[0, 1, 2, 7, 3, 10, 8] = [0, 1, 2, 7, 3, 10, 8] = [0, 1, 2, 7, 3, 10, 8] = [0, 1, 2, 7, 3, 10, 8]

0 ? 1 ; ?

* new pivot right of the pivot in step 1 [2]

[0, 1, 2, 7, 3, 10, 8] = [0, 1, 2, 7, 3, 10, 8] = [0, 1, 2, 7, 3, 10, 8] = [0, 1, 2, 7, 3, 8, 10]

7 ? 8 ⇒ < ✓ ; 3 ? 8 ⇒ < okay ; 10 ? 8 ⇒ >

[0, 1, 2, 7, 3, 8, 10] = [0, 1, 2, 7, 3, 8, 10] = [0, 1, 2, 3, 7, 8, 10]

7 ? 3 ⇒ >