Kth Largest in an Array

Given an array of integers and a number K, find the Kth largest value in the array.  
  
Input: Array of integers and an Integer  
Output: Integer

# Example

Input: [3, 1, 6, 4, 9, 8], 3 => Output: 6

Input: [1, 9, 5, 3], 1 => Output: 9

# Constraints

Time Complexity: Average O(N)  
Auxiliary Space Complexity: Average O(log(N))

# Solution

1. Perform a Quickselect which is similar to Quicksort combined with a binary search
2. Pick a pivot point and separate the array into two parts, lower half and greater half
   1. This can be done in place through swapping like quicksort
   2. Evaluate the if the pivot is the Kth value from the end
      1. If so, return that value
      2. Otherwise recurse to the smaller or larger array potion that contain the Kth largest

# Notes

The naive way would to perform a sort and then access the Kth value from the end of the array. However, this is O(NlogN) time complexity.

# Resources

http://www.geeksforgeeks.org/kth-smallestlargest-element-unsorted-array/  
https://en.wikipedia.org/wiki/Quickselect