

### Programming assignment 3.

**Suggested due date:** Friday, November 3 2017 at 03:30pm

Remember:

You can remove all the variables from the workspace by writing “clear”

**Look up the description of all the functions in MATLAB by typing doc in the command window.**

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Write a function to find the **k<sup>th</sup> least element** on a given array with a running time of  $O(n)$ .

(**Hint:** Use partitioning algorithm)

1. Request the user to enter a positive integer, and call it **n**.
2. Generate **n** random integers between -100 to 100 and save them in array **a**. (*You can use randi function in MATLAB*)
3. Print the generated array.
4. Request the user to enter a number between 1 to  $n$  (as the  $k^{\text{th}}$  least element).
5. Call your implemented function to find and print the  $k^{\text{th}}$  least element.