

Programming assignment 2.

Suggested due date: Friday, October 20 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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Create two functions named **quick_sort(a)** and **insertion_sort(a)**.

1. Request the user to enter a positive integer, and call it **n**.
2. Generate **n** random integers between **-7000 to 7000** and save them in array **a**.
3. Call **quick_sort(a)** function to sort the array.
4. Call **insertion_sort(a)** function to sort the array.
5. Determine the **average-running time** of each function for **n=10000**, and **100** repetitions.
6. Calculate the growth of each function. (On a scratch paper!)
7. Calculate how many instructions your machine can run in **a second** using step 5 and 6 (using the running time of *insertion sort*).