**Programming assignment 3.**

**Due date:** Saturday, March 9 2019 at 11:59pm

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Implement two functions named **quick_sort** and **insertion_sort**.

1. Request the user to enter a positive integer, and call it **n**. (n = 1000)
2. Generate **n** random integers between **-5000 to 5000** and save them in array **a**.
3. Call **quick_sort** and **insertion_sort** functions to sort the array.
4. Repeat steps 2 and 3 for **100** times to determine the **average-running time** of each function.
5. Print the end/finish time for your function. (**Note:** to be more precise, the time to generate a random array in each iteration should be excluded from the result)
6. Calculate the growth of each function. (On a scratch paper!)
7. **Write a code** to calculate how many instructions your machine/laptop can run in **a second** using step 5 and 6 using the *insertion* sort.