Algorithms: Design and Analysis

Programming #1

Assigned: March 28 (M)
Due: April 30 (Sat)

Implement three versions of Quicksort algorithm in a programming language you choose:

1. Iterative Quicksort
2. Recursive Quicksort
3. Randomized Quicksort

Insert a counter of comparison incremented whenever two elements are compared in the algorithms.

Input data: randomly generate a set of data as follows –

```
for i = 10**2, 10**4, 10**6, 10**8, ... ( until your computer can do )
    for  j = 1, 2, ..., 20
            a_set_i_j = {x | x=random[1..i] i times}
```

Output: Draw a plot with the numbers of comparison operations for each data set from the three versions of the algorithm.

Report: Any comments? What can you see from the results?

Submit a zipped file of all (source codes, the plots, report) to the ClassNet.

Enjoy!!!