**Task 2 (for 10 days)**

1. Realize Sorting algorithms: Heap, Quick, Radix, Shell. Analyze these algorithms with big-O notation and be ready to defend.
2. Realize radix sort so it sorts the array of strings.
3. Write a program that obtains the execution time of bubble, merge, quick, heap, and radix sorts for input size 60,000, 120,000, 180,000, 240,000, 300,000, and 360,000. Your program should create data randomly and print a table like this:

Array size | Bubble | Merge | Quick | Heap | Radix

60,000 x x x x x

120,000 x x x x x

180,000 x x x x x

240,000 x x x x x

300,000 x x x x x

360,000 x x x x x

User the next code to know the duration of execution:

*long startTime = System.currentTimeMillis();*

*perform the task;*

*long endTime = System.currentTimeMillis();*

*long executionTime = endTime − startTime;*