

CENG 311 PROGRAMMING ASSIGNMENT 1 REPORT

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In this assignment, we are try to implement priority queue in C programming language. First, program reads 2^{26} integers from text file and assign it to the an integer array. Then insert this data into another array with array based implementation of priority queue. After that, converting this array to the nodes with data and link between them. And finally, traverse over it.

Here example code execution snippet in C and simple test scenario:

```
D:\hw1-ceng311\cmake-build-debug\hw1_ceng311.exe
*****Simple Test Scenario *****
Original Array : 21 15 45 78 95 2 14 65 75 10 68 42 7 1 19 99 45 74 39 40
Execution time of Simple Test is : 0.000000

Priority Queue (ARRAY) : 99 95 42 78 68 21 19 75 74 40 45 2 7 1 14 15 45 65 39 10
Priority Queue (STRUCTURE) : 99 95 42 78 68 21 19 75 74 40 45 2 7 1 14 15 45 65 39 10
Process finished with exit code 0
```

```
Run: hw1_ceng311 x
D:\hw1-ceng311\cmake-build-debug\hw1_ceng311.exe
Execution time is 2.439000
-----
Process finished with exit code 0
```

```
D:\hw1-ceng311\cmake-build-debug\hw1_ceng311.exe
Execution time for  $2^{26}$  integer value is : 2.568000

*****Simple Test Scenario *****
Original Array : 21 15 45 78 95 2 14 65 75 10 68 42 7 1 19 99 45 74 39 40
Priority Queue (ARRAY) : 99 95 42 78 68 21 19 75 74 40 45 2 7 1 14 15 45 65 39 10
Priority Queue (STRUCTURE) : 99 95 42 78 68 21 19 75 74 40 45 2 7 1 14 15 45 65 39 10
Process finished with exit code 0
```

Here example code execution snippet in Java :

```
"C:\Program Files\Java\jdk-17.0.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2021.2.3\lib\idea_rt.jar=50209:C:\Program Files\JetBrains\
0.0150
Process finished with exit code 0
```

References

CENG311_Prog_Ass_1.pdf

<https://www.geeksforgeeks.org/level-order-tree-traversal/>

[Basics of File Handling in C - GeeksforGeeks](#)