## **Assignment Project**



Faculty of Computers and Information Analysis and Design of Algorithms (3<sup>rd</sup> Year)

Dept. of Computers Science

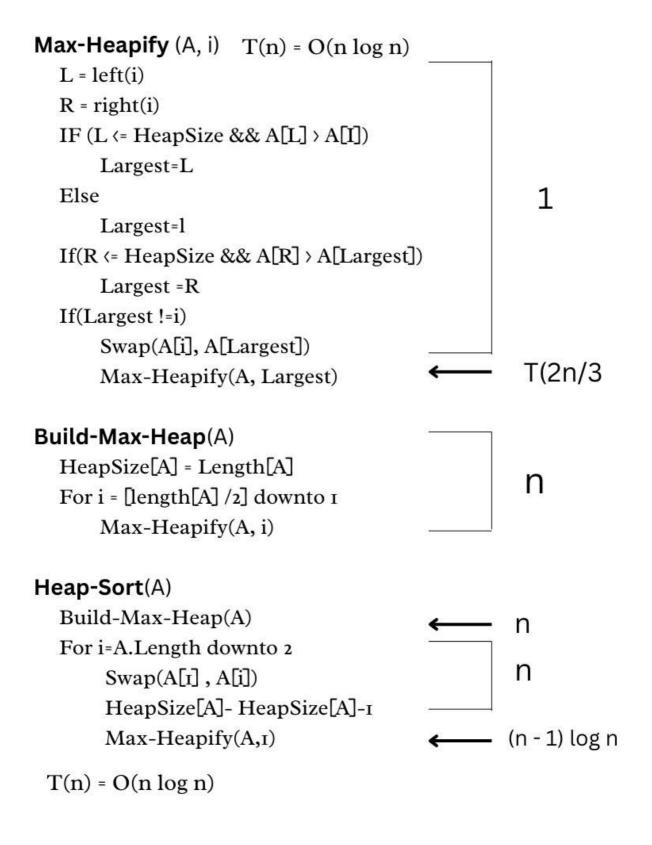
Fall 2024/2025

Due: Dec. 21, 2025 (11:00 am) Programming Assignment

- The following programing assignment measures the ability to analyze and implement Heap-Sort algorithm. You are required to work *individually* in this work.
  - a. Write all required algorithms needed to sort a sequence of numbers using Heapsort Algorithms.
  - b. Analyze in detail your written algorithms in Part (a).
  - c. Implement your written algorithms in Part (a).
- (ii) The following programing assignment measures the ability to analyze and implement Kruskal's algorithm to find MST of a network. You are required to work with your colleagues in a teamwork (Maximum Two— Three members).
  - a. Write all required algorithms needed to find MST using Kruskal's Algorithm.
  - b. Analyze in detail your written algorithms in Part (a).
  - c. Implement your written algorithms in Part (a).

## Any further information will be announcement later

- The following programing assignment measures the ability to analyze and implement Heap-Sort algorithm. You are required to work *individually* in this work.
  - a. Write all required algorithms needed to sort a sequence of numbers using Heapsort Algorithms.
  - b. Analyze in detail your written algorithms in Part (a).
  - c. Implement your written algorithms in Part (a).



- (ii) The following programing assignment measures the ability to analyze and implement Kruskal's algorithm to find MST of a network. You are required to work with your colleagues in a teamwork (Maximum Two— Three members).
  - a. Write all required algorithms needed to find MST using Kruskal's Algorithm.
  - b. Analyze in detail your written algorithms in Part (a).
  - c. Implement your written algorithms in Part (a).

 $T(n) = O(n \log n)$ 

