**Daffodil Internation University**

Department of Computer Science and Engineering

Term: Fall 2024

Course Title: Data Structure Lab, Course Code: CSE124

**Lab report:**

**Problem Statement:**

We are working on a project **Hospital Management System** that helps manage patient admissions, prioritize treatment based on urgency, and organize staff scheduling. Hospitals often handle multiple patients with different severity levels, requiring an efficient system to ensure that critical patients are attended to promptly. This project will develop a system that manages the patient queue based on their condition's priority level, tracks patient information, and organizes staff duties.

**Problem Description:**

Design a Data Structure to input a patient information in queue and sort them based on their prioritize treatment by their given information in the engineering project described above. The data structure should allow for efficiently input a data with their names, age & other necessary information, manipulate the data while maintaining their information & search the details of a patient if needed.

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| **SN** | **Tasks** | **K/EP** | **CO** | **PO** |
| 1. | Design a data structure to input & searching a patient information in the engineering project described above. | K5/EP1,  EP6 | CO1 | PO3 |
| 2. | Show the relationships and dependencies between adding information, searching by name, update & delete the information. | K5/EP7 |
| 3. | (i) Which technique do you apply to implement this data structure based on memory-efficient or not that solve real-life issues. | K6/EP2 | CO2,  CO4 | PO2 |
| (ii) Based on your visualization, which traversal algorithm, do you apply to efficiently and manipulate the project. | K6/EP2 | CO4 | PO2 |