Department of Statistics & Computer Science

University of Kelaniya

ACADEMIC YEAR -2023/2024 (Semester I)

COSC 21063 / BECS 21223 / COST 44233 / COST 44303

Data Structures and Algorithms

Practical Tutorial 02

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1. Write a Java program to append two given strings such that the second string is appended to the end of the first string using the queue operations.
   Example:
   Input String 1: Data
   Input String 2: Structures
   Output: DataStructures

2. Write a Java program to change the first half of a user-given number with its second half using the queue operations.
   Example:
   Input: 12345678
   Output: 56781234

3. Write a program to read a given string and print only the vowels in this string in alphabetical order in a queue.
   Example:
   Input: DIALOGUE
   Output: A E I O U

4. Write a java program to rotate the elements of a queue by a given number of positions, using **Linked Implementation**.
   Example:
   Input Queue: [1,2,3,4,5], Rotate by 2
   Output: [3,4,5,1,2]

5. Using **Linked Implementation** of queue operations, write a Java program to find the first non-repeating character in a given string.
   Example: Input: “swiss”
   Output: ‘w’ (since ‘s’ repeats, ‘w’ is the first non-repeating character)