UNITED INTERNATIONAL UNIVERSITY
Department of Computer Science and Engineering (CSE)

Course Title: Data Structure & Algorithm Lab Lab II **Course Code: CSE2218**

Trimester & Year: Fall 2021 **Section: D** **Credit Hours: 1.0** **AZ**

CLASS EVALUATION 01

Total Time: 60 minutes Total Marks : 20

Q1: Reverse String 8

Write a recursive function that reverses a string and print the reversed array with every repetition of the character and the length of the string. The input string is given as an array of characters.

Example 1:

```
Input: s = ["h","e","l","l","o"]
Output: ["oo","ll","ll","ee","hh"], 5
```

Example 2:

```
Input: s = ["H","a","n","n","a","h"]
Output: ["hh","aa","nn","nn","aa","HH"], 6
```

Q2: Majority Element 12

Given an array `nums` of size `n`, return **the majority element**.

`Note:` The majority element is the element that appears more than ⌊n/2⌋ times. You may assume that the majority element always exists in the array.

`Constraints:` Time Complexity must be less than or equals to `O(nlogn)`.

Example 1:

```
Input: nums = [3,2,3]
Output: 3
```

Example 2:

```
Input: nums = [2,2,1,1,1,2,2]
Output: 2
```

BONUS: Solve the problem in linear time 5