**PSG COLLEGE OF TECHNOLOGY**

**DEPARTMENT OF COMPUTER APPLICATIONS**

**23MX17- DATA STRUCTURES LABORATORY**

**MOCK LAB TEST-1- SET-B**

**Max. Marks: 15**

**Date: 25-09-2023 Duration: 2 hr**

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| **Student Name:** | **Student Roll no:** |
| **Student Signature:** | **Faculty Signature:** |

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| **Problem 1(10 marks)** | | **Problem 2 (5 marks)** | |
| **Logic (3 marks)** |  | **Logic (2 marks)** |  |
| **Coding (5 marks)** |  | **Coding (2 marks)** |  |
| **Output (2 marks)** |  | **Output (1 marks)** |  |

1. Write a program to get an integer array sorted in ascending order (with distinct values). The array is possibly rotated at an unknown pivot index k (1<=k<=array.length) such that the resulting array is [nums[k], nums[k+1], ..., nums[n-1], nums[0], nums[1], ..., nums[k-1]] (**0-indexed**). For example, [0,1,2,4,5,6,7] might be rotated at pivot index 3 and become [4,5,6,7,0,1,2]. Search for a target and return the index of the target if it in the array or -1 if it is not in the array.

**Sample Input1:** nums = [4,5,6,7,0,1,2], target = 0

**Sample Output:** 4

**Sample Input2:** nums = [4,5,6,7,0,1,2], target = 3

**Sample Output:** -1

1. A string is palindrome if the reverse and the original string is same. Write a program to check whether the given string is a palindrome or not.

Sample Input: CIVIC

Sample Output: The given string is a palindrome

Sample Input 2: ARRAY

Sample Output 2: The given string is not a palindrome