CSE220: Data Structures (Lab)
Fall 2024
Lab Quiz - 04
Duration: 30 Minutes

B

Name:	ID:	Section:

Question 1 [15 Points]

You are given an array of positive integers containing n elements. Your task is to find the first repeating element in the array using a hash-based approach. A repeating element is one that appears more than once in the array, and among all repeating elements, you must return the one that repeats at the **largest index difference**. If no element repeats, return -1.

Use a hashmap to efficiently solve the problem by storing and checking the elements as you traverse the array.

Sample Input	Sample Output
6 10 5 3 4 3 5	5 Explanation: Both 3 and 5 repeat, but 5 repeats with a larger index difference (indices 1 and 5). The difference of indexes for 3 is 2 (4-2 = 2) and 5 is 4 (5-1 = 4)
5 1 2 3 4 5	-1 Explanation: No elements repeat, so the output is -1.
6 1 1 3 4 3 3	3 Explanation: Both 1 and 3 repeat, but 3 repeats with a higher index difference indices (2 and 4) 3 appears at index no 2 and first repeat occurs at index no 4 . Since we are taking the first repeating element, we will not consider the very last 3 at index no 5. So the difference of indexes for 1 is 1 (1-0 = 1) and 3 is 2 (4-2 = 2)