Lab 6
Arrays (continued)

1 Lab Objectives

- More practice on 1D and 2D Array Problems.
- Practice general problems.
- Verify your solutions on hackerrank https://www.hackerrank.com/programming-lab-6-f2018.

2 Problem 1 - Matrix Transpose

Given matrix of dimension nxm find it's transpose, where $1 \leq n, m \leq 1000$.

3 Problem 2 - The Merge Of Sorted Arrays

Given two sorted arrays, merge them in a single sorted array, then print this array, where $0 \leq n, m \leq 100000$.

4 Problem 3 - Odd Integer

Given n ($0 \leq n \leq 100000$) integers where each of them is repeated even number of times except one integer is repeated odd number of times. find this integer. hint: use xor.

5 Problem 4 - The Palindrome Numbers

Given an integer x check if it's palindrome or not.

6 Problem 5 - The Greatest Common Divisor

GCD is the greatest number that exactly divides two or more numbers with no remainder.
For example, the factors of the number 12 are: 1, 2, 3, 4, 6, 12 and the factors of the number 30 are: 1, 2, 3, 5, 6, 10, 15, 30. So the GCD of 12 and 30 is 6.
Write a C program that scans two numbers a, b ($0 \leq a, b \leq 1000$) and calculates their GCD.

7 Problem 6 - Reverse Of Array

Given an array of n integers, reverse the array **in place**, then print it, where $0 \leq n \leq 1000000$
Note that: You shouldn't use another array!

8 Notes

- You are required to bring the C programs to the lab on your laptop or on a flash memory.
- Cheating will be severely penalized (for both parties). So, it is better to deliver nothing than deliver a copy!
- You are encouraged to ask any questions on Piazza, or in person.

Good Luck