

ECE 325 - Iterative Methods

Practical Assignment 1 (Due Date: 13/09/2021 - 23:59)

Examination Date: 14/09/2021

Report and Executables: Your report and executables should be sent via email to the Teaching Assistant (cmakri07@ucy.ac.cy) the day before the assignment examination date and must include a cover page with the names of all students in the group and **a statement that this is your own work together**. You should also list all other students that have helped you in completing the lab assigned as well as any references that you have used (e.g., websites where you found any information). In your report, include only the pseudocode, **not the actual code**, with any comments and description you may want to add, as well as typical scenarios that you use to test your programs. Email Subject **MUST** be: **ECE325_Assignment1_TeamX** (Replace X with the number of your team). You can use Java, C or C++. Make sure that your code runs before submitting.

1. [20%] A Palindrome is a word, number, phrase, or other sequence of characters which reads the same backward as forward, such as 'madam' or 'racecar'. Write a program that receives from the keyboard a String in the form of a list of characters. The input ends when the user enters a new line. The String must then be checked if it is a **Palindrome**.
2. [30%] Write a program that receives from the keyboard various values of 0, 1, 2 in a random matter and stores them in an array. The input ends when the user enters a new line. The array must then be sorted. Name your program: **DutchFlagProblem**.
3. [50%] Write a **Structure** for keeping records for a class of students. The information of each student contains the following fields: **ID, Name, mid-term score, final score, and total score** (mid-term has a weight of 40% and the final of 60%). The structure will prompt the user to choose the operation of records from a menu as shown below:

=====Menu=====

1. Add student records
2. Delete student records
3. Update student records
4. View all student records
5. Calculate the average score of all students
6. Show the student with the highest total score
7. Show the student with the lowest total score

Enter your choice: