

## CS 2401 – Elementary data structures and algorithms

### Lab: 4

### Spring 2023

**Due Date: Friday, February 24 – end of the day.**

**Objective:** The goal of this assignment is to practice with LinkedList.

**Background:** The pecan firm we helped with in another lab is asking for another software to analyze more information. This time the information is related to the people working in the firm. The firm has a file with the person's information (e.g., name, id). We have to read the file, create person objects, create a linked list with all the person objects, and find out some information from the LinkedList (see the Sample output for what kind of information the firm is looking for).

The information of each person is stored in a text file. Each line in the file contains the name and id of a person, how many hours the person has worked at the firm, the person's hourly wage, and how many years the person has worked at the firm. The information is tab-separated. A sample input file is shown below:

Jose	301	27.5	10	3
Alex	102	40	9.25	5
Lucia	712	25	9.25	4
Mateo	434	50	8	2
Paula	560	20	8.5	6
Angel	327	42.5	10	8

**Assignment:** Your program should assume that the content is written in a file named input.txt. Each person must be considered an object. Use the following Person class to create the objects. **Do not change the Person class**. The Person.java file is provided with the assignment too.

The partially written program file (the Java file containing the main method) is provided in a file named Lab4.java. **The instructions are provided as comments in the code.** The Lab4.java file with the following content is provided with the assignment too.

To Chegg: Please do not provide solution if this document is uploaded. Please remove this document from Chegg, if uploaded.

**Requirements:** Your task is to change the code in Lab4.java as instructed in the comments to receive the necessary output. You must follow the following requirements.

1. You must **NOT** change Person.java at all.
2. You must **NOT** change the main method.
3. Do **NOT** change any of the method headers provided in Lab4.java.
4. Do not use any package other than the ones already imported in Lab4.java.
5. Feel free to write as many new methods as you need in Lab4.java.
6. Rename Lab4.java file with Lab4\_LastName\_FirstName.java

**Deliverables:** You are expected to submit only one Java file via Blackboard i.e., (Lab4\_LastName\_FirstName.java). Please do not submit the input.txt file or the Person.java file.

**Grading Criteria:**

- [20 points] The Program **compiles and runs**.
- [10 points] The program is **indented** and **documented** properly.
- [10 points] The program uses the correct **variable types** and **names**.
- [60 points] The six methods are implemented correctly.
- [10 points] Extra credit for Add Person with ID Checking

▪ Late submission: **[-10]** points for every 24 hours after the deadline.

If you need any clarification, please ask your TA for further details.