LAB ASSIGNMENT 3

In this lab assignment, you will revisit your proposed design for the ticket machine from Lab Assignment 2 and implement a prototype. The aim of this lab is to reflect on your original design and learn from any mistakes you may have made. The zip file contains a simple Python (*tkinter*) application, implementing the core functionality of the train ticket system described in the previous assignment. The main computations happen in the *ui.py* file – almost all the changes you will need to implement should be restricted to this file. You will, of course, also need to add new classes that you designed yourself.

PART 1 (30 PTS)

Read through the current implementation of the ticket system. Do not worry too much about the GUI or the existing classes for handling coin or card payments – instead focus on the description of tickets and their price calculation.

- Describe the relative merits of the current solution. What works well? What could be improved? We are only interested in the design of the train tickets (as in the previous assignment), you do not need to discuss the (fake) coin machine, card reader, or pricing table classes.
- What kind of changes or new requirements would be easy to add? What new features would be difficult to add?
- Which problems can you identify? Evaluate the cohesion and coupling of the current solution.

PART 2 (40 PTS)

Implement the design you proposed as part of the previous exercise. By doing so, you will probably identify shortcomings or imperfections in your original design. Provide a UML class diagram for the solution that you ended up implementing. Be as complete and accurate as possible.

PART 3 (30 PTS)

Describe how the implemented design differs from your original design. What errors can you spot in your original design? How does the code you ended up implementing differ from the design you proposed previously? Be honest: we will not deduct marks for mistakes you made in the previous exercise. Instead, we are looking for a comprehensive assessment of the shortcomings in your previous design, and how you revised it during the implementation. **The more thorough the comparison between your original design and the design you implemented, the better we will grade your work**. What have you learned about your original design?

SUBMISSION

Submit a .zip file, containing:

1. A (Word or PDF) report describing your work - include a section for each part of the assignment. *The report should be maximum 2000 words.* Please write you and your teammate's full name and student ID on the first page of the report.
2. Your implementation of the ticket vending machine based on your original design and adapted as needed.

Consult the course planning for the deadline. Submission of solutions should be made through Blackboard.

TAAL

De opdracht mag zowel in het Engels als Nederlands worden gemaakt.