Project Requirements – MAP Sem 2 / 2023

Each student will work on an individual or in a team. In order for a project to be graded, it must:

- not have compilation errors
- implement all requirements
- provide .zip file with the complete solution

Timeline:

- Submit project (**zip** and **documentation**) by May - end of day

Project will be submitted via Teams .

Assignment definition

Select a system to be implemented that allows at least 10 actions/queries to be performed on at least 8 types of objects.

Implementation

Implement a project using the Java language.
The application will:

- include simple classes with private/protected attributes and methods
- include abstract classes and interfaces with default behaviour
- follow OOP principles while defining the classes and their interaction
- include at least 2 different collection interfaces, each with multiple implementations (e.g. at least 2 List implementations, at list 2 Map implementations etc.), capable of administering the objects in the application
- use inheritance and polymorphism for some of the classes used within the collections
- at least one service class that exposes the system's operations
- a main class that calls the service's methods
- define custom Exceptions and use them to make decisions
- use Enums

Storage

- CSV files will be used to store at least 4 types of objects. Each column in the file is separated with a comma. Example: `name,surname,age` or use data bases
- Generic singleton services will be created for reading and writing from/to files
- At system startup, the data will be automatically loaded from the files.

Auditing

An auditing service will need to be created that will log to a CSV file each time an action defined in the service is performed. Structure of the file: `name_of_action,timestamp`.

Topic Suggestions

1. catalog (student, subject, professor)
2. library (sections, books, authors, readers)
3. medical office scheduling system (client, medic, appointment)
4. store produce management (category, produce, distributors)
5. banking application (accounts, bank statements, transactions, cards, services)
6. e-learning platform (courses, users, applications, quizzes)
7. auctioning system (auction, bids, items, users)
8. food delivery platform (venues, orders, deliveries, users)
9. book lending system (partners, users, books)
10. e-ticketing platform (events, venues, clients)