**Project requirements**

**Description:** Form groups of **2-3 students** to develop a comprehensive software project using the **Java programming language**. The project must be in the format of **terminal application or REST API** (choose which **one** you prefer). Your project must demonstrate a strong understanding of software design principles by incorporating **at least three different design patterns**: one **creational**, one **structural**, and one **behavioral**. Also, apply at **least two principles** from **SOLID**. It is crucial that each pattern is chosen and implemented thoughtfully to address specific problems within the project. Implementing patterns simply for the sake of fulfilling requirements, without logical justification or direct need, will not be accepted.

To minimize the risk of misusing or misapplying a design pattern, it is **recommended** that your project integrates at least four different design patterns. This strategy allows for an extra layer of flexibility in case one of the initial patterns is not properly justified or implemented. While there is flexibility in which specific patterns to choose, you are encouraged to explore and analyze various options to find the most suitable design solutions for your problem domain. Your selection and application of patterns should enhance modularity, flexibility, maintainability, or efficiency in the context of your application.

The design and development process should reflect a thoughtful approach to software architecture, making your project both scalable and extensible. You are expected to produce clean code for the design decisions made, particularly around why specific design patterns were chosen and how they improve your application's functionality.

**Submission:** The project must be uploaded to a **GitHub repository** to showcase proper version control practices. Each team member is required to make **at least one meaningful commit** to the repository, reflecting individual contributions to the project's development. The link to GitHub repository must be uploaded to LMS moodle in text (.txt) file before the deadline. Each team member must make submission.