

## Laboratory Assignment AND Assessment Requirements Specification

Write an app that helps teachers to monitor the assignment and assessment of the MAP discipline.

Student data is read from the Students.txt file and includes the following information: idStudent (student's number), name, group, email, name of the professor.

The data on the laboratory topics are read from the Assignment.txt file, which contains information such as: laboratory number (unique identifier), brief description of the requirement, deadline - week of the semester (1..14), the week in which the theme was received (1..14). The teacher assigns a grade of 1 to 10 for each laboratory theme. Delivery of the assignment after the delivery week leads to a reduction of the mark by 2.5 points for each week of delay. After 2 weeks of delay in delivery the assignment, the assignment will be automatically marked with 1.

Information about the grades will be saved in the Catalog.txt (Register) file.

The application will provide the teacher with the following features:

- F0: Implement CRUD operations for the Student entity
- F1: adding a laboratory theme;
- F2: Extending the term of delivery for an existing subject (if the current week number is less than or equal to the number of weeks with the assignment deadline).
- F3: When adding a new laboratory theme, as well as modifying the delivery date of a theme, all students will be notified by email. The app will offer the ability to unsubscribe from these notifications
- F4: adding a grade for a particular student to a laboratory topic; any delays due to delays in delivery of a theme will be automatically calculated, showing the student's maximum mark on the topic. Important: A student, on a laboratory theme, has only one grade;
- F5: When adding a grade, the following information will be retained in the NameStudent.txt file: a "Theme:" ThemeNumber
  - "Delivered in the week:" NumberOfTheDeliveredWeek
  - "Deadline:" NumberOfDeadlineWeek
  - "Feedback:" feedback, suggestions, and explanations in connection with the reduced made regarding the grade.
- F6: The NameStudent.txt file (or its content) will be emailed to the student, weekly, with the subject "Feedback laboratory MAP".
- F7: The delays will not be considered if the student has motivation. Also, if the teacher did not enter the notes in time, it will be possible to specify the week in which the subject was delivered.
- F10: Filtering entities based on criteria.
- F11: Reports –
  - Laboratory grade for each student (the weighted average of grades from the lab topics; weight share = number of weeks allocated to the topic).
  - The hardest the theme: the average of the grades on the theme is the smallest.
  - Students who can enter the exam (average greater than or equal to 4).
  - Students who have delivered all the themes on time.

Note: Examples for reports are indicative. You are encouraged to propose other relevant reports.