

# Project for Programming (ETE15E)

Ilya Shastitko, XSHAI009@studenti.czu.cz

Title: Outputs - output of student roster and subject grades

## Description:

The aim of the program is to record grades of students for subjects. The program allows for data input from the console or disk. It enables displaying data to the console and saving data to a file. During the program, the user can modify and delete data.

## Concept:

User communication is in the form of a menu. After launching, the program awaits input from the user. If the user wants to enter data from the console, they must know the student's ID, first name, last name, subject ID, subject name, and grade. For printing, changing, and deleting data, the program may ask for the student's or subject's ID. To load data from disk, the user needs to enter the file path in either .csv or .xml format.

## Implementation Description:

The algorithm operates based on the structure of **StudentSubject**, which contains the structure of **Student**(int StudentID, string Firstname, string Lastname), **Subject**(int SubjectID, string Name), and int **Grade**. The loaded data will be stored in the List<StudentSubject>

## Input Validation:

Validation ensures that the student and subject IDs are even numbers and the subject grade is a number within the range of 1 to 4. Existing and incorrect data are not stored with the message "Some data was not processed."

## Required .CSV and .XML file formats:

```
StudentID,Firstname,Lastname,SubjectID,Name,Grade
StudentID,Firstname,Lastname,SubjectID,Name,Grade
StudentID,Firstname,Lastname,SubjectID,Name,Grade
...
<?xml version="1.0" encoding="utf-8"?>
<studentsubject>
  <student>
    <studentid>StudentID</studentid>
    <firstname>Firstname</firstname>
    <lastname>Lastname</lastname>
    <subjectid>StubjectID</subjectid>
    <subjectname>Name</subjectname>
    <grade>Grade</grade>
  </student>
  <student>
    ...
  </student>
</studentsubject>
```

Included in the project are files with data "inputData(1-4).csv/.xml".