

SOA

Advanced XML Assignment 2

Using java programming language, and based on assignment 1

For the following student structure

<University>

<Student ID ="20200134">

<FirstName>Ahmed</ FirstName>

<LastName>Mohamed</ LastName >

<Gender>Male</ Gender >

<GPA>3.17</ GPA >

<Level>4</ Level >

<Address>Giza</ Address >

</ Student >

</ University >

Your program should do the following: [10 Grades to be scaled]

- 1- Add a Student **2 grades** (all attributes id, FirstName ...etc) [don't generate any attribute like ID the user must provide all the details] and validate the entered data before saving it to the file
 - a. All attributes can't be null / empty.
 - b. ID must not exist before (NO DUPLICATES).
 - c. Student name (first name and last name), address is characters (a-z) only.
 - d. GPA must be from 0 to 4.
- 2- Update Student details **2 grades**
 - a. User can update some or all the desired student attributes.
 - b. ID field can't be updated.
 - c. Any details the user will not provide will be preserved as is
 - i. For example, if the user changed only the student's first Name it means all the attributes from the student are still the same except the student's first Name
- 3- Give the user the ability to search for a student using any of the attributes **2 grades**
 - a. He can search with any of the fields so all filters must be implemented

- b. Number of found students must be displayed
 - c. All matching students are retrieved and displayed from the xml file.
- 4- Sort the file using any of the student attributes like (ID, FirstName ...etc) in ascending or descending order based on the received input from the user and display the content
3 grades
- 5- Save the sorted file replacing the old file content. 1 grade

Note that: Please note that if there is a file, your app should read it. Not every time, file will be created.

Submission rules

- The assignment should be submitted in a **group of 3**.
- The Assignment will be discussed with your TA at **the week starting 2-12-2023**.
- No late submission will be accepted.