DAT154 – Spring 2022 – Assignment 3

Purpose:

C# and .NET.
Entity Framework, LINQ, Database Access

Task:

Create a WPF Application OR a ASP.Net Web Application.

Your program should be a small student/course/grades viewer. The application should use the data from the database server (login details below).

Your application should use ADO.NET, Entity Framework and LINQ to query the data from the database. The application should be capable of doing the following tasks (you may use more than one window/page if you want):

1. User should be able to search for a student by entering part of the name.
2. User can select a course from a list, and view all the students that took this course and their grade.
3. User should be able to select a grade and show all the grades in the database equal to or better than this grade, including the student that received the grade and the relevant course.
4. User should be able to get a list of all the students who failed, and which courses they have failed in.
5. Users should be able to manage students' participants in a course (i.e., add/remove students from it). [Note that the grade is mandatory, the current database schema doesn't allow a student to be assigned to a course at some time, and then the grade assigned later. Neither will the grade be preserved if a user is removed from a course]

For all the tasks, proper information should be displayed (i.e. full student and course names where appropriate, not only the IDs.)

Hint: Use a ListView component with a GridView child component to display the data lists if you use WPF.

You can look at my "WPF Demo" example from lecture 21 which demonstrates a lot of these things. You SHOULD write your own application from scratch however, and not just build on mine.

Feel free to use either .Net Framework with Entity Framework, or .Net 6 with Entity Framework Core for this assignment.

Database login

Server: `dat154.hvl.no`

Port: `1443`

Database: `dat154`

Schema: `dbo`

Login: `dat154_rw`

Password: `dat154_rw`

Remember that everyone in class works with the same data and database. Don't do any mass delete operations.

Use Visual Studio or any other DB tool of your preference, to browse the database and inspect the tables and data (Only course, grade and students are relevant).