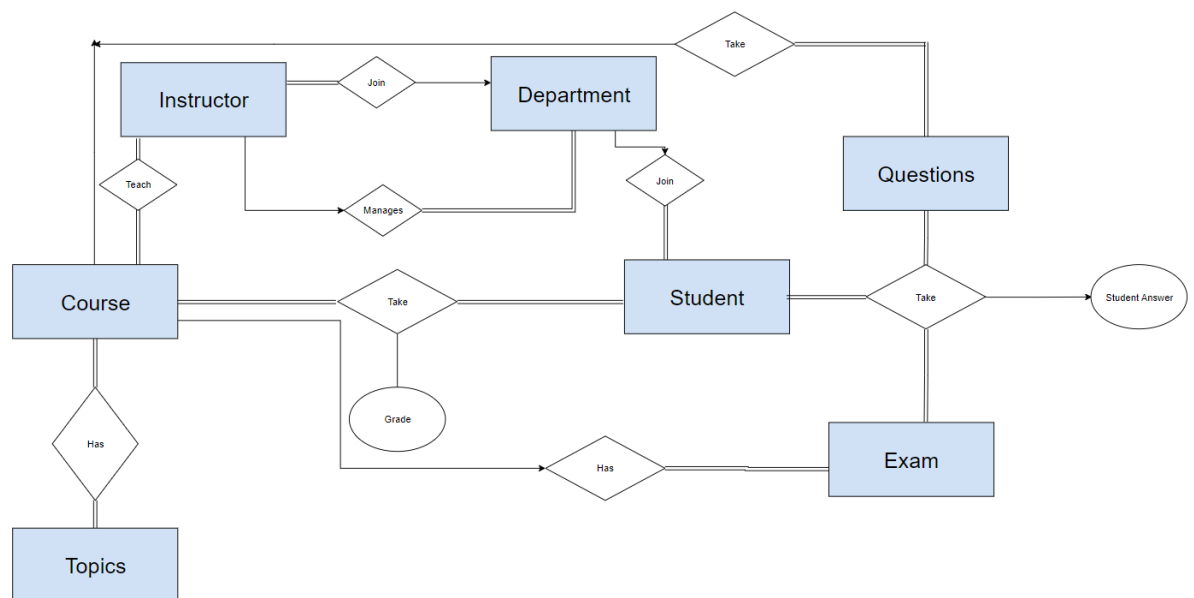


Examination System Application

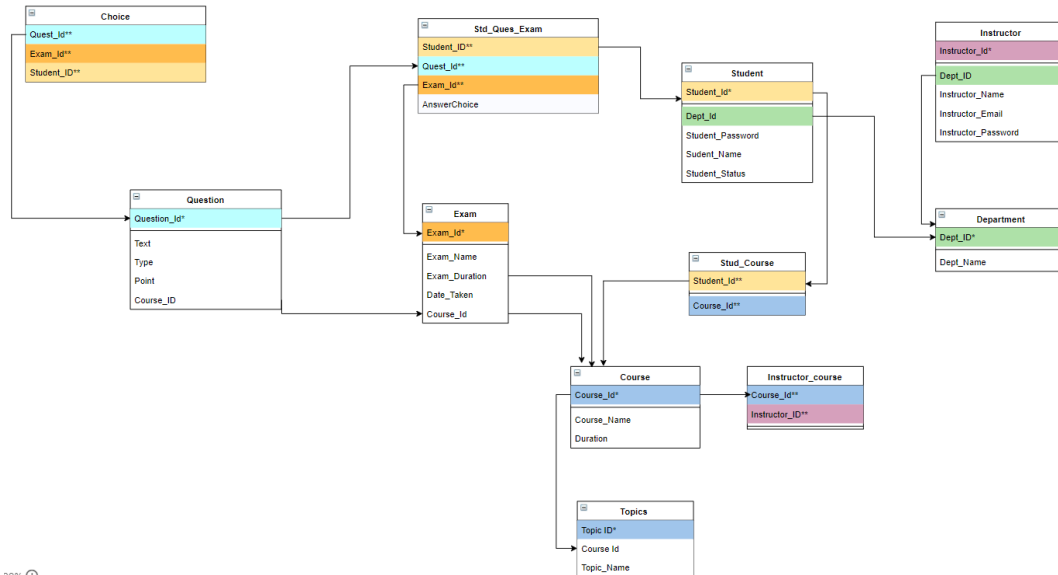
Using SQL Server & .NET Framework

- 1. Project Overview:** The Student Examination System Management project is a Windows Form application that provides a comprehensive platform for managing student examinations. The system aims to improve the efficiency and accuracy of the examination process while providing students and teachers with a user-friendly interface to manage their examination-related activities. main technologies used in the project are C# programming language and SQL Server database.
- 2. System Requirements:** Operating system 64-bit, .NET Framework, and SQL Server
- 3. Design Documentation:** The Student Examination System Management application was built using a three-tier architecture, consisting of the following components:
 - **Presentation Layer:** A Windows Form-based interface for students, Instructors to access the system
 - **Business Logic Layer:** A set of classes and modules that provide the core functionality of the system, such as managing examination generation, registration, grading, and reporting.
 - **Data Access Layer:** A set of classes that provide access to the system's database, including CRUD (Create, Read, Update, Delete) operations.
- 4. Database Documentation:**

Entity Relationship Diagram:



Entity Mapping:



structure of the project's SQL Server database:

- **Student:** Stores information about each student, including their name, student ID, user name, password, and department.
- **Instructor:** Stores information about each instructor, including their name, instructor ID, user name, password, salary, and department.
- **Questions:** Stores information about each question, including their ID, text, type, point, model_answer, and course ID.
- **Exam:** Stores information about each exam, including the exam ID, date, duration, and the associated course.
- **Course:** Stores information about each course, including the course name, code, and description.
- **Topics:** Stores information about each course's topic, including the Topic's name and course ID.
- **Department:** Stores information about each department, Department ID, Department name, and Manager ID

Stored Procedures:

StudentAnswer: procedure designed to retrieve a specific student's answer to a specific question on a given exam in the database.

ExamCorrection: procedure designed to provide a count of the number of correct answers given by a specific student on a specified exam in the database.

ExamGeneration: procedure designed to generate an exam of 10 questions for a specific course and student based on the number of multiple-choice and true/false questions specified as input parameters.

Exam_Quest_Choices: procedure designed to retrieve the questions and choices for a given exam number (@Exam_Num). It selects the text of the question and its corresponding choice from the "Question" and "Choice" tables, respectively, and filters them based on the exam number passed as a parameter

Ques_StdAnswer: The purpose of this procedure is to retrieve the standard answers for a given exam and student. It does this by joining the Question and Std_Ques_Exam tables using the Quest_ID column, which is common to both tables

Reports' Stored Procedures:

Std_Dept: Report that returns the student's information according to Department No parameter.

Std_Grade: Report that takes the student ID and returns the grades of the student in percentage form in all courses.

Crs_Topics: Report that takes course ID and returns its topics

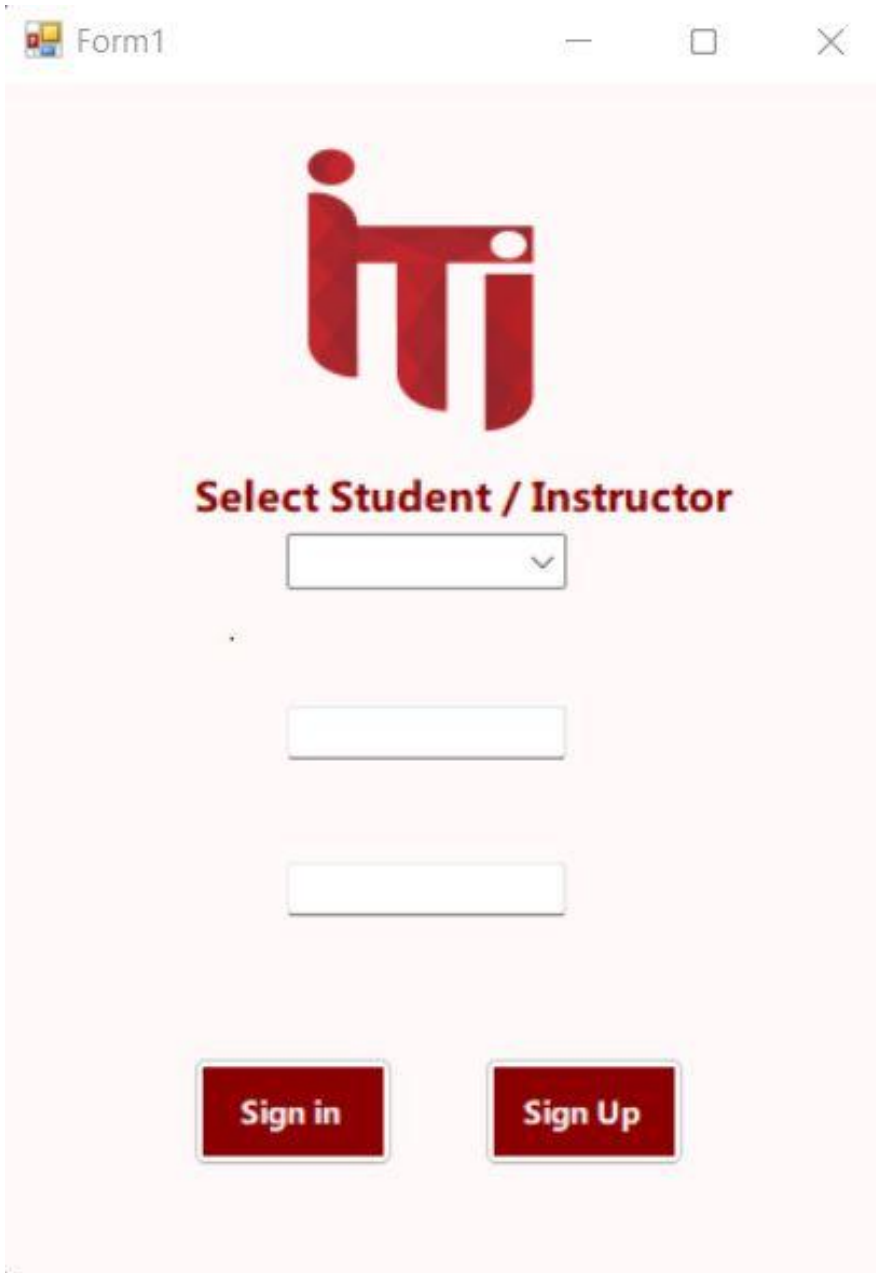
Ins_Crs: Report that takes the instructor ID and returns the name of the courses that he teaches and the number of students per course.

Quest_Std_Answer: Report that takes the exam number and the student ID then returns the Questions in this exam with the student answers.

Exam_Ques_Choices: Report that takes exam number and returns the Questions in it and choices.

Note: [reports](#) are included as links to the actual reports in Google Drive, the user must change the data source's server name and database used

User Manual:




The screenshot shows a Windows-style window titled "Form1". Inside the window, there is a red logo at the top center. Below the logo, the text "Select Student / Instructor" is displayed. Underneath this text is a dropdown menu. Below the dropdown menu are two empty text input fields. At the bottom of the form, there are two red buttons: "Sign in" and "Sign Up".

If you are a student:

Login with M_ElSamra, password 1111, and the user should put 6 spaces after the password.

Student_form



Student Information

Student User Name

M_EISamra

Student Name

Malak E

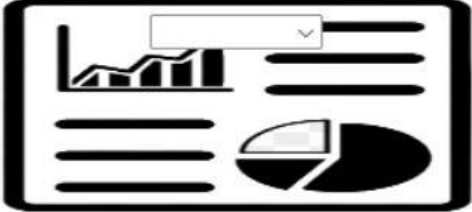
Student Id

4

Student course

Student Reports

Reports



Show report

Start Exam

Test

Student Name	Malak EISamra	Course Name	HTML	Allowed Time	00:44	Take Date	2023-03-23
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Question 1

Who is the father of HTML?

☐ a - Rasmus Lerdorf

☐ b - Tim Berners-Lee

☐ c - Brendan Eich

☐ d - Sergey Brin

Question 2

Which of the following is not a correct (X)HTML rule?

☐ a - Attributes should be quoted

☐ b - Tags should not nest tag

☐ c - Attribute minimization is forbidden

☐ d - Unknown attributes are not ignored by the browser

Question 3

Which of the following is used to read an HTML page and render it?

☐ a - Web server

☐ b - Web network

☐ c - Web browser

☐ d - Web matrix

Question 6

HTML is a subset of

☐ a - SGMT

☐ b - SGML

☐ c - SGME

☐ d - XHTML

Question 7

In HTML, which attribute is used to create a link that opens in a new window?

☐ a - src=""_blank"

☐ b - alt=""_blank"

☐ c - target=""_self"

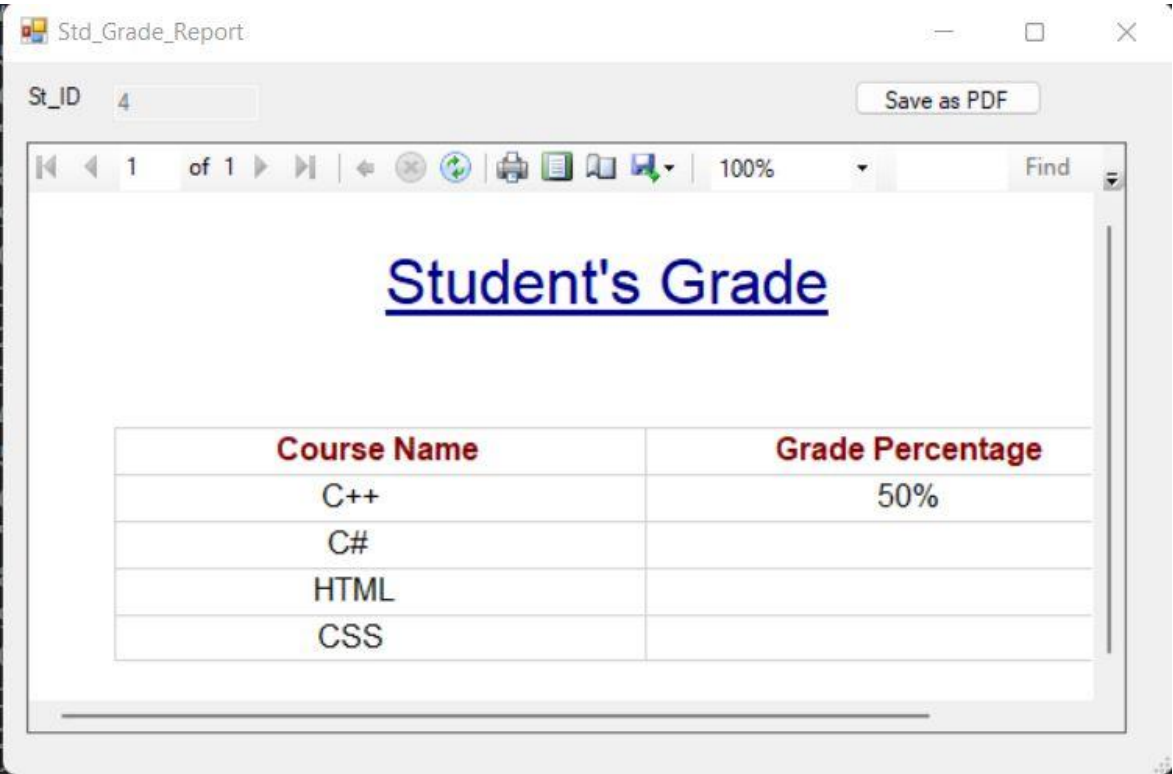
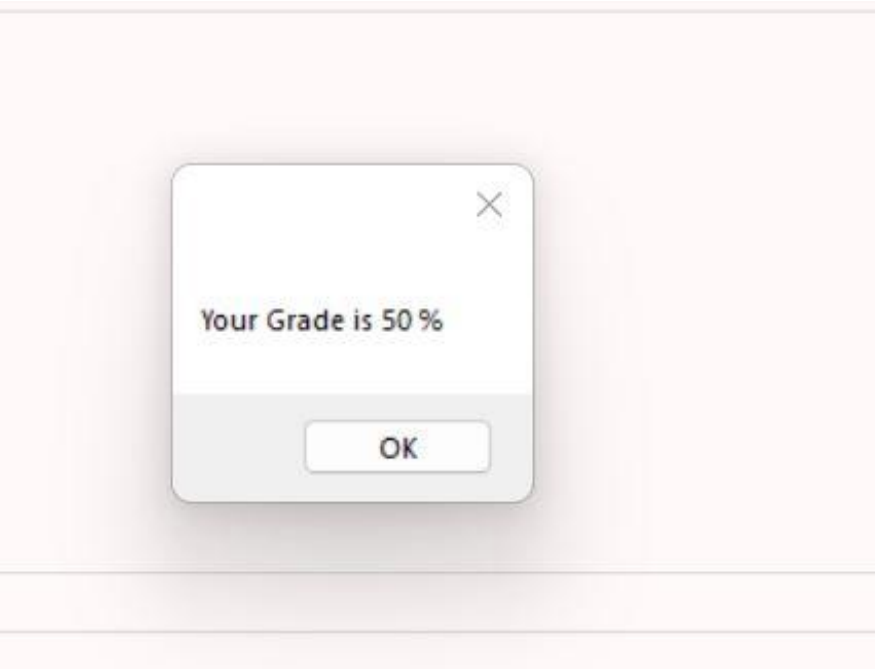
☐ d - target=""_blank"

Question 8

Comments are visible on the browsers window.

☐ a - True

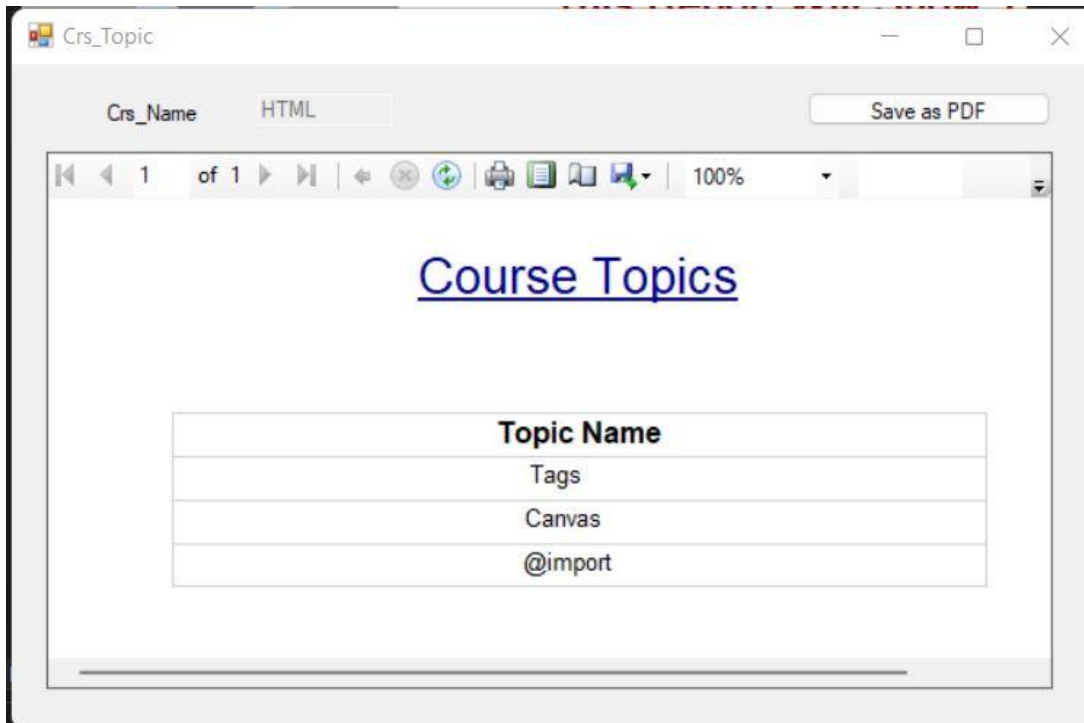
☐ b - False



If you are an instructor, this will be your interface and you can add questions or view reports that are embedded in the application

The screenshot shows a web application window titled "Instructor_form". The interface is divided into three main sections. On the left, under the heading "Instructor Information", there is a profile icon and three input fields: "Instructor Name" (containing "i_saad"), "Instructor Id" (containing "5"), and "Instructor Dept" (containing "Open_src"). Below these fields is a button labeled "ADD Question". On the right, under the heading "Reports", there is a dropdown menu labeled "Choose Repoort" and a large empty box labeled "Report Description". Below the description box is a button labeled "View Report". The central area of the form is a large, empty light pink rectangle.

The screenshot shows the same "Instructor_form" window, but with the "Add Question" section active. The "Instructor Information" section on the left remains the same. The central area, which was previously empty, now contains the "Add Question" form. This form includes fields for "Question text", "Question ID", and "Type of Question" (a dropdown). Below these are four pairs of input fields for "answer1 text", "answer2 text", "answer3 text", and "answer4 text", each consisting of a small square checkbox followed by a text input field. There is also a "Correct Answer" dropdown menu. At the bottom of this section are two more fields: "Choose course" (a dropdown) and "Marks / Points" (a text input). A button labeled "Submit Question" is positioned at the bottom of the "Add Question" section. The "Reports" section on the right is also visible, with the "Choose Repoort" dropdown now showing "Reviewing Specific Exam" and the "Report Description" box containing the text "Report that takes exam number and returns the Questions in it and chocios". The "View Report" button is still present.



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