

# **ITI Examination System**

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# ABSTRACT

To evaluate and enhance the effectiveness of academic qualifications, it is crucial to have a reliable system that determines whether these qualifications are applied appropriately. For this purpose, we propose an examination system designed to measure students' comprehension and mastery of specific subjects or courses.

The outcomes of these exams can highlight strengths and weaknesses, guiding future training and development initiatives. Additionally, with the growing popularity of online learning and freelance opportunities, such systems can help track and assess students' acquired skills more efficiently.

In essence, an examination system represents a vital element in the educational evaluation process. It ensures that learning standards are upheld and that students receive fair, accurate, and constructive feedback on their academic performance.

# INTRODUCTION

The rapid evolution of technology is reshaping the world at an extraordinary pace. As innovation continues to advance daily, it has become essential to adapt, understand, and evaluate our capabilities within this constantly changing environment. In this context, the examination system plays a vital role in accurately measuring learners' knowledge, identifying strengths and weaknesses, and supporting data-driven decisions related to skill development and continuous improvement—particularly in fields such as data science and other technology-based disciplines.

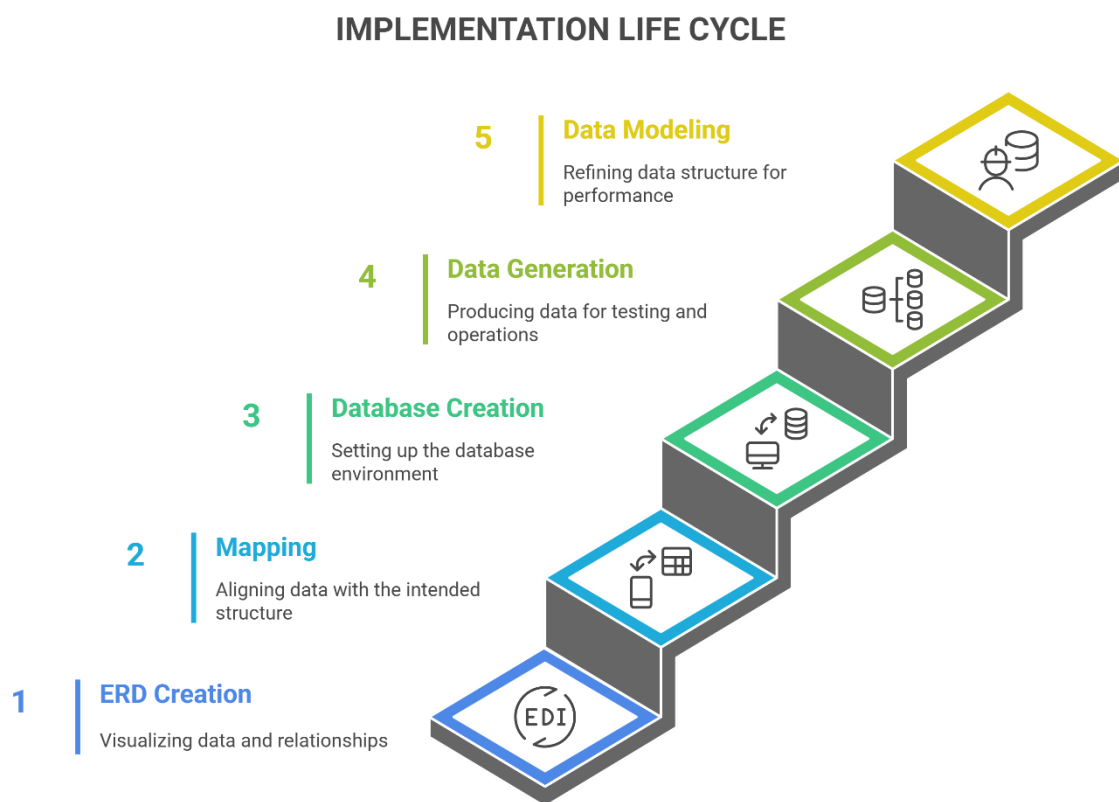
The proposed system will be organized into departments that include instructors responsible for guiding students throughout their learning journey and preparing them for future careers. The offered courses are aligned with modern technological trends and emphasize the importance of data-driven skills, including Python, SQL and Data Warehousing.

The system can include multiple exam formats such as multiple-choice and true/false questions, which allow for efficient assessment and help reduce stress, promoting better mental well-being among learners.

Through continuous testing and feedback, students can recognize areas that need further development, refine their learning focus, and remain up to date with emerging technologies and best practices. Once feedback is given, learners receive their grades and can determine whether to revisit specific course content or advance to higher levels. Ultimately, completing all courses and assessments leads to certification—an acknowledgment of proficiency that enhances employability and provides organizations with qualified professionals ready to meet industry demands.

# IMPLEMENTATION LIFE CYCLE

The implementation life cycle is an iterative process designed to ensure that the system fulfills all specified requirements. It includes several phases, starting from developing entity-relationship diagrams (ERDs) and creating the database structure, followed by mapping entities and relationships, and then performing detailed data modelling to ensure consistency and integrity. Finally, the process concludes with generating reports and building interactive dashboards that transform data into meaningful insights.



## ERD (Entity Relationship Diagram):

In this phase, we designed the entity-relationship diagram to define the main entities, their attributes, and the relationships between them. This step provided a clear conceptual view of how data flows within the system.

## Mapping:

After completing the ERD, we performed the mapping process to translate the

conceptual model into a logical database structure. This included defining primary and foreign keys, establishing relationships between tables, and preparing the foundation for database creation and further data modeling.

**Database creation:** In this stage, we implemented the database schema by writing and executing the required SQL scripts. The system components were then integrated into a functional database environment, followed by testing to verify that it effectively handles exam data, student responses, and related operations.

### **Data Generation:**

In this phase, we used Python alongside several artificial intelligence platforms to generate the required dataset. These AI-based tools were employed to create realistic and diverse data that simulate actual exam results, student behaviors, and course interactions. This helped us obtain high-quality synthetic data suitable for testing and system evaluation.

### **Data Modelling:**

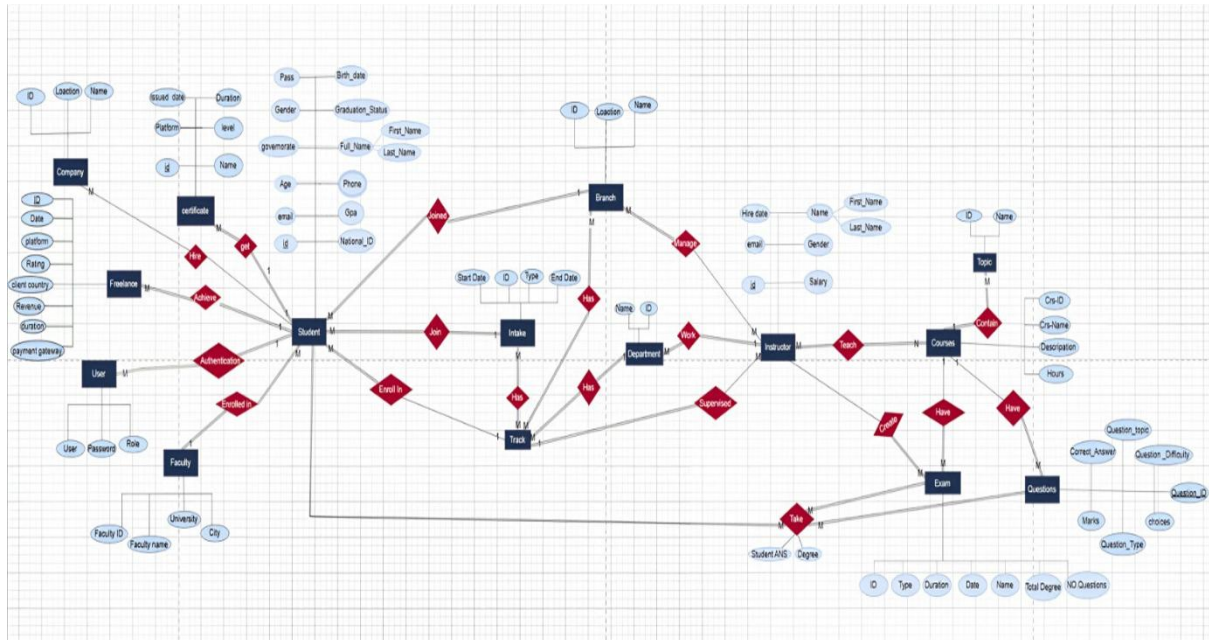
In this phase, we implemented a Snowflake Data Model designed to organize and manage complex academic data efficiently.

The model ensures normalization by minimizing redundancy and maintaining strong referential integrity.

This structure enables better analytical reporting and scalability for future data expansion.

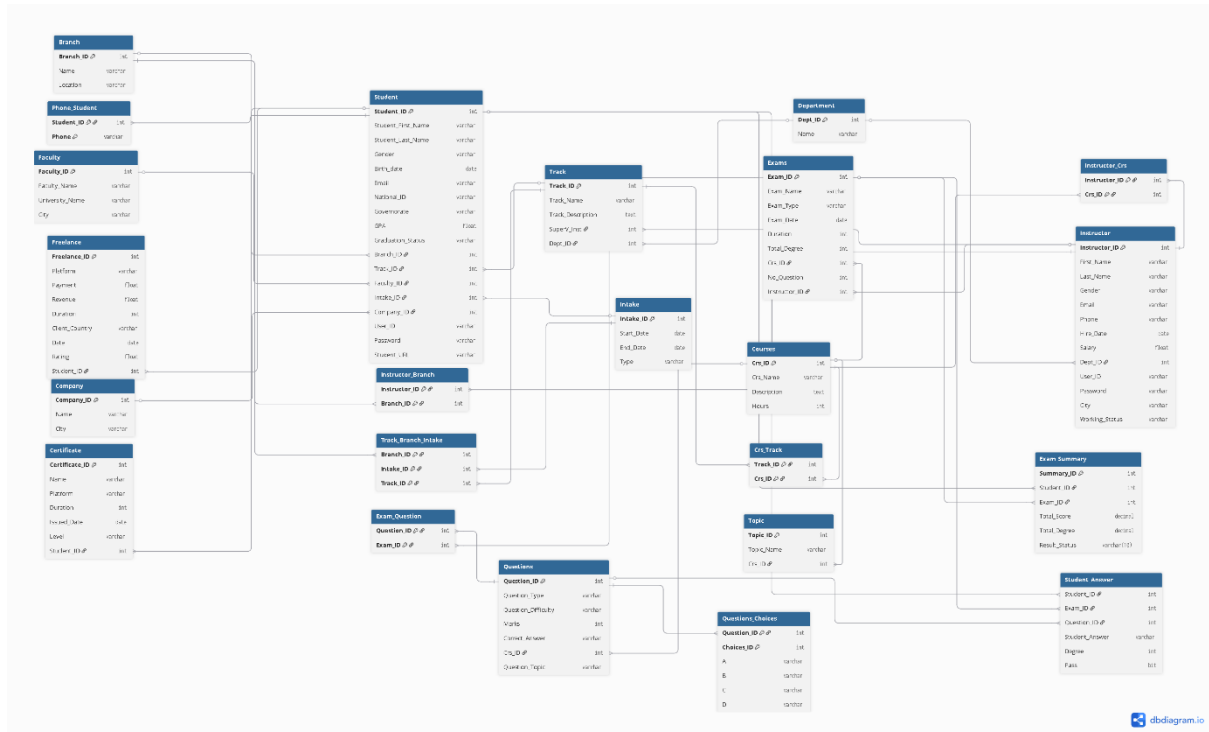
# ERD (Entity Relationship Diagram)

Examination system ERD includes entities such as Student, Intake, Department, questions, exams, Courses, and other entities, then relation between each other.



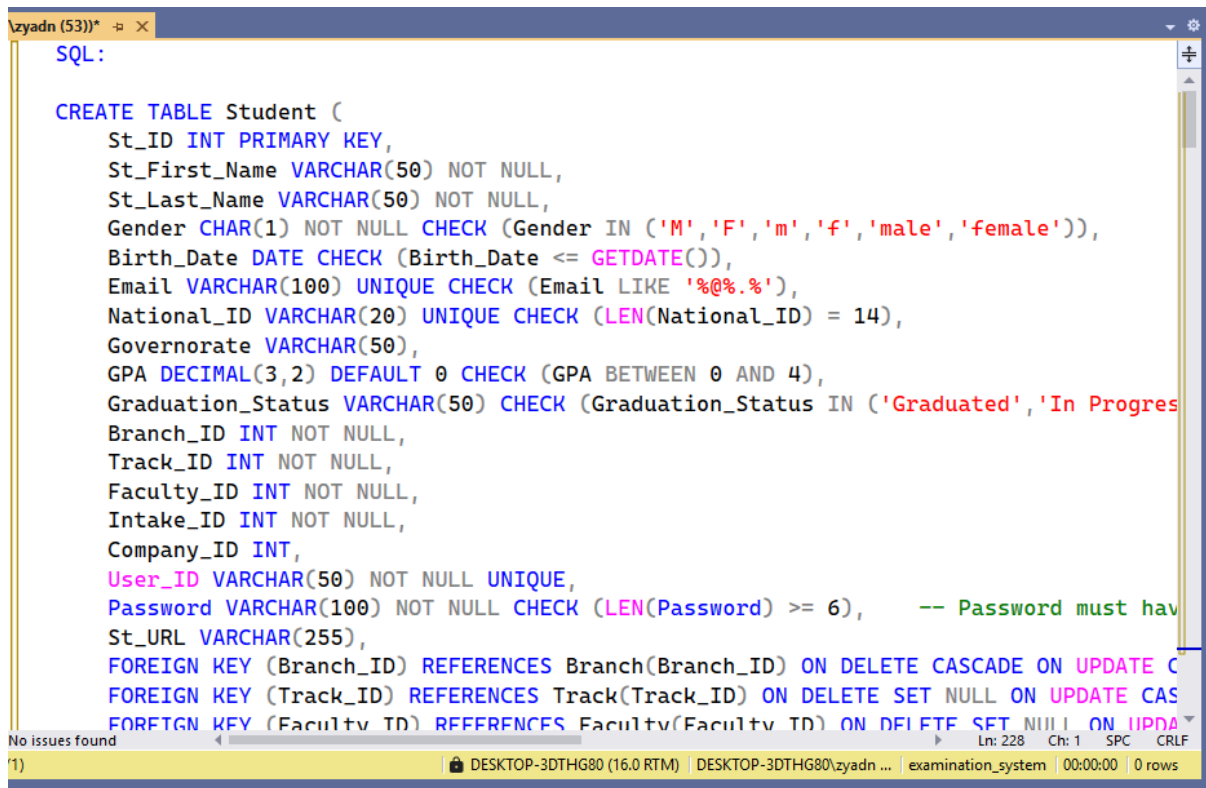
# MAPPING

Mapping in the examination system refers to the process of creating a correspondence or association between different entities or attributes in the system needed to implement in the SQL Server Management Studio.



# Data Base Creation

In this phase, we implemented the database by creating all necessary tables, relationships, and constraints based on the ERD and mapping design. SQL scripts were used to build the database structure, define primary and foreign keys, and ensure data integrity.

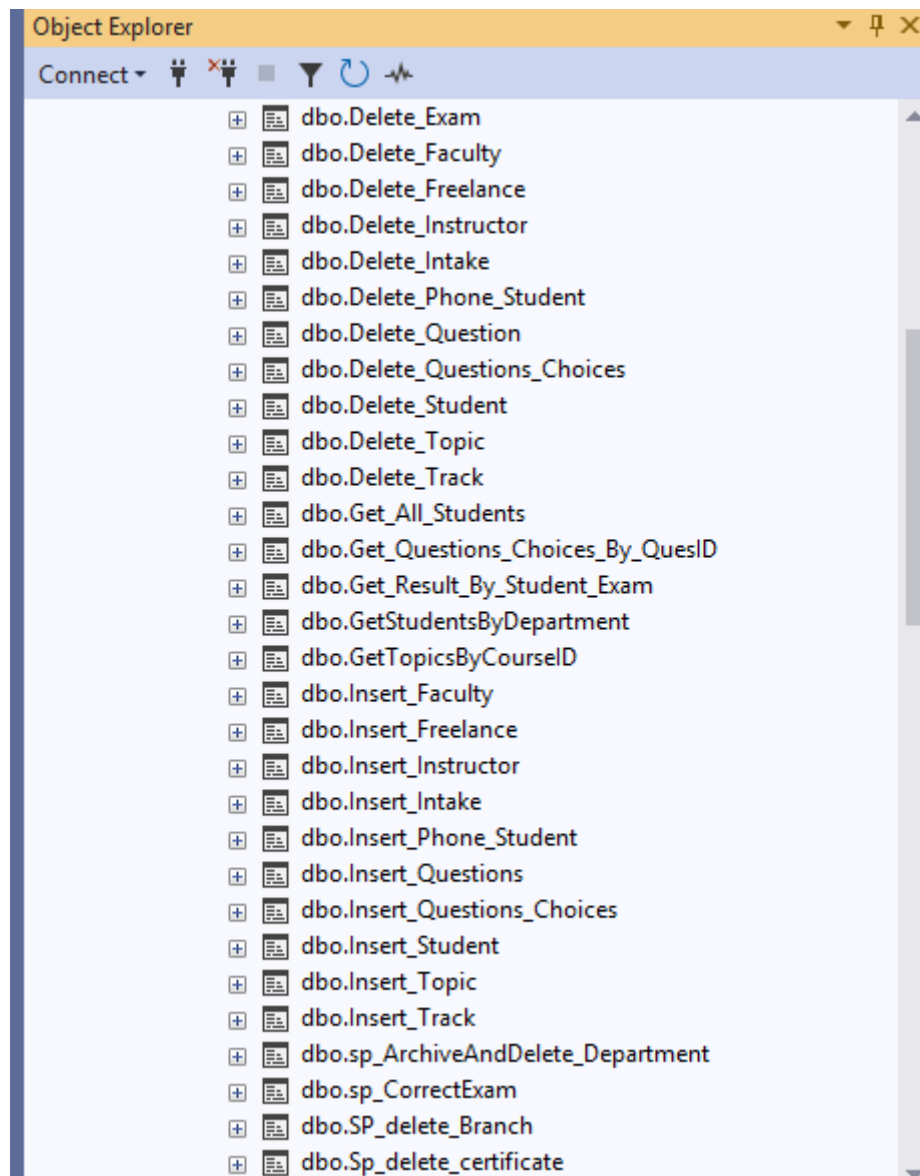
A screenshot of a SQL script editor window titled 'zyadn (53)'. The window contains a SQL script for creating a 'Student' table. The script includes various data types, constraints like primary keys, unique checks, and foreign key references. The status bar at the bottom indicates 'No issues found' and shows file path information.

```
SQL:

CREATE TABLE Student (
    St_ID INT PRIMARY KEY,
    St_First_Name VARCHAR(50) NOT NULL,
    St_Last_Name VARCHAR(50) NOT NULL,
    Gender CHAR(1) NOT NULL CHECK (Gender IN ('M', 'F', 'm', 'f', 'male', 'female')),
    Birth_Date DATE CHECK (Birth_Date <= GETDATE()),
    Email VARCHAR(100) UNIQUE CHECK (Email LIKE '%@%.%'),
    National_ID VARCHAR(20) UNIQUE CHECK (LEN(National_ID) = 14),
    Governorate VARCHAR(50),
    GPA DECIMAL(3,2) DEFAULT 0 CHECK (GPA BETWEEN 0 AND 4),
    Graduation_Status VARCHAR(50) CHECK (Graduation_Status IN ('Graduated', 'In Progress')),
    Branch_ID INT NOT NULL,
    Track_ID INT NOT NULL,
    Faculty_ID INT NOT NULL,
    Intake_ID INT NOT NULL,
    Company_ID INT,
    User_ID VARCHAR(50) NOT NULL UNIQUE,
    Password VARCHAR(100) NOT NULL CHECK (LEN>Password) >= 6), -- Password must have at least 6 characters
    St_URL VARCHAR(255),
    FOREIGN KEY (Branch_ID) REFERENCES Branch(Branch_ID) ON DELETE CASCADE ON UPDATE CASCADE,
    FOREIGN KEY (Track_ID) REFERENCES Track(Track_ID) ON DELETE SET NULL ON UPDATE CASCADE,
    FOREIGN KEY (Faculty_ID) REFERENCES Faculty(Faculty_ID) ON DELETE SET NULL ON UPDATE CASCADE
);
```

## Stored Procedures:

In this phase, we created stored procedures for each table in the database to handle the main data operations. These procedures were developed to perform Insert, Update, and Delete actions efficiently and securely. Using stored procedures helped improve performance, maintain data consistency, and simplify interaction between the application and the database by centralizing all SQL logic in one place.



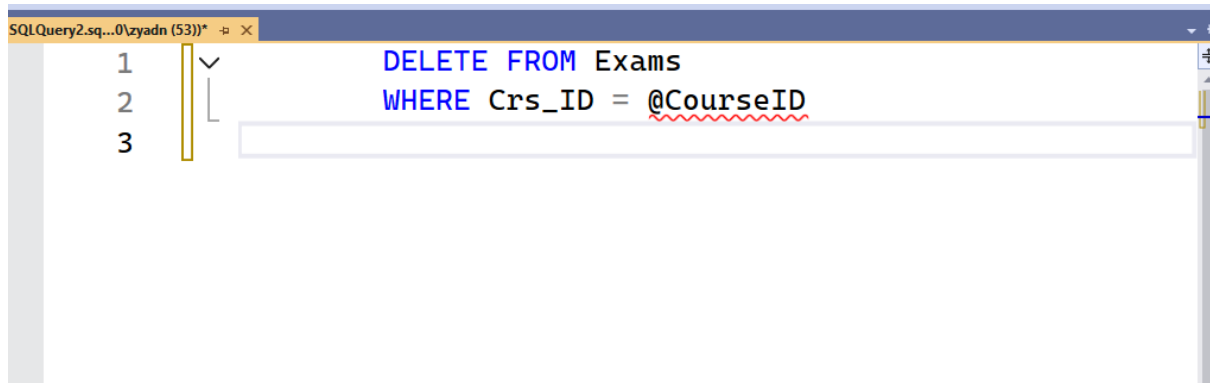
## Insertion Stored Procedure:

```
SQLQuery2.sql...0\zyadn (53)*
1  --Exam Generation
2  CREATE PROCEDURE [dbo].[SP_Generate_Random_Exam]
3      @exam_name VARCHAR(100),
4      @exam_Type VARCHAR(50),
5      @exam_Date DATE,
6      @duration INT,
7      @total_Degree DECIMAL(5, 2),
8      @crs_ID INT,
9      @inst_ID INT,
10     @NoOfQuestion INT
11  AS
12  BEGIN
13      -- 1. Validation: Check if Course ID exists
14      IF NOT EXISTS (SELECT 1 FROM Courses WHERE Crs_ID = @crs_ID)
15      BEGIN
16          SELECT 'Error: The provided Course ID does not exist in the database.' AS Message;
17          RETURN;
18      END
19      -- 2. Validation: Check if Instructor ID exists
20      IF NOT EXISTS (SELECT 1 FROM [dbo].[Instructor] WHERE Inst_ID = @inst_ID)
21      BEGIN
22          SELECT 'Error: The provided Instructor ID does not exist in the database.' AS Message;
23          RETURN;
24      END
25      -- 3. Validation: Check if enough questions are available
26      DECLARE @AvailableQuestions INT;
27      SELECT @AvailableQuestions = COUNT (Ques_ID)
28      FROM [dbo].[Questions]
29      WHERE Crs_id = @crs_ID;
30
31      IF @NoOfQuestion > @AvailableQuestions
32      BEGIN
33          SELECT CONCAT('Error: Only ', @AvailableQuestions, ' questions are available for this course. Cannot generate ', @NoOfQuestion, ' question');
34          RETURN;
35      END
36  END
```

## Update Stored Procedure:

```
SQLQuery2.sql...0\zyadn (53)*
1  CREATE PROC Update_Exam
2      @exam_id INT,
3      @exam_name VARCHAR(100),
4      @exam_date DATE,
5      @exam_type VARCHAR(50),
6      @exam_duration INT,
7      @exam_total_degree DECIMAL(5,2),
8      @crs_id INT,
9      @inst_id INT,
10     @exam_no_of_question INT
11  AS
12  BEGIN
13      IF NOT EXISTS (SELECT 1 FROM Courses WHERE Crs_ID = @crs_id)
14      BEGIN
15          SELECT 'No Course Exists with this ID'
16      END
17
18      IF NOT EXISTS (SELECT 1 FROM Instructor WHERE Inst_ID = @inst_id)
19      BEGIN
20          SELECT 'No Instructor Exists with this ID'
21      END
22
23      IF EXISTS(SELECT 1 FROM Exams WHERE Exam_ID = @exam_id)
24      BEGIN
25          UPDATE Exams
26          SET Exam_Name = @exam_name,
27              Exam_Date = @exam_date,
28              Exam_Type = @exam_type,
29              Duration = @exam_duration,
30              Total_Degree = @exam_total_degree,
31              Crs_ID = @crs_id,
32              Inst_ID = @inst_id,
33              No_Question = @exam_no_of_question
34          WHERE Exam_ID = @exam_id
35      END
36      ELSE
37          SELECT 'No Exam Exists with this ID'
38  END
```

## Delete Stored Procedure:

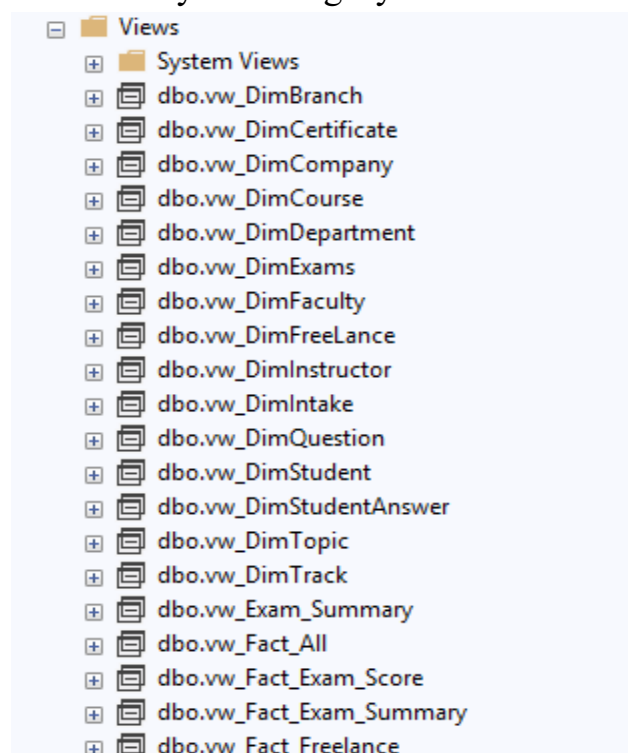


```
SQLQuery2.sql...0\zyadn (53)) *  X
1      DELETE FROM Exams
2      WHERE Crs_ID = @CourseID
3
```

## Views:

In this phase, we created several database views to simplify data retrieval and improve system performance. Each view was designed to combine data from multiple tables, making it easier to generate reports and present meaningful insights for students, instructors, and administrators.

Additionally, the views played an important role in the data modelling process, as they were used to organize and structure the data in a way that supports analysis and visualization within dashboards and reports. This approach helped ensure consistency between the database and the analytical layer of the system while maintaining data security and integrity.



Department View:

```
CREATE VIEW vw_DimDepartment AS
SELECT
    department.Dept_Id,
    department.Department_Name
FROM dbo.department;
GO
```

Topic View:

```
CREATE VIEW vw_DimTopic AS
SELECT
    Topic.Topic_ID,
    Topic.Topic_Name,
    Topic.Crs_ID
FROM dbo.Topic;
GO
```

# Data Modelling

The Snowflake schema consists of multiple interrelated tables that represent entities like Students, Instructors, Faculties, Branches, Courses, Departments, and Social Media Activity.

Each dimension is normalized into smaller related tables to reduce duplication and enhance data consistency.

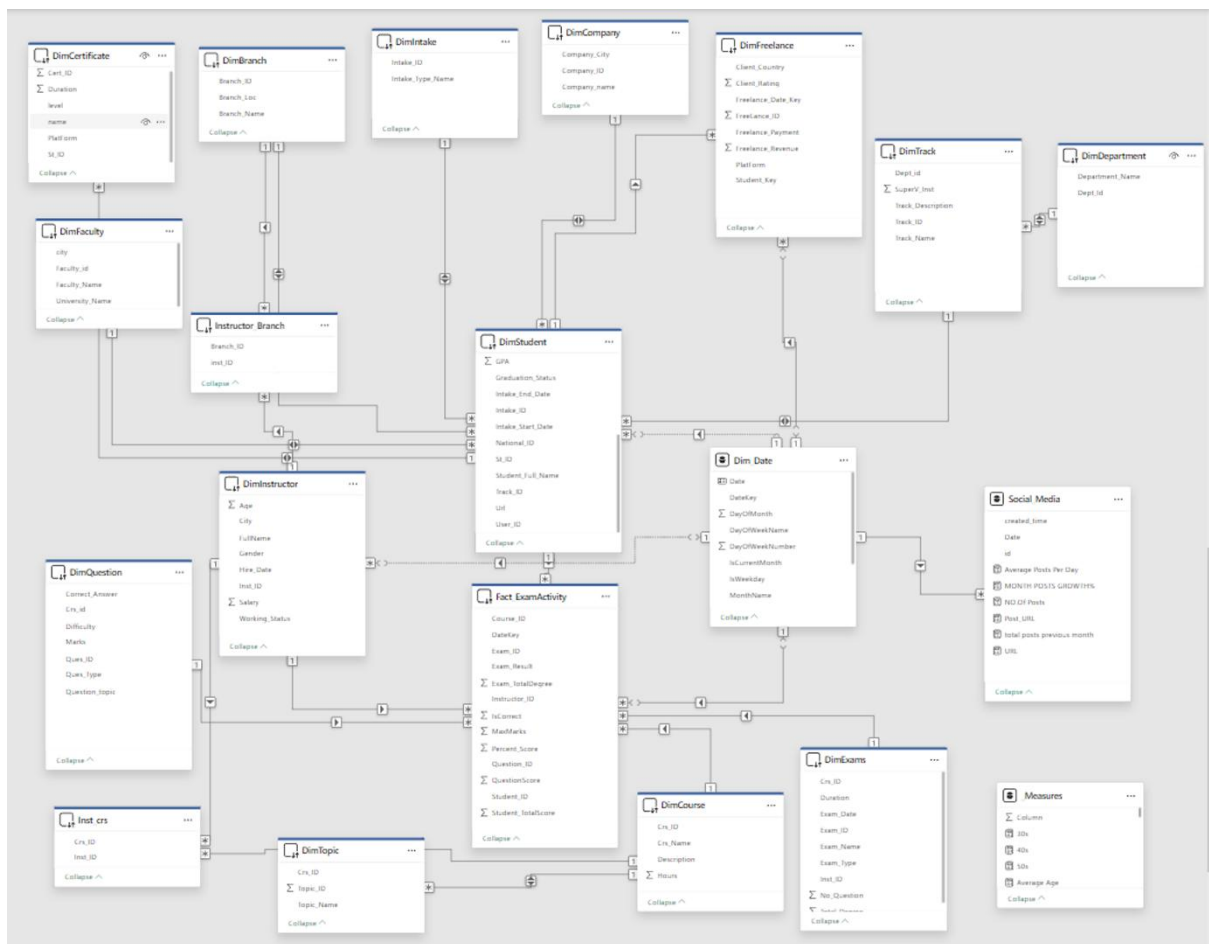
For example, the Student table connects to entities such as Faculty, Branch, Company, and Exam Activity, providing a comprehensive academic overview.

Similarly, the Instructor and Course tables are linked through associative tables to handle many-to-many relationships efficiently.

The design follows a clear hierarchy: Fact tables capture measurable events like Exam Results or Activity Participation, while Dimension tables store descriptive attributes such as Faculty Name or Course Details.

This approach enables efficient querying, flexible reporting, and integration with BI tools like Power BI.

By adopting the Snowflake structure, the system achieves higher data integrity, easier maintenance, and optimized performance for analytical operations



# SQL Service Reporting Services Report (SSRS)

## Instructor Course Report

A stored procedure is created to generate an Instructor Course Summary Report by taking the Instructor ID as a parameter. It returns the instructor's name, the course they teach, and the number of enrolled students.



WorkLoad For inst\_id :13



Instructor Name	Course Name	Total Students Enrolled
Hend Elsayed	ETL Development	136
Hend Elsayed	Microcontrollers & Arduino	281

## Topic by Course

The Topic by Course Report uses a stored procedure that takes the Course ID as input and returns the course and its topics.



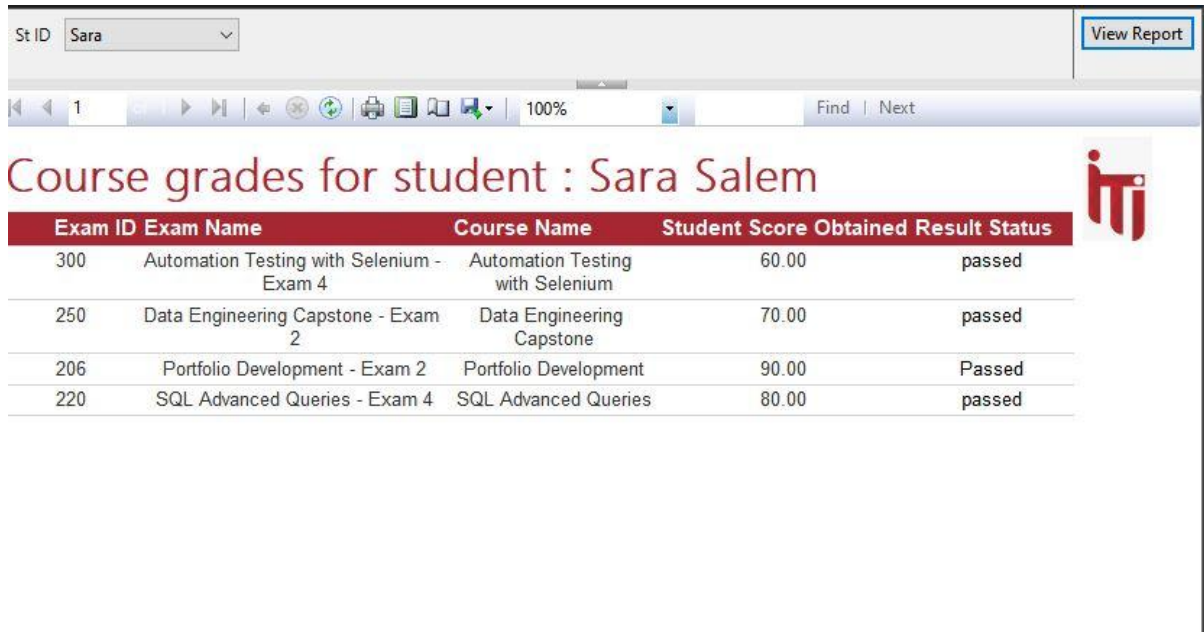
Topics for Course: Introduction to Data Science



Topic ID	Topic Name
1	Introduction to Data Science Concepts
2	Data Analytics Lifecycle
3	Roles and Skills in Data Science
4	Understanding Data and Variables
5	Data Science Tools Overview
6	Python and Jupyter Introduction

## Course Grades by Student

A stored procedure is created to generate the Student Exam Report by taking the Student ID as a parameter. It returns the Exam ID, Exam Name, Course Name, Student Score, and Result Status.



St ID: Sara

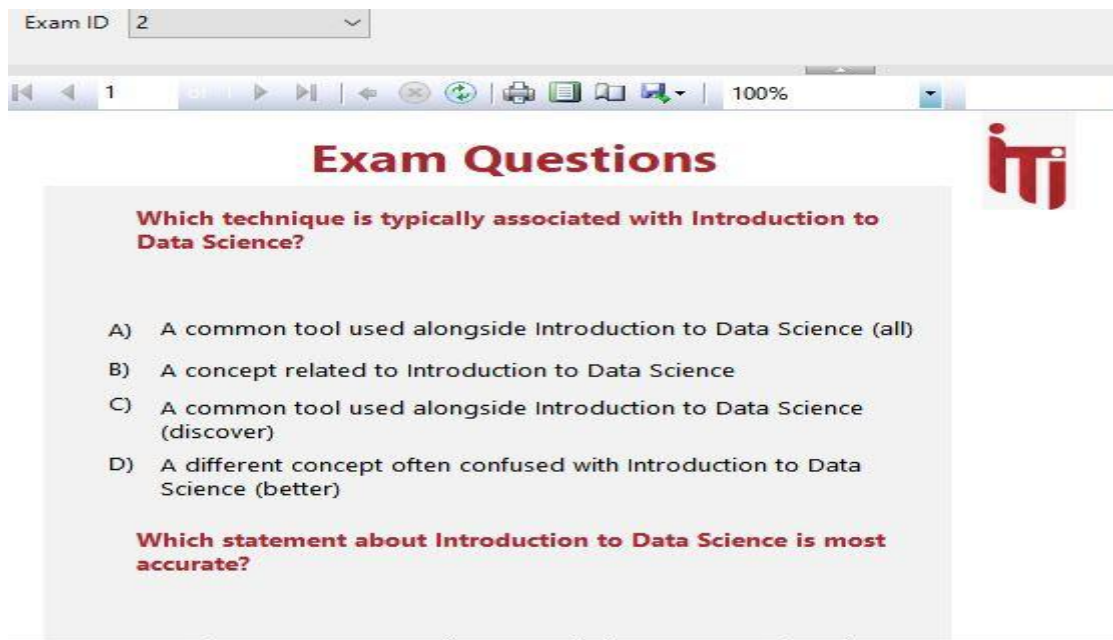
View Report

Course grades for student : Sara Salem

Exam ID	Exam Name	Course Name	Student Score	Obtained	Result Status
300	Automation Testing with Selenium - Exam 4	Automation Testing with Selenium	60.00		passed
250	Data Engineering Capstone - Exam 2	Data Engineering Capstone	70.00		passed
206	Portfolio Development - Exam 2	Portfolio Development	90.00		Passed
220	SQL Advanced Queries - Exam 4	SQL Advanced Queries	80.00		passed

## Exam Questions

A stored procedure is created to generate the Exam Report by taking the Exam Number as a parameter. It returns the exam questions and their corresponding answers.



Exam ID: 2

Exam Questions

**Which technique is typically associated with Introduction to Data Science?**

- A) A common tool used alongside Introduction to Data Science (all)
- B) A concept related to Introduction to Data Science
- C) A common tool used alongside Introduction to Data Science (discover)
- D) A different concept often confused with Introduction to Data Science (better)

**Which statement about Introduction to Data Science is most accurate?**

## Student by Department

A stored procedure is created to generate the Students by Department Report by taking the Department ID as a parameter. It returns the department name and the list of students enrolled in it with information about each student.

### Students for Department : Software Engineering



St ID	Student Full Name	Gender	Email	Governorate	GPA	Track Name	Branch Name	Intake Type
2	Walid Yacoub	M	walid.yacoub@student.iti.local	Cairo	2.32	Big Data Engineering	ITI Aswan Branch	Intensive Code Camps -ICC
6	Ahmed Mostafa	M	ahmed.mostafa@student.iti.local	Alexandria	2.90	Data Engineering	ITI Alexandria Branch	Professional training program
17	Sawsan Elgohary	F	sawsan.elgohary@student.iti.local	Ismailia	2.03	Data Science	ITI Qena Branch	Professional training program
18	Karim Fahmy	M	karim.fahmy@student.iti.local	Alexandria	2.17	Big Data Engineering	ITI Mansoura Branch	Intensive Code Camps -ICC
19	Rana Yacoub	F	rana.yacoub@student.iti.local	Cairo	3.46	Data Engineering	ITI Aswan Branch	Summer Training
20	Sami Elkomy	M	sami.elkomy@student.iti.local	Dakahlia	2.32	Machine Learning Engineering	ITI Menoufia Branch	Professional training program
24	Omar Nabil	M	omar.nabil@student.iti.local	Cairo	3.59	Big Data Engineering	ITI Aswan Branch	Intensive Code Camps -ICC
25	Mona Mostafa	F	mona.mostafa@student.iti.local	Sohag	2.02	Data Engineering	ITI Qena Branch	Intensive Code Camps -ICC
32	Nader Suleiman	M	nader.suleiman@student.iti.local	Menoufia	3.72	Big Data Engineering	ITI Menoufia Branch	Professional training program
36	Sherif Abdalla	M	sherif.abdalla@student.iti.local	Cairo	3.83	Machine Learning Engineering	ITI Mansoura Branch	Intensive Code Camps -ICC
37	Heba Khalifa	F	heba.khalifa@student.iti.local	Sharqia	2.18	AI for Business	ITI Smart Village Branch	Intensive Code Camps -ICC
38	Nader Hammad	M	nader.hammad@student.iti.local	Sohag	3.70	Applied Machine Learning	ITI Mansoura Branch	Professional training program
40	Rania Hassan	F	rania.hassan@student.iti.local	Giza	2.89	Machine Learning Engineering	ITI Port Said Branch	Intensive Code Camps -ICC

## Student Answer by Exam ID & Student ID

The Student Answer Report uses a stored procedure that takes the Exam ID and Student ID as input and returns the questions and student answers.

Exam ID  St ID

1 of 1

### Ehab Mohamed Answers of Exam : 2



Which technique is typically associated with Introduction to Data Science?

B

Introduction to Data Science is a fundamental concept in this course.

True

Introduction to Data Science is a fundamental concept in this course.

True

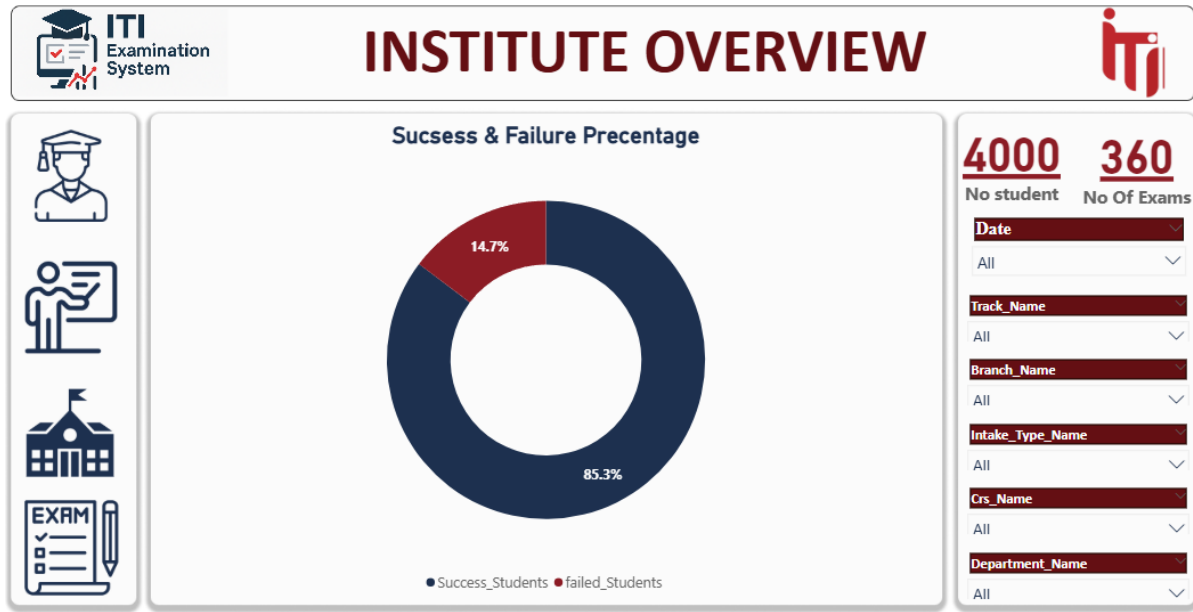
Which statement about Introduction to Data Science is most accurate?

D

Which of the following is the best description of Introduction to

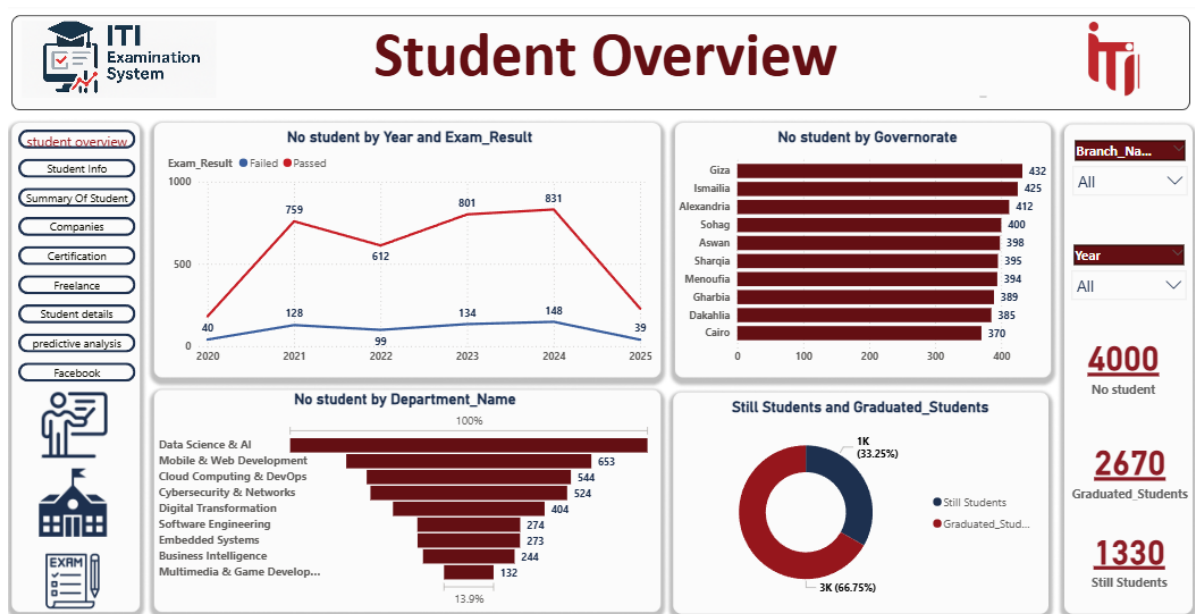
# Dashboard Overview

Analyze the examination system as a whole and explain the numbers of instructors, Branches, Tracks, Exams, etc.



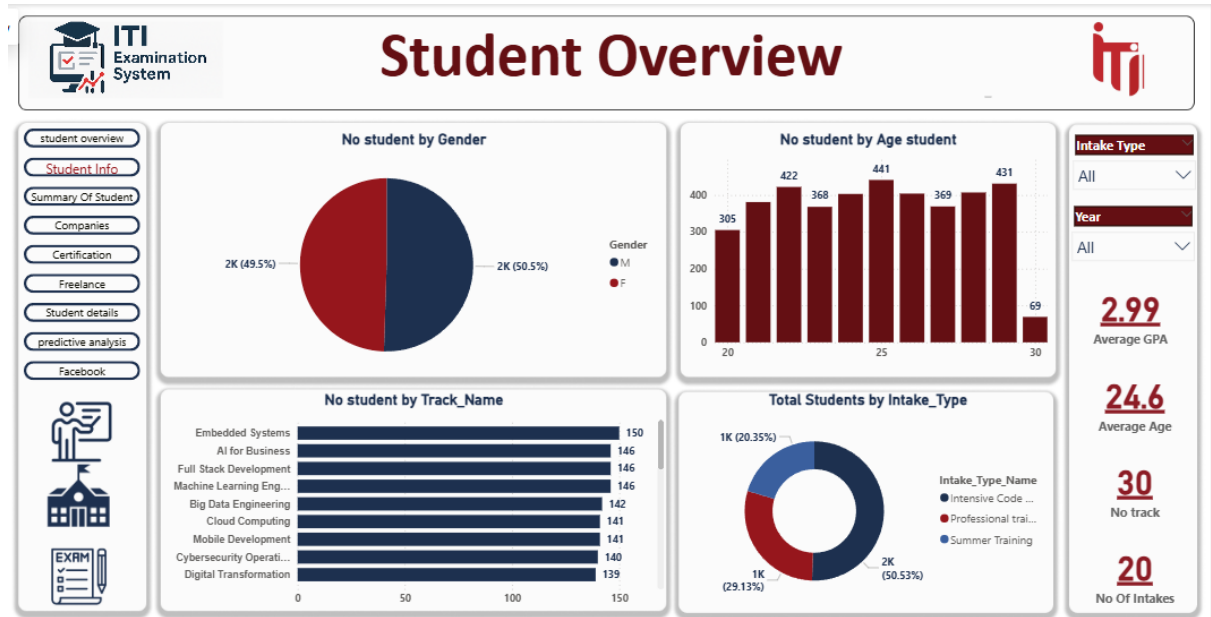
## Student Overview 1

Displays the number of students enrolled in different departments and Governorate.



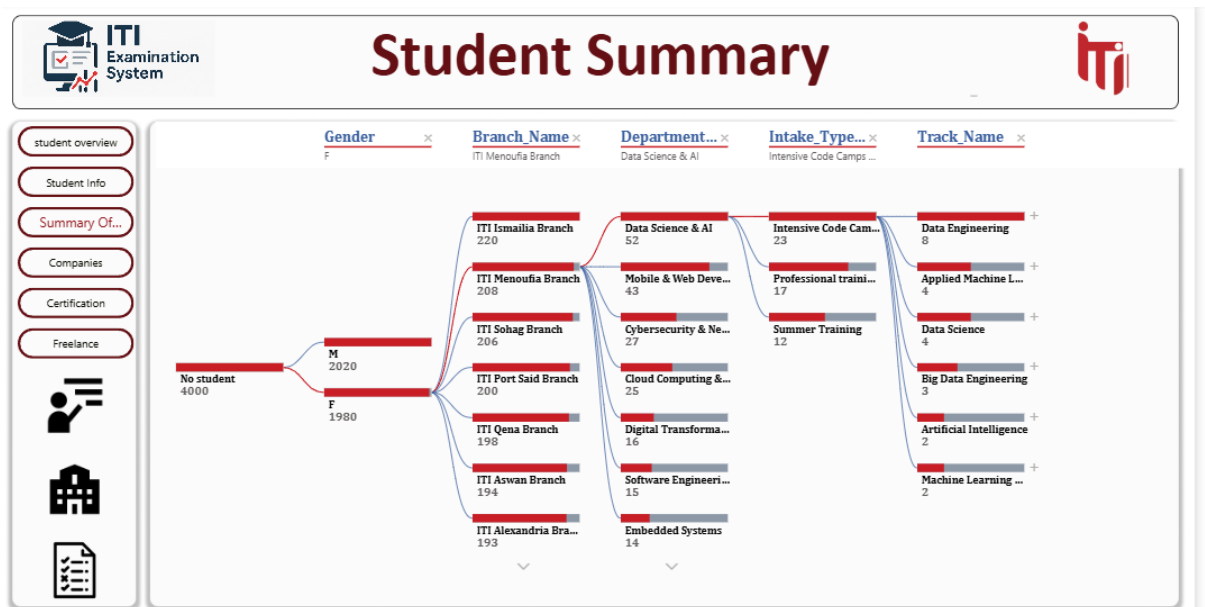
## Student Overview 2

Displays the number of students by gender, track and intake.



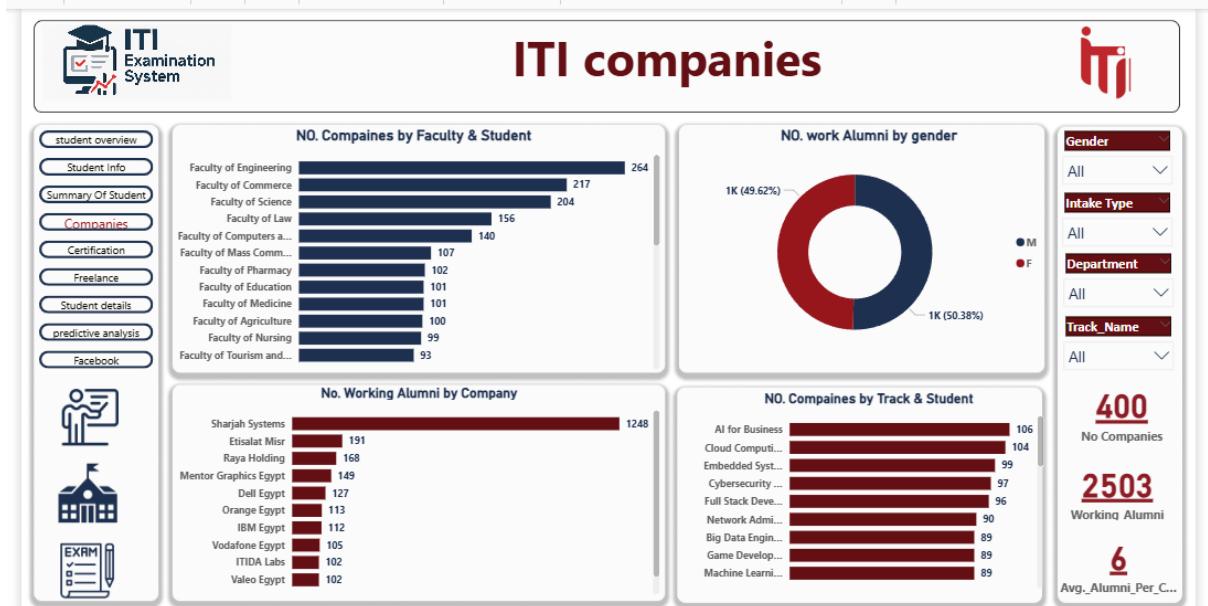
## Student Overview 3

represent the relationship between students, their branches, departments, intakes, and tracks, helping to analyze academic distribution and learning paths.



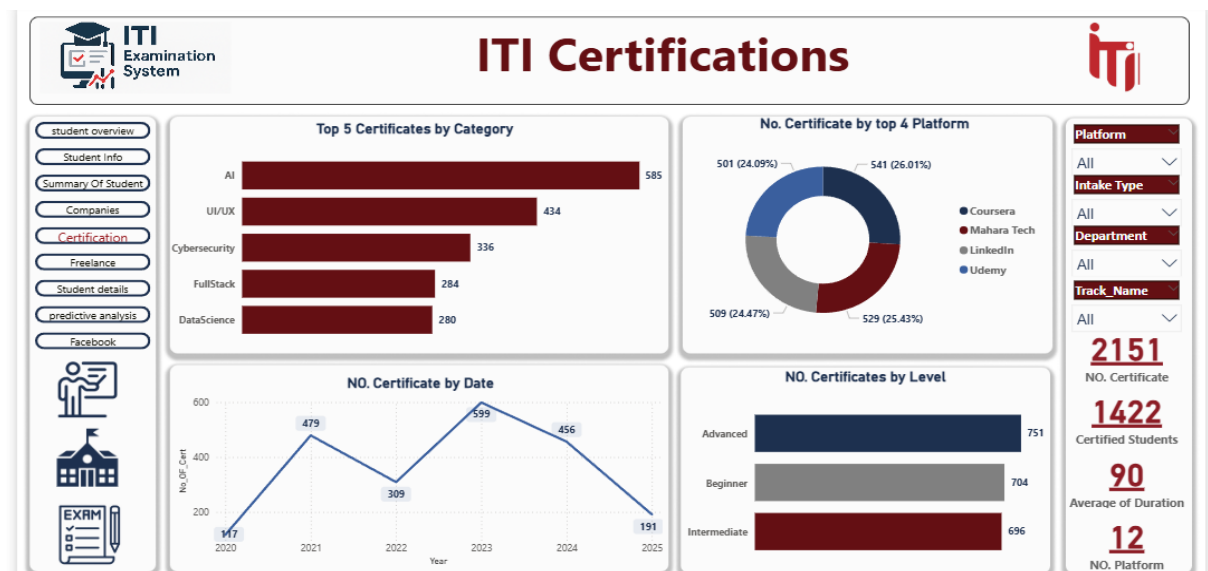
## Company Dashboard

Measures the engagement level of alumni, such as the number of those hired, No. companies by faculty & Students.



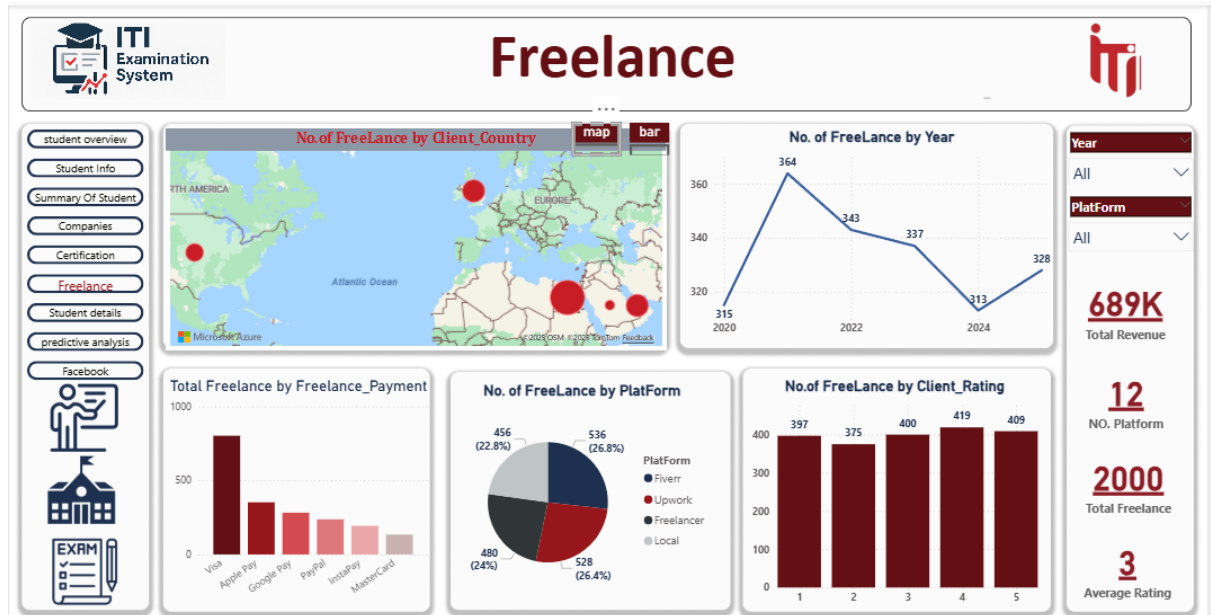
## Certificate Dashboard

Displays the number of students who completed online Certifications and the names of these Certifications.



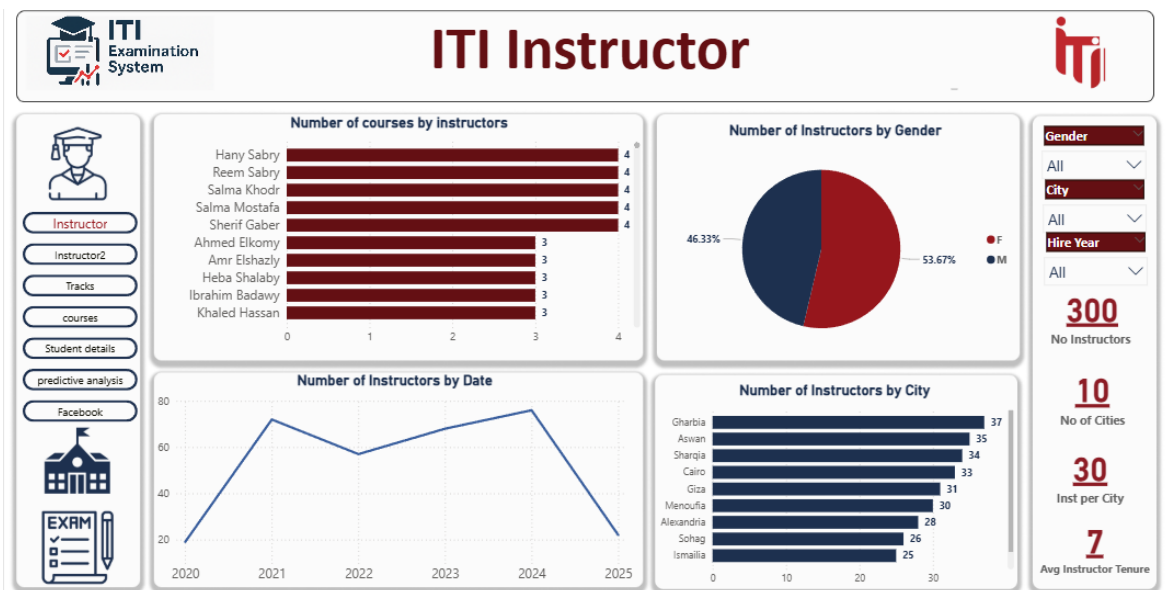
# Freelance Dashboard

Tracks the number of students who complete freelancing jobs.

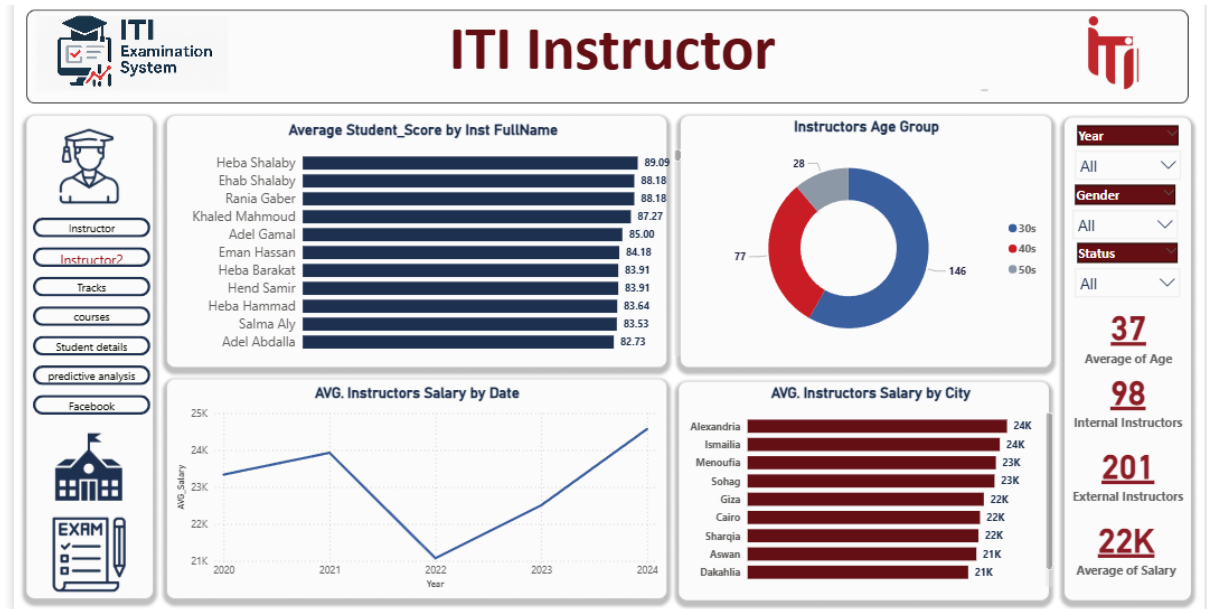


# Instructor Dashboard 1

Evaluates Instructor performance based on student score, salary, ....etc.

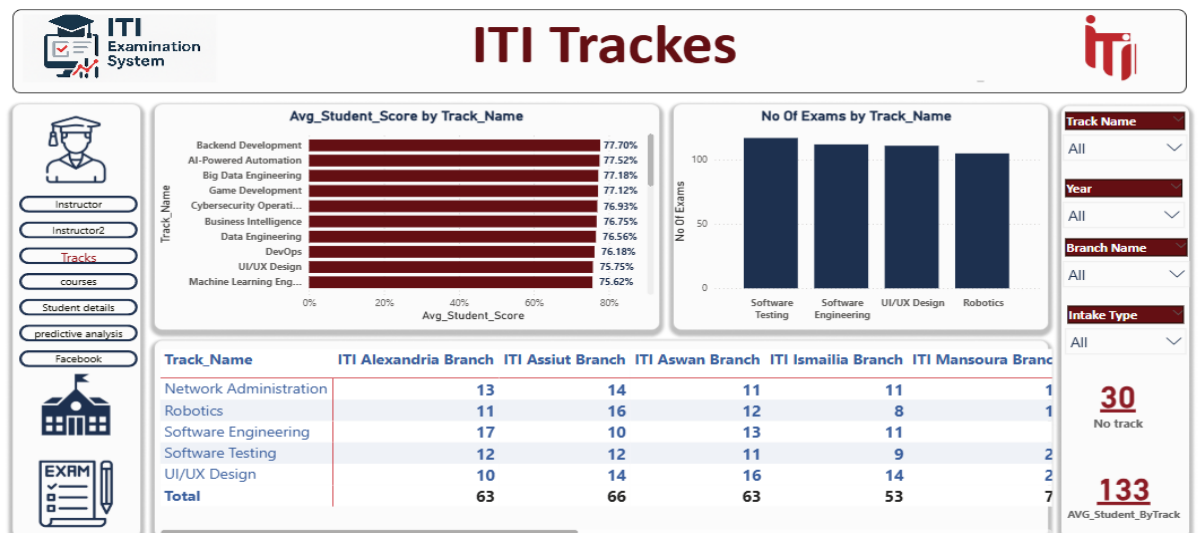


## Instructor Dashboard 2



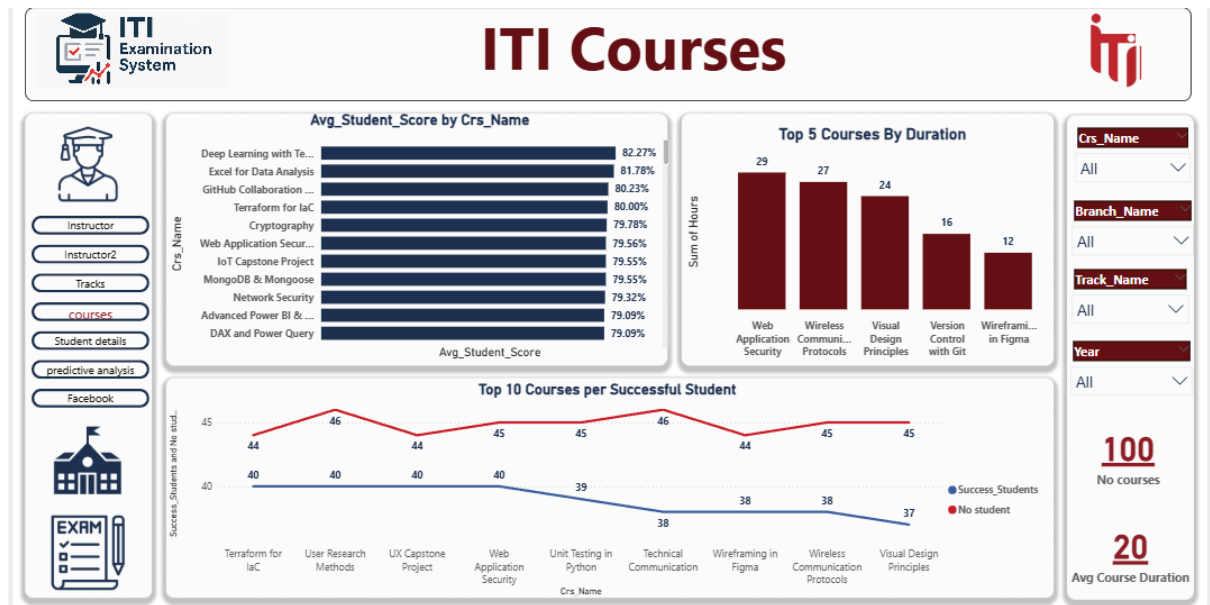
## Tracks Dashboard

A dashboard was designed to analyze and compare different tracks, showing student distribution, performance levels, and progress across each track.



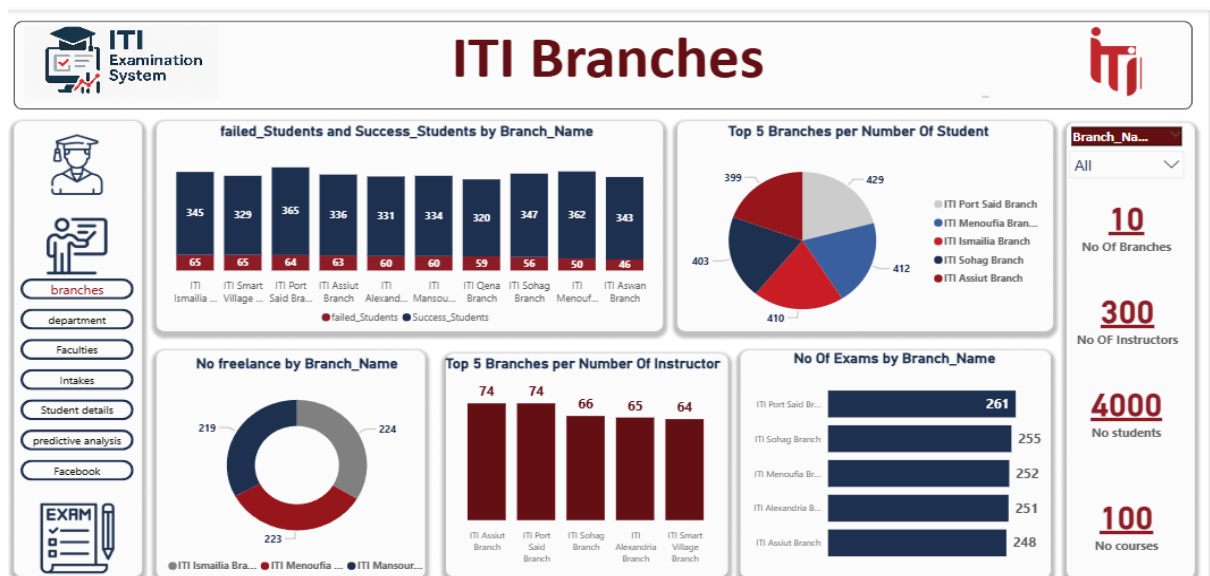
## Course Dashboard

A dashboard was developed to display insights for each Course, showing average student score, performance trends, and progress comparisons across different courses.



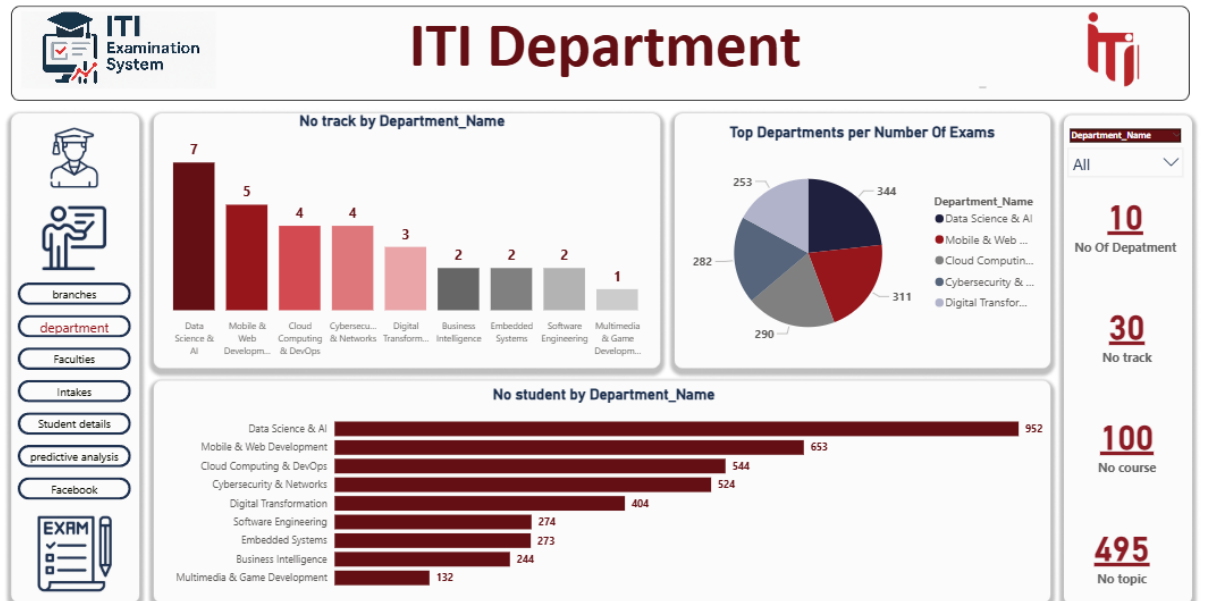
## Branches Dashboard

A dashboard was created to analyze the performance and distribution of students across different branches, highlighting academic results and enrollment rates.



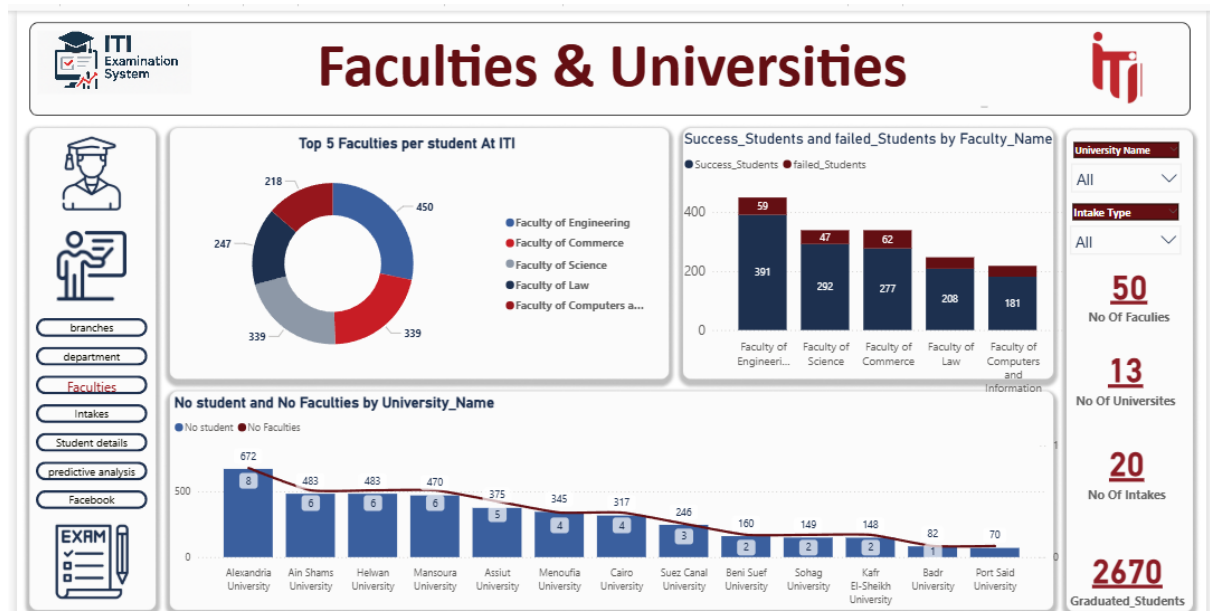
## Department Dashboard

Displays the number of departments, the top exams, and number of tracks in each department.



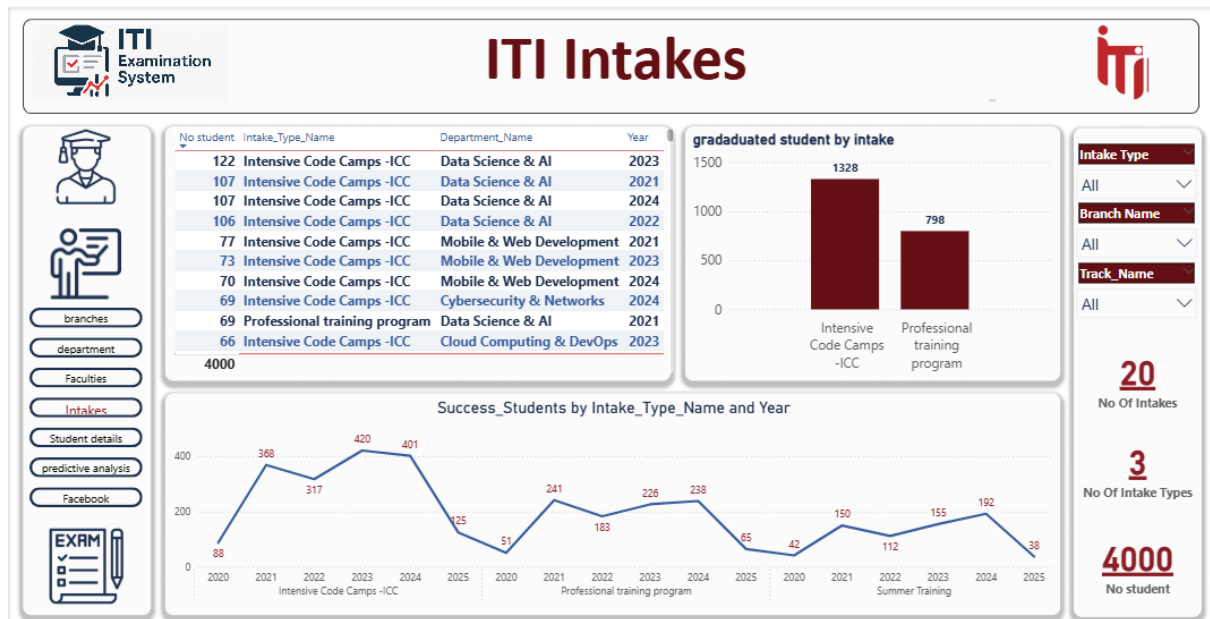
## Faculties & University Dashboard

A dashboard was designed to provide an overview of the faculties and university performance, showcasing student distribution, academic results.



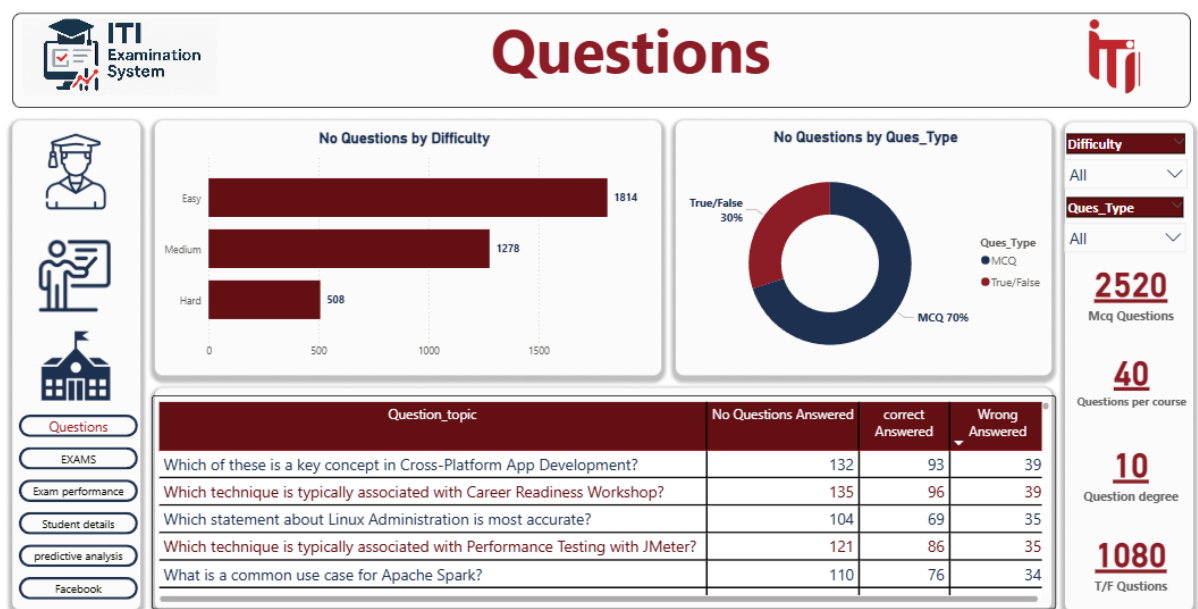
# Intake Dashboard

A dashboard was developed to display insights for each intake, showing student enrollment, performance trends, and progress comparisons across different tracks.



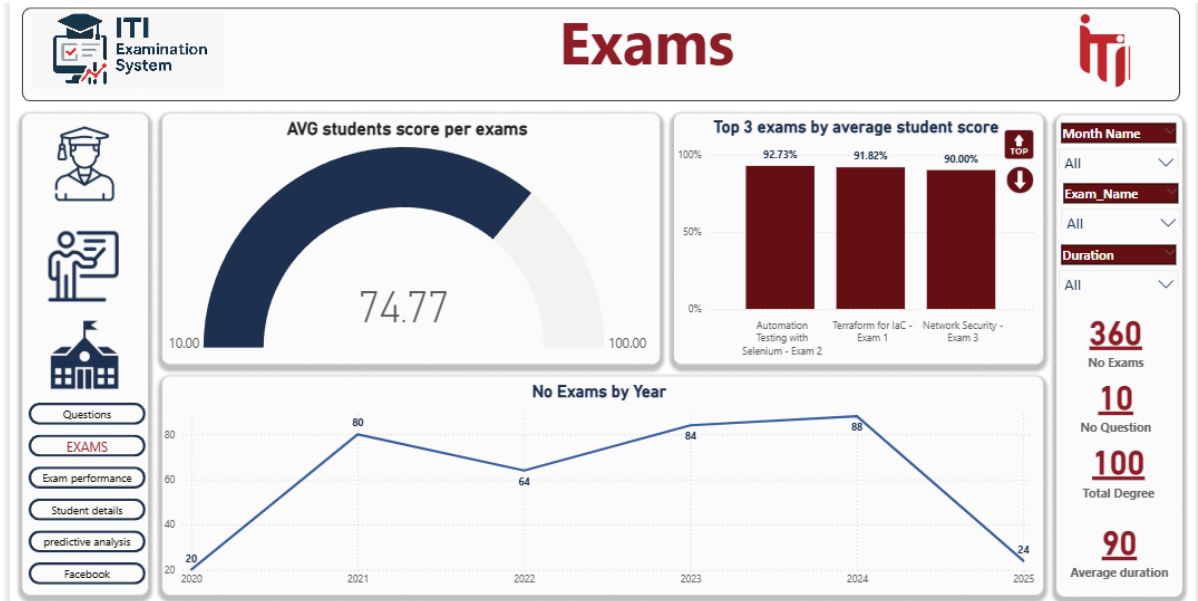
# Questions Dashboard

A dashboard was developed to analyze exam questions, showing their difficulty levels, correct answer.



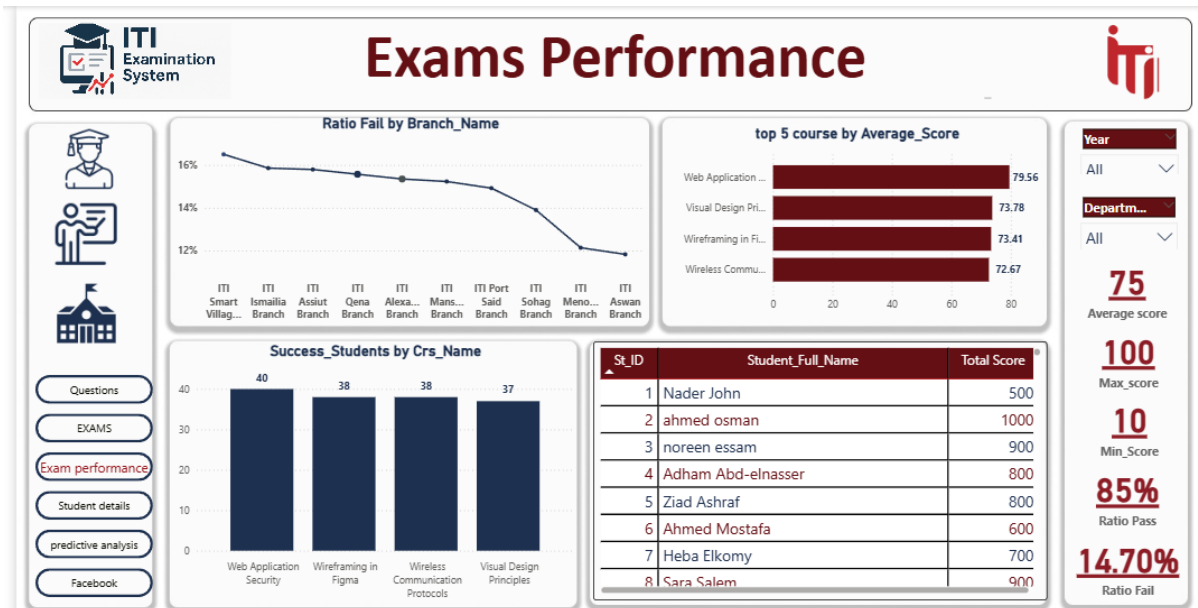
# Exam Dashboard 1

Created to monitor exam performance, displaying student results, average scores.



# Exam Dashboard 2

A second exam dashboard was developed to provide deeper insights into exam analytics.



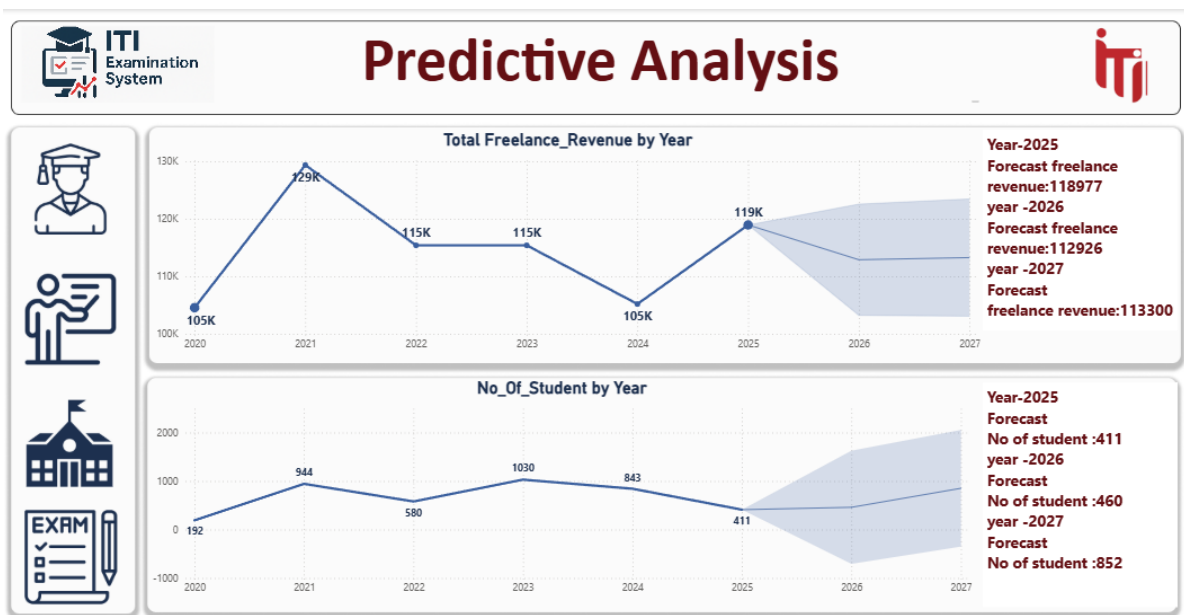
## Student Details

This dashboard presents detailed information about ITI students, including their names, intake types, departments, branches, tracks, and profile links.

St_ID	Student_Full_Name	Intake_Type_Name	Department_Name	Branch_Name	Track_Name	Url
1	Nader John	Intensive Code Camps -ICC	Business Intelligence	ITI Smart Village Branch	Data Analysis	<a href="https://www.facebook.com/nader.john.3">https://www.facebook.com/nader.john.3</a>
2	ahmed osman	Intensive Code Camps -ICC	Business Intelligence	ITI Ismailia Branch	Data Analysis	<a href="https://www.facebook.com/ahmd.abrah">https://www.facebook.com/ahmd.abrah</a>
3	noreen essam	Intensive Code Camps -ICC	Software Engineering	ITI Qena Branch	Software Testing	<a href="https://www.facebook.com/noreen.essar">https://www.facebook.com/noreen.essar</a>
4	Adham Abd-elnasser	Intensive Code Camps -ICC	Cybersecurity & Networks	ITI Menoufia Branch	Cybersecurity Operations	<a href="https://www.facebook.com/adham.abd-">https://www.facebook.com/adham.abd-</a>
5	Ziad Ashraf	Intensive Code Camps -ICC	Mobile & Web Development	ITI Menoufia Branch	Backend Development	<a href="https://www.facebook.com/Ziad.Ashraf.5">https://www.facebook.com/Ziad.Ashraf.5</a>
6	Ahmed Mostafa	Professional training program	Data Science & AI	ITI Alexandria Branch	Data Engineering	<a href="https://facebook.com/Ahmed.Mostafa.6">https://facebook.com/Ahmed.Mostafa.6</a>
7	Heba Elkomy	Intensive Code Camps -ICC	Mobile & Web Development	ITI Ismailia Branch	Backend Development	<a href="https://facebook.com/Heba.Elkomy.7">https://facebook.com/Heba.Elkomy.7</a>
8	Sara Salem	Summer Training	Business Intelligence	ITI Mansoura Branch	Data Analysis	<a href="https://facebook.com/Sara.Salem.8">https://facebook.com/Sara.Salem.8</a>
9	Salma Mohamed	Intensive Code Camps -ICC	Mobile & Web Development	ITI Assiut Branch	Full Stack Development	<a href="https://facebook.com/Salma.Mohamed.9">https://facebook.com/Salma.Mohamed.9</a>
10	Adel Hassan	Intensive Code Camps -ICC	Multimedia & Game Development	ITI Assiut Branch	Game Development	<a href="https://facebook.com/Adel.Hassan.10">https://facebook.com/Adel.Hassan.10</a>
11	Reem Gaber	Intensive Code Camps -ICC	Cloud Computing & DevOps	ITI Mansoura Branch	Cloud Computing	<a href="https://facebook.com/Reem.Gaber.11">https://facebook.com/Reem.Gaber.11</a>
12	Khaled Khodr	Intensive Code Camps -ICC	Cloud Computing & DevOps	ITI Mansoura Branch	Cloud DevOps Engineering	<a href="https://facebook.com/Khaled.Khodr.12">https://facebook.com/Khaled.Khodr.12</a>
13	Tamer Eishazly	Intensive Code Camps -ICC	Digital Transformation	ITI Smart Village Branch	Digital Marketing	<a href="https://facebook.com/Tamer.Eishazly.13">https://facebook.com/Tamer.Eishazly.13</a>
14	Walid Elgohary	Summer Training	Digital Transformation	ITI Ismailia Branch	Digital Marketing	<a href="https://facebook.com/Walid.Elghohary.14">https://facebook.com/Walid.Elghohary.14</a>
15	Sami Tawfiq	Intensive Code Camps -ICC	Cybersecurity & Networks	ITI Qena Branch	Cybersecurity	<a href="https://facebook.com/Sami.Tawfiq.15">https://facebook.com/Sami.Tawfiq.15</a>
16	Mohamed Abdalla	Intensive Code Camps -ICC	Cloud Computing & DevOps	ITI Ismailia Branch	Cloud DevOps Engineering	<a href="https://facebook.com/Mohamed.Abdalla">https://facebook.com/Mohamed.Abdalla</a>
17	Sawsan Elgohary	Professional training program	Data Science & AI	ITI Qena Branch	Data Science	<a href="https://facebook.com/Sawsan.Elghohary.17">https://facebook.com/Sawsan.Elghohary.17</a>
18	Karim Fahmy	Intensive Code Camps -ICC	Data Science & AI	ITI Mansoura Branch	Big Data Engineering	<a href="https://facebook.com/Karim.Fahmy.18">https://facebook.com/Karim.Fahmy.18</a>
19	Rana Yacoub	Summer Training	Data Science & AI	ITI Aswan Branch	Data Engineering	<a href="https://facebook.com/Rana.Yacoub.19">https://facebook.com/Rana.Yacoub.19</a>
20	Sami Elkomy	Professional training program	Data Science & AI	ITI Menoufia Branch	Machine Learning Engineering	<a href="https://facebook.com/Sami.Elkomy.20">https://facebook.com/Sami.Elkomy.20</a>

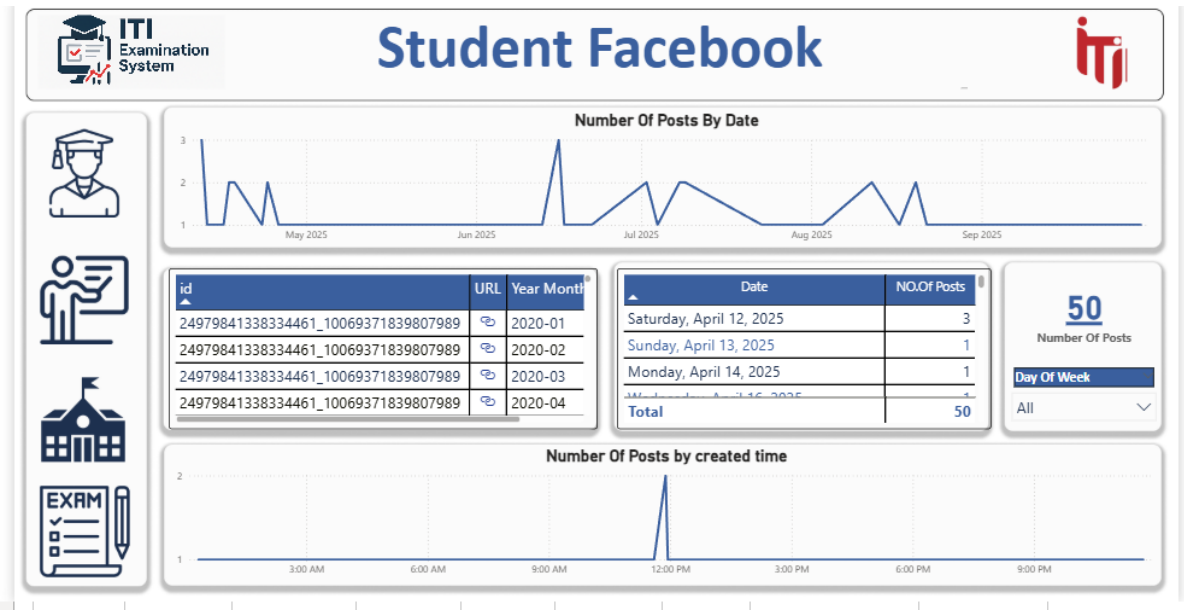
## Predictive Analysis

Predict the total freelance revenue and number of students to forecast future trends in participation and revenue growth.



# Student Social Media

Retrieve certain information from the student's Facebook profile.

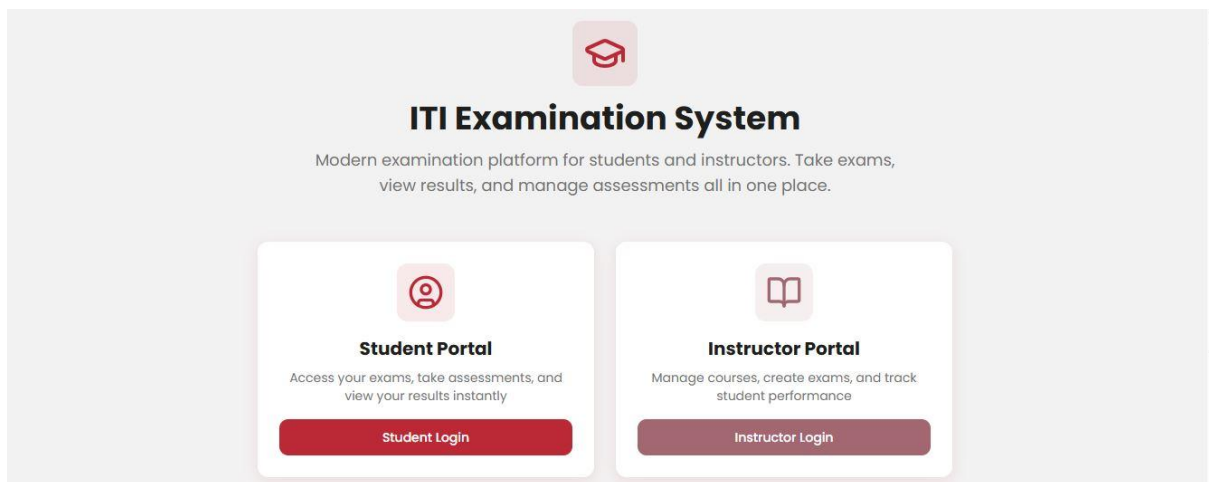


# Website

The ITI Examination System is a modern and efficient platform designed to simplify online assessments for both students and instructors. It provides an all-in-one environment where students can take exams, access their results instantly, and track their academic progress. Instructors can effortlessly manage courses, create exams, and monitor student performance through an intuitive dashboard. With its clean interface and seamless functionality, the ITI Examination System ensures a smooth and organized examination process, promoting transparency, accuracy, and convenience for all users.

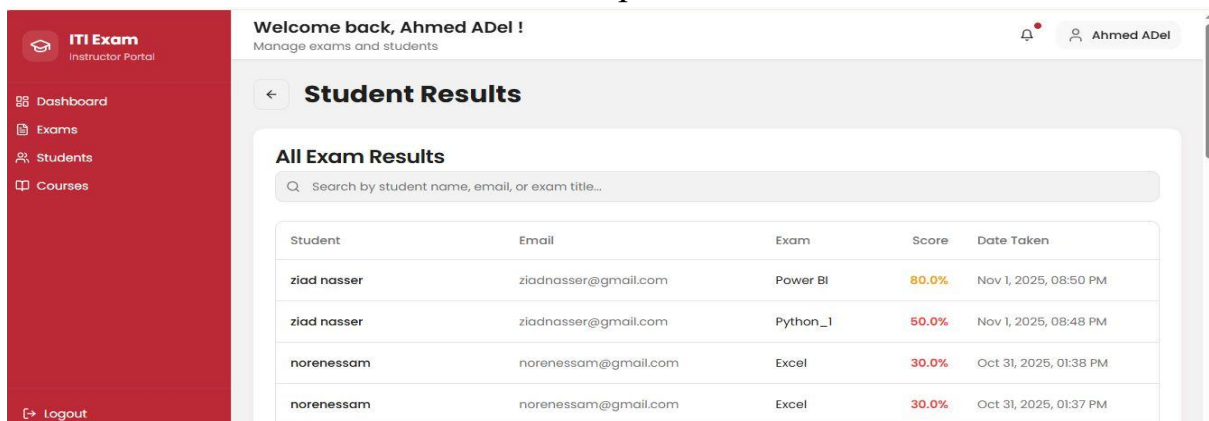
## Main Page

A modern landing page that provides quick access to both the Student and Instructor portals for managing exams and results.



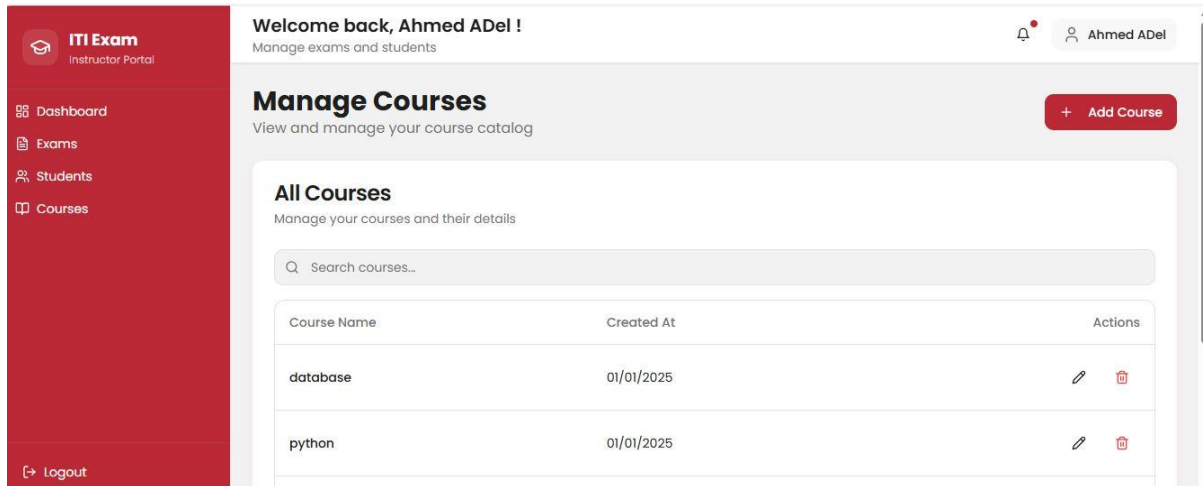
## Students Results

Displays detailed exam results for each student, including their scores, exam titles, and completion dates.



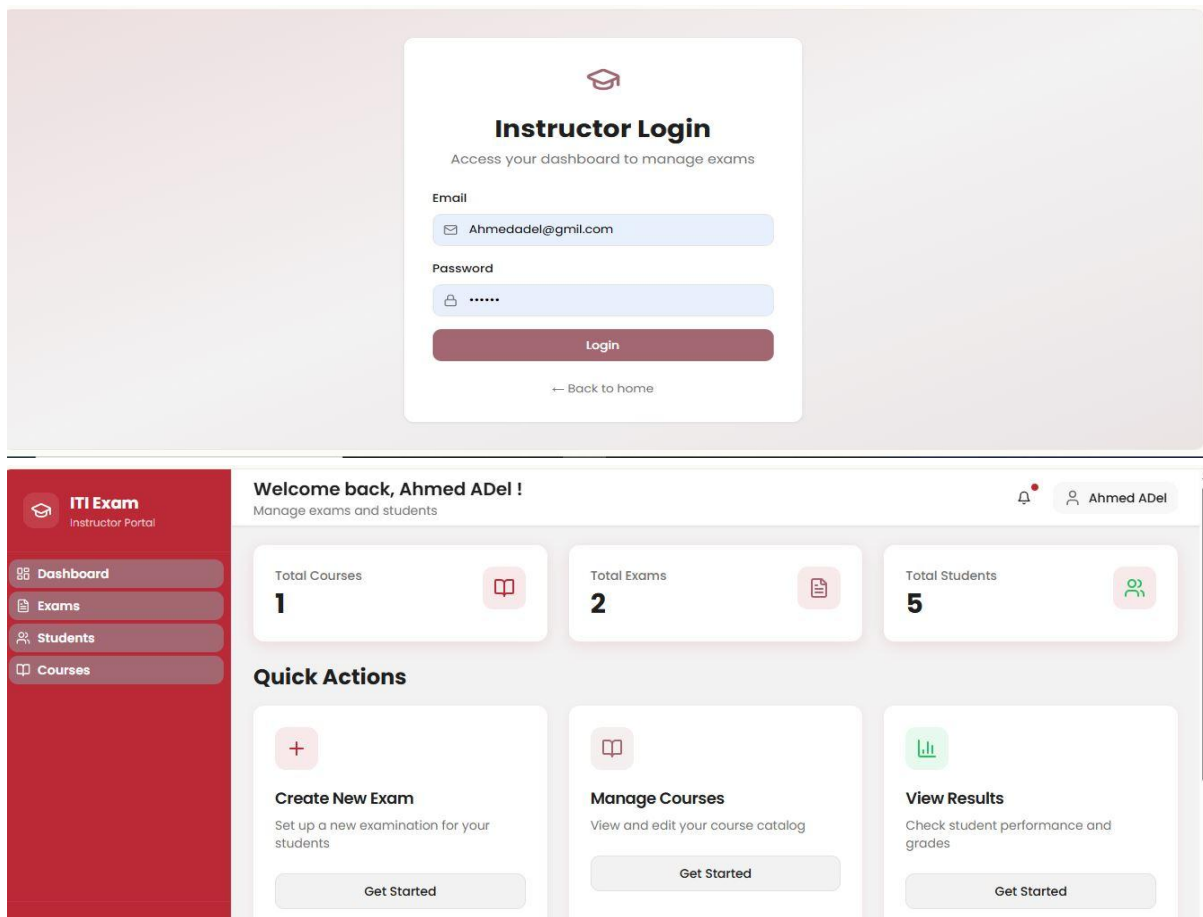
## Manage Courses

Allows instructors to view, create, edit, and organize courses efficiently within the examination system.



## Instructor Login

Secure access point for instructors to sign in and manage their courses, exams, and students.



## Create Exam

Enables instructors to design and configure new exams by adding questions, setting durations, and assigning them to specific courses.

The screenshot shows the 'Create Exam' form in the ITI Exam Instructor Portal. The left sidebar contains navigation links: Dashboard, Exams, Students, and Courses. The main content area is divided into three sections. The top section, 'Welcome back', displays 'Total Courses: 1' and a 'Quick Action' button. The middle section, 'Create New Exam', contains a 'Set up a new exam' button. The bottom section, 'Exam Configuration', includes fields for 'Exam Title' (e.g., Midterm Exam - Mathematics), 'Duration (minutes)' (60), 'Exam Date & Time' (11/01/2025 04:54 PM), 'Track' (power BI), 'Course' (database), and 'Number of Questions' (5). The right sidebar shows 'Total Students: 5' and a 'View Results' button.

ITI Exam  
Instructor Portal

Dashboard  
Exams  
Students  
Courses

Logout

Welcome back  
Manage exams and students

Total Courses  
1

Quick Action

Create New Exam  
Set up a new exam and add students

Exam Title  
e.g., Midterm Exam - Mathematics

Duration (minutes)  
60

Exam Date & Time  
11/01/2025 04:54 PM

Track  
power BI

Course  
database

Number of Questions  
5  
5 questions available

Total Students  
5

View Results  
Check student performance and grades

Get Started

## Exams Page

Displays a complete list of all exams created by the instructor, with options to edit, delete, or assign them to students.

The screenshot shows the 'Exams Page' in the ITI Exam Instructor Portal. The left sidebar contains navigation links: Dashboard, Exams, Students, and Courses. The main content area is divided into three sections. The top section, 'Welcome back', displays 'Total Courses: 1' and a 'Quick Action' button. The middle section, 'Create New Exam', contains a 'Set up a new exam' button. The bottom section, 'Exam Configuration', includes fields for 'Exam Title' (e.g., Midterm Exam - Mathematics), 'Duration (minutes)' (60), 'Exam Date & Time' (11/01/2025 04:54 PM), 'Track' (power BI), 'Course' (database), and 'Number of Questions' (5). The right sidebar shows 'Total Students: 5' and a 'View Results' button.

ITI Exam  
Instructor Portal

Dashboard  
Exams  
Students  
Courses

Logout

Welcome back  
Manage exams and students

Total Courses  
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Quick Action

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Set up a new exam and add students

Exam Title  
e.g., Midterm Exam - Mathematics

Duration (minutes)  
60

Exam Date & Time  
11/01/2025 04:54 PM

Track  
power BI

Course  
database

Number of Questions  
5  
5 questions available

Total Students  
5

View Results  
Check student performance and grades

Get Started

## Student Results

Provides a clear overview of each student's performance, showing their scores, exam titles, and submission times.

The screenshot shows the 'Student Results' page in the ITI Exam Student Portal. The left sidebar contains navigation links: Dashboard, Exams, and Results. The main content area is divided into three sections. The top section, 'Welcome back, ziad nasser!', displays 'Total Exams: 3', 'Average Score: 70%', and 'Average Grade: C+'. The bottom section, 'Exam Results', contains a table with columns: Exam Title, Course, Date, Score, and Grade.

ITI Exam  
Student Portal

Dashboard  
Exams  
Results

Logout

Welcome back, ziad nasser!  
Track your exams and results

Total Exams  
3

Average Score  
70%

Average Grade  
C+

Exam Results

Exam Title	Course	Date	Score	Grade
Power BI	Power BI	01/11/2025	80.0%	B+
Python_1	python	01/11/2025	50.0%	F
Database_1	database	28/10/2025	80.0%	B+

## Start Exam

Allows students to begin their online assessments through a user-friendly and timed examination interface.

The screenshot shows a web interface for starting an exam titled "Python\_1" with "10 Questions". A timer indicates "29:46" remaining, and a "Submit" button is visible. The exam questions are as follows:

**1** Who developed Python Programming Language?

- ☐ Wick van Rossum
- ☐ Rasmus Lerdorf
- ☐ Guido van Rossum
- ☐ Niene Stom

**2** Which type of Programming does Python support?

- ☐ object-oriented programming
- ☐ structured programming

## Select Track

Lets users choose their training or specialization track before proceeding to related courses and assessments.

The screenshot shows the "ITI Exam Student Portal" dashboard for a user named "ziad nasser". The dashboard includes a sidebar with "Dashboard", "Exams", and "Results" links, and a main area with statistics: "Total Exams: 0", "Completed Exams: 0", "Average Score: 0%", and "Pending Exams: 0". A "Select Your Track" modal is open, prompting the user to "Choose the track you're enrolled in to see relevant exams" with a dropdown menu labeled "Select a track". Below the modal, it states "No exams available at the moment". A "Welcome back!" message at the bottom right indicates the user is logged in as "ziad nasser".