

# Online Examination System

Empowered by AI chatbot



# Team Members

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Marketing Data Analyst

Wordsmith talking to any crowd by bridge gap between data and Analytics



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Data Scientist

Analytical, curious data scientist with strategic, adaptive, and creative problem-solving.



Mahmoud Elbaal



Data Analyst

Data analyst skilled in stats, visualization, and insight-driven decision-making.



Sabry Yahia



Data Analyst

Data analyst skilled in stats, visualization, and insight-driven decision-making.



# Agenda

**01** Introduction

**02** Database Design

**03** Stored Procedure

**04** Data Warehouse

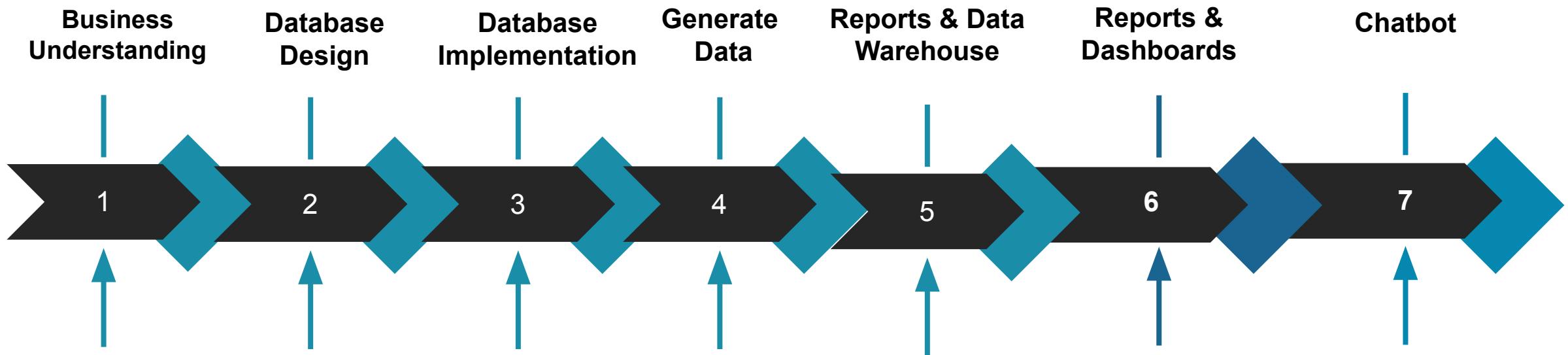
**05** HR Data Mart

**06** Reports

**07** Dashboards

**08** Chatbot

# Project Roadmap





# Introduction

# Purpose



- Centralized system for managing student records, exams, certifications, and readiness.
- Roadmap ensures scalability, data consistency, and real-time insights.
- Covers OLTP, Data Warehouse, SSRS reports, Power BI dashboards, and BI chatbot.
- Supports database architects, analysts, and BI developers from data to decisions.

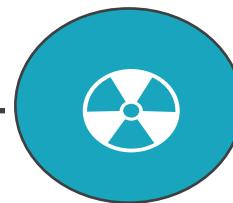
# Scope



**ERD**  
Designing the conceptual and logical data model (ERD)



**SQL DB**  
Creating a fully normalized transactional database using SQL Server



**Population**  
Populating the database with realistic sample data



**DWH**  
Building a Data Warehouse using dimensional modeling

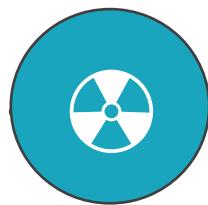
# Scope



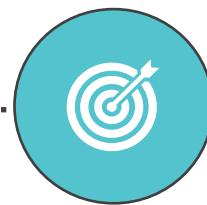
**Data Mart**  
Creating an HR-specific Data Mart



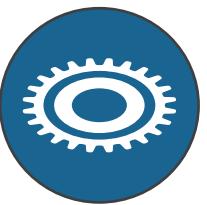
**SSIS**  
Implementing ETL processes using SSIS



**SSRS**  
Designing SSRS reports using stored procedures and deploying them in Power BI Desktop



**Dashboards**  
Creating Power BI dashboards for Student, Instructor, Admin, and HR users with advanced DAX analytics for each



**Chatbot**  
A Streamlit-based BI chatbot for querying the data warehouse using natural language

# Roadmap Importance

## Data consistency:

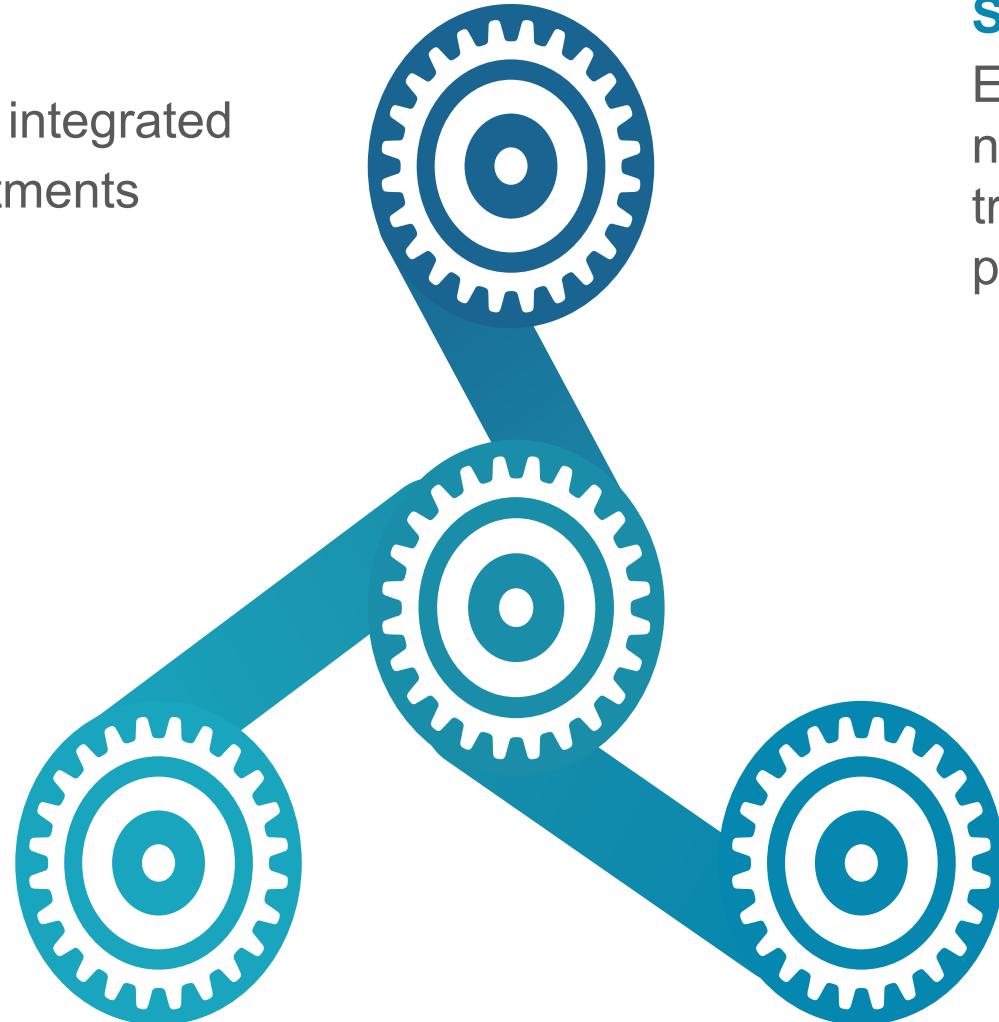
Clean, validated, and integrated data across all departments

## Scalability:

Easily adaptable to new departments, tracks, or recruitment partners

## Performance insights:

From student readiness to hiring metrics



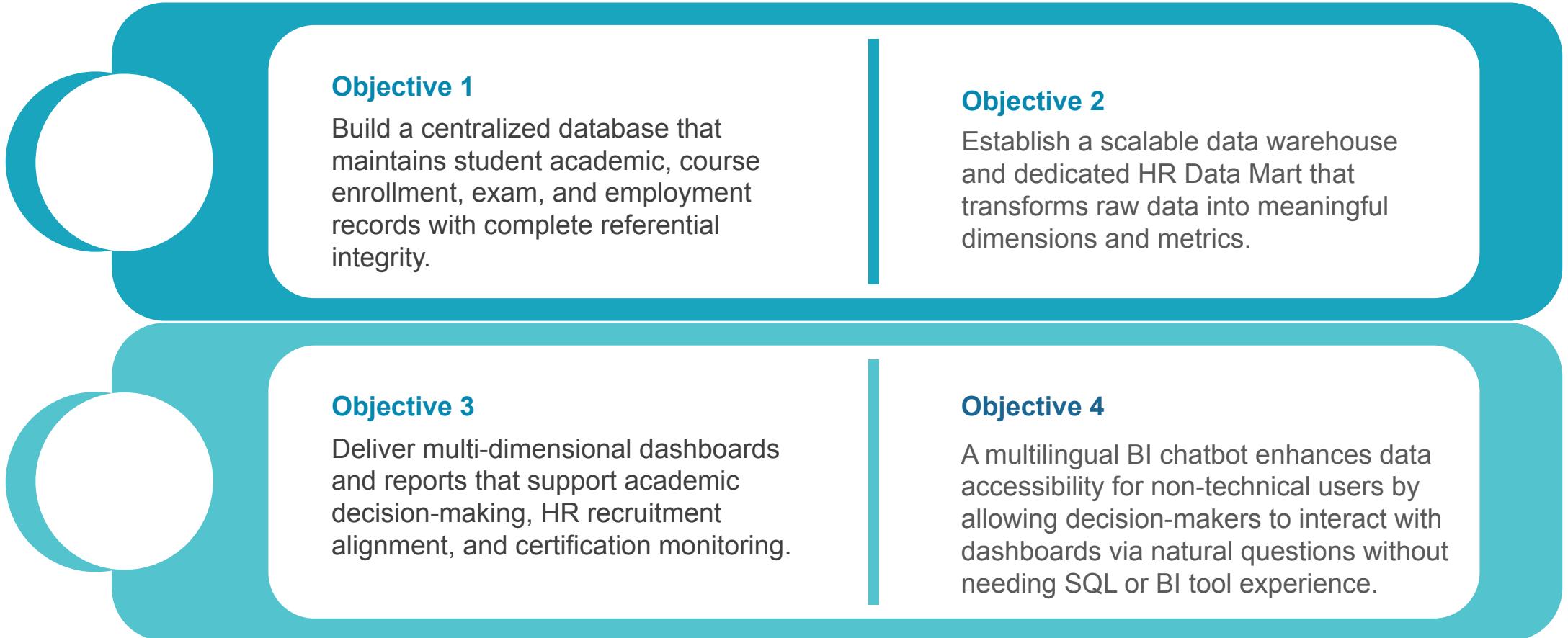
## Data-driven decisions:

For academic improvements and HR planning



## Vision & objective

# Long-Term Objectives



# RoadMap Alignment

This roadmap lays out the exact steps to reach the vision and long-term goals by:

## First Alignment

Designing a comprehensive ERD that captures the full academic and career lifecycle

## Second Alignment

Constructing normalized and dimensional databases with integrity constraints

## Third Alignment

Populating those systems with representative sample data for real testing

## Fourth Alignment

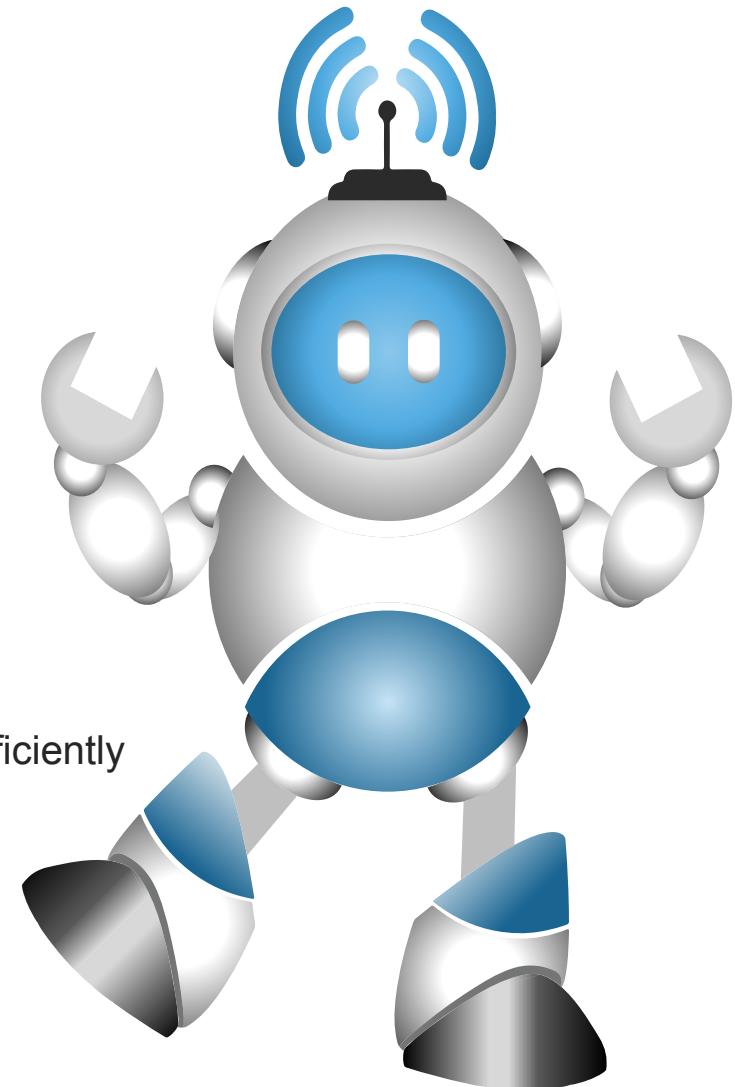
Building a DWH and HR-centric data mart using SSIS to extract and transform data efficiently

## Fifth Alignment

Producing visual analytics and automated reports for real-time HR and admin insights.

## Sixs Alignment

Implementing structured data pipelines, designing a robust data warehouse, developing insightful dashboards, and integrating an NLP-based chatbot for conversational analytics.





## Key Initiatives

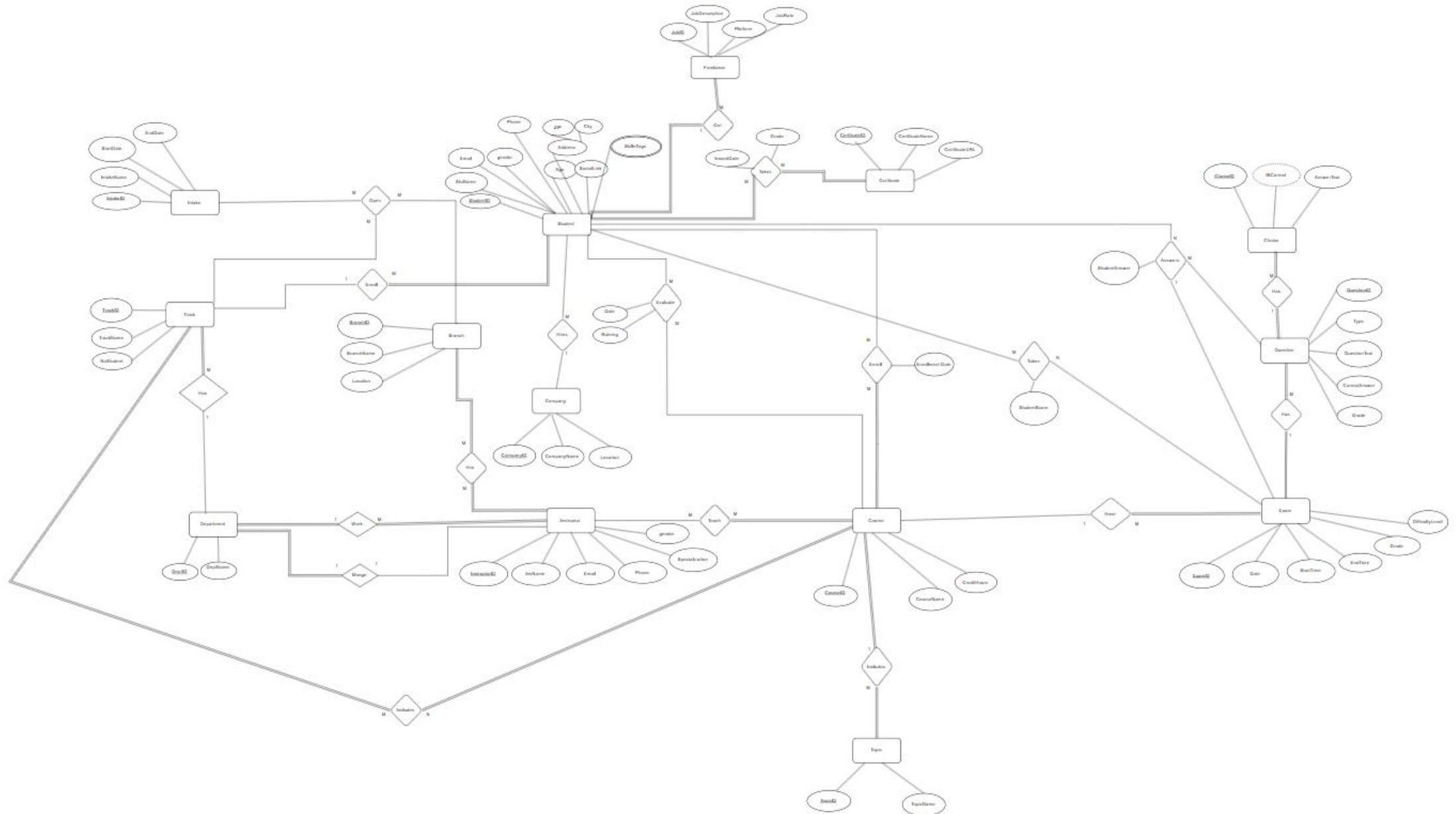
# ERD

## Expected outcomes

Design the logical structure of the system that includes all academic and career entities needed for student management, exam performance, instructors' performance, skill readiness, certification tracking, job placement, and Admin evaluation.

An ERD that enables building a normalized OLTP schema suitable for transactional operations and later transformation into dimensional models.





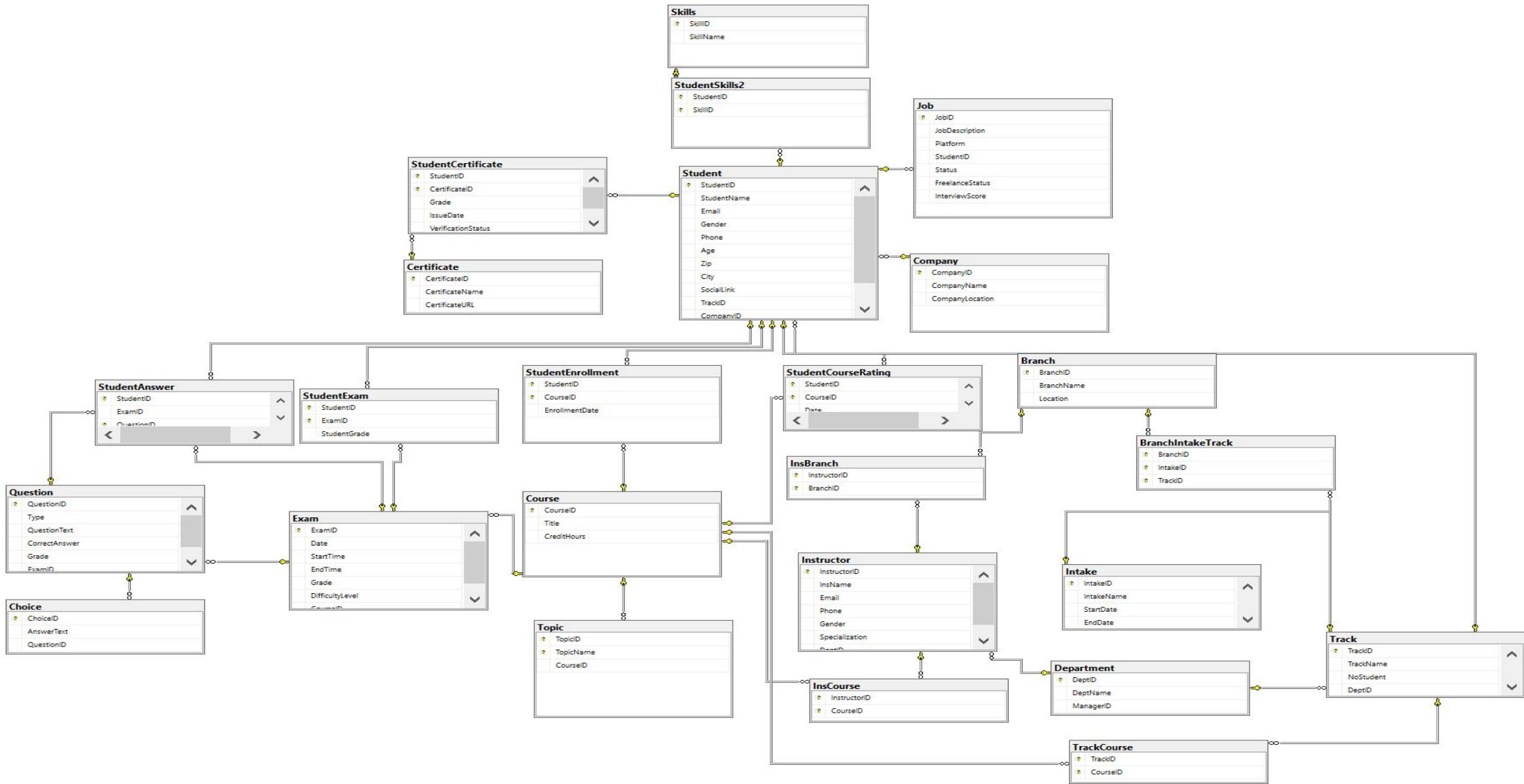
# Mapping & Schema Design

## Expected outcomes

- A fully normalized, modular SQL schema is implemented.
- Referential integrity is ensured across schemas using FKS and constraints.
- Reusable views and joins form the basis for data warehouse loading.







# Data Population

## Expected outcomes

- All normalized tables are populated with consistent mock data.
- Data supports full end-to-end testing of dashboards and reports.
- Diverse patterns ensure that filters, KPIs, and drilldowns can be tested.



```
INSERT INTO Department (DeptID, DeptName) VALUES  
(1, 'Software Engineering'),  
(2, 'Data Science'),  
(3, 'Information Security'),  
(4, 'Artificial Intelligence'),  
(5, 'IT Infrastructure'),  
(6, 'Computer Engineering'),  
(9, 'Mobile Technology'),  
(10, 'Design and Media');
```

```
INSERT INTO Track (TrackID, TrackName, NoStudent, DeptID) VALUES  
(1, 'Full Stack', 50, 1),  
(2, 'Data Analysis', 45, 2),  
(3, 'Machine Learning', 40, 4),  
(4, 'Cyber Security', 35, 3),  
(5, 'DevOps', 30, 5),  
(6, 'Mobile Dev', 25, 9),  
(7, 'Cloud Architect', 20, 6),  
(8, 'Embedded Systems', 18, 6),  
(9, 'UI/UX', 22, 10),  
(10, 'Network Eng.', 15, 5),  
(11, 'Front-End Development', 28, 1),  
(12, 'Back-End Development', 26, 1),  
(13, 'Big Data Engineering', 24, 2),  
(14, 'Data Engineering', 27, 2),  
(15, 'Penetration Testing', 20, 3),  
(16, 'Ethical Hacking', 22, 3),
```

# Stored Procedures(SPs)

## Expected outcomes

### CRUD

- InsertStudent
- UpdateStudent
- DeleteStudent
- SelectAllStudents

### Exam Ops

- GenerateExam
- GetExamAnswers
- CorrectExam

### Admin

- sp\_DeleteAllData

### SSRS Reports

- sp\_GetGradesByStudent
- sp\_GetExamQuestionsWith Choices
- sp\_GetGradesByStudent
- sp\_GetInstructorCoursesSu mmary
- sp\_GetCourseTopics
- sp\_GetStudentAnswersWith Correction



- SelectAllStudents

```
- CREATE PROCEDURE dbo.SelectAllStudents
AS
-BEGIN
    SELECT * FROM dbo.Student;
END;
GO
```

- InsertStudents

```
- CREATE PROCEDURE dbo.InsertStudent
    @StudentID INT,
    @StudentName VARCHAR(100),
    @Email VARCHAR(100),
    @Gender VARCHAR(10),
    @Phone VARCHAR(20),
    @Age INT,
    @Zip VARCHAR(20),
    @City VARCHAR(50),
    @SocialLink VARCHAR(100),
    @TrackID INT,
    @CompanyID INT
AS
-BEGIN
    INSERT INTO dbo.Student (
        StudentID, StudentName, Email, Gender, Phone, Age, Zip, City, SocialLink, TrackID, CompanyID
    )
    VALUES (
        @StudentID, @StudentName, @Email, @Gender, @Phone, @Age, @Zip, @City, @SocialLink, @TrackID, @CompanyID
    );
END;
GO
```

## ● UpdateStudent

```
CREATE PROCEDURE dbo.UpdateStudent
    @StudentID INT,
    @StudentName VARCHAR(100),
    @Email VARCHAR(100),
    @Gender VARCHAR(10),
    @Phone VARCHAR(20),
    @Age INT,
    @Zip VARCHAR(20),
    @City VARCHAR(50),
    @SocialLink VARCHAR(100),
    @TrackID INT,
    @CompanyID INT
AS
BEGIN
    UPDATE dbo.Student
    SET
        StudentName = @StudentName,
        Email = @Email,
        Gender = @Gender,
        Phone = @Phone,
        Age = @Age,
        Zip = @Zip,
        City = @City,
        SocialLink = @SocialLink,
        TrackID = @TrackID,
        CompanyID = @CompanyID
    WHERE StudentID = @StudentID;
END;
GO
```

## ● DeleteStudents

```
CREATE PROCEDURE dbo.DeleteStudent
    @StudentID INT
AS
BEGIN
    DELETE FROM dbo.Student
    WHERE StudentID = @StudentID;
END;
GO
```

## ● GenerateExam

```
Create PROCEDURE dbo.GenerateExam
    @ExamID INT,
    @QuestionCount INT,
    @ExamDate DATE,
    @StartTime TIME,
    @EndTime TIME,
    @CourseID INT,
    @DifficultyLevel VARCHAR(20),
    @Grade INT
AS
BEGIN
    SET NOCOUNT ON;

    -- Step 1: Insert a new exam
    INSERT INTO Exam (ExamID, Date, StartTime, EndTime, Grade, CourseID, DifficultyLevel)
    VALUES (@ExamID, @ExamDate, @StartTime, @EndTime, @Grade, @CourseID, @DifficultyLevel);

END;
GO
```

## ● GetExamAnswer

```
CREATE PROCEDURE GetExamAnswers
    @ExamID INT = NULL,
    @StudentID INT = NULL
AS
BEGIN
    SELECT
        sa.StudentID,
        sa.ExamID,
        sa.QuestionID,
        sa.StudentAnswer,
        q.CorrectAnswer,
        CASE
            WHEN CAST(sa.StudentAnswer AS VARCHAR(MAX)) = CAST(q.CorrectAnswer AS VARCHAR(MAX)) THEN 1
            ELSE 0
        END AS IsCorrect
    FROM StudentAnswer sa
    INNER JOIN Question q ON sa.QuestionID = q.QuestionID
    WHERE (@ExamID IS NULL OR sa.ExamID = @ExamID)
        AND (@StudentID IS NULL OR sa.StudentID = @StudentID)
    ORDER BY sa.StudentID, sa.ExamID, sa.QuestionID;
END;
```

## ● CorrectExam

```
CREATE PROCEDURE [CorrectExam]
    @ExamID INT
AS
BEGIN
    SET NOCOUNT ON;

    -- Temporary table to hold correction results
    IF OBJECT_ID('tempdb..#CorrectionResults') IS NOT NULL
        DROP TABLE #CorrectionResults;

    CREATE TABLE #CorrectionResults (
        StudentID INT,
        ExamID INT,
        TotalQuestions INT,
        CorrectAnswers INT,
        ScorePercent DECIMAL(5,2)
```

```
-- Insert correction data
INSERT INTO #CorrectionResults (StudentID, ExamID, TotalQuestions, CorrectAnswers, ScorePercent)
SELECT
    sa.StudentID,
    sa.ExamID,
    COUNT(*) AS TotalQuestions,
    SUM(CASE
        WHEN CAST(sa.StudentAnswer AS VARCHAR(MAX)) = CAST(q.CorrectAnswer AS VARCHAR(MAX))
        THEN 1 ELSE 0
    END) AS CorrectAnswers,
    CAST(
        100.0 * SUM(CASE
            WHEN CAST(sa.StudentAnswer AS VARCHAR(MAX)) = CAST(q.CorrectAnswer AS VARCHAR(MAX))
            THEN 1 ELSE 0
        END) / COUNT(*) AS DECIMAL(5,2)
    ) AS ScorePercent
FROM StudentAnswer sa
INNER JOIN Question q ON sa.QuestionID = q.QuestionID
WHERE sa.ExamID = @ExamID
GROUP BY sa.StudentID, sa.ExamID;

update StudentExam
set StudentGrade = (select ScorePercent from #CorrectionResults where #CorrectionResults.StudentID = StudentExam.StudentID)

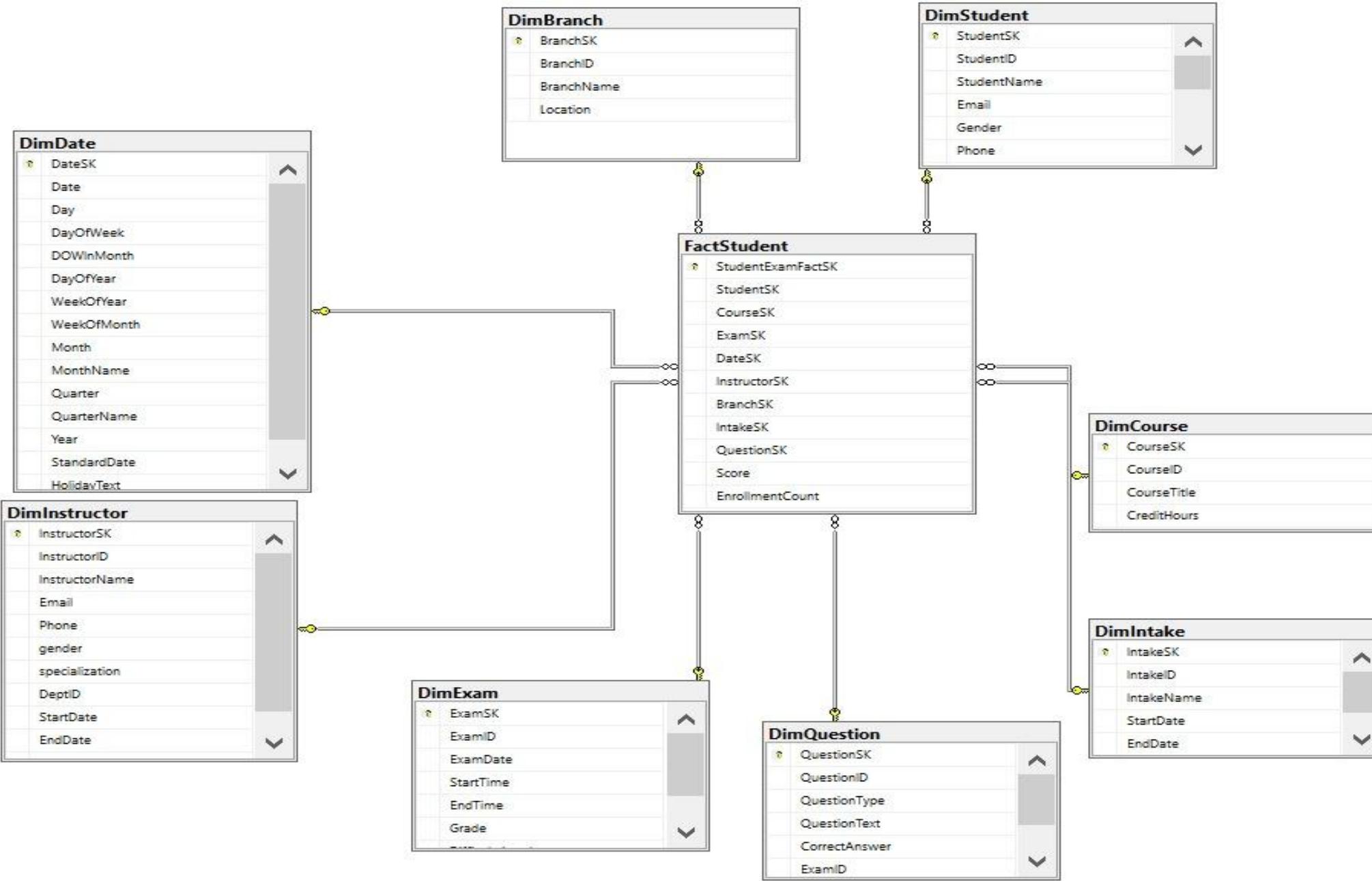
-- Return results
SELECT * FROM #CorrectionResults;
END;
```

# DWH

## Expected outcomes

- Fully functioning star schema for academic analytics
- Clean surrogate keys and dimensional separation
- Perfectly suited for Power BI model, chatbot, and SSRS reporting
- Ready for slicing by date, branch, course, or instructor





# SSRS

## Expected outcomes

- 6 SSRS reports developed using parameterized stored procedures.
- All reports were deployed to Power BI Desktop for stakeholder access.
- Reports support academic, administrative, and HR-related analysis.



```
USE [ExaminationSystem]
GO
***** Object:  StoredProcedure [dbo].[GetStudentReportByDepartment]      Script Date: 7/4/2025 9:12:38 PM *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
ALTER PROCEDURE [dbo].[GetstudentReportByDepartment]
    @DepartmentNo INT
AS
BEGIN
    SET NOCOUNT ON;

    SELECT
        S.StudentID,
        S.StudentName,
        S.Email,
        S.Gender,
        S.Phone,
        S.Age,
        S.City,
        S.SocialLink,
        T.TrackName,
        D.DeptName
    FROM
        Student S
    INNER JOIN
        Track T ON S.TrackID = T.TrackID
    INNER JOIN
        Department D ON T.DeptID = D.DeptID
    WHERE
        D.DeptID = @DepartmentNo;
END;
```



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# Student By Department



Student ID	Student Name		Email	Gender	Phone	Age	City	Social Link	Track Name	Dept Name
8	Mohamed Mostafa	◆	mohamed8@email.com	Male	01154036230	21	Tanta	fb.com/mohamed8	UI/UX	Design and Media
18	Nourhan Nabil	◆	nourhan18@email.com	Female	01117859625	23	Mansoura	fb.com/nourhan18	UI/UX	Design and Media
28	Mostafa Adel	◆	mostafa28@email.com	Male	01172664653	26	Giza	fb.com/mostafa28	UI/UX	Design and Media
38	Hana Ibrahim	◆	hana38@email.com	Female	01133305267	21	Ismailia	fb.com/hana38	UI/UX	Design and Media
48	Youssef Ali	◆	youssef48@email.com	Male	01198314655	27	Ismailia	fb.com/youssef48	UI/UX	Design and Media

```
USE [ExaminationSystem]
GO
***** Object:  StoredProcedure [dbo].[GetStudentGradesByID]      Script Date: 7/4/2025 9:14:45 PM *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
ALTER PROCEDURE [dbo].[GetStudentGradesByID]
    @StudentID INT
AS
BEGIN
    SET NOCOUNT ON;

    SELECT
        C.CourseID,
        C.Title AS CourseTitle,
        E.ExamID,
        SE.StudentGrade,
        E.Grade AS TotalPossible,
        CAST(ISNULL(SE.StudentGrade, 0) * 100.0 / NULLIF(E.Grade, 0) AS DECIMAL(5,2)) AS Percentage
    FROM
        Exam E
    INNER JOIN
        Course C ON E.CourseID = C.CourseID
    LEFT JOIN
        StudentExam SE ON SE.ExamID = E.ExamID AND SE.StudentID = @StudentID
    WHERE
        EXISTS (SELECT 1 FROM StudentExam WHERE StudentID = @StudentID)
        OR NOT EXISTS (SELECT 1 FROM StudentExam WHERE StudentID = @StudentID AND ExamID = E.ExamID)
END
```

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# Student Grade By ID



Course Title	Course ID	Exam ID	Student Grade	Total Possible	Percentage
SQL for Developers	5	1	10	100	10.00
	5	2	10	100	10.00
JavaScript	2	3	10	100	10.00

```
USE [ExaminationSystem]
GO
/***** Object:  StoredProcedure [dbo].[GetInstructorCoursesWithStudentCount]      Script Date: 7/4/2025 9:16:35 PM *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
ALTER PROCEDURE [dbo].[GetInstructorCoursesWithStudentCount]
    @InstructorID INT
AS
BEGIN
    SET NOCOUNT ON;

    SELECT ]
        C.CourseID,
        C.Title AS CourseName,
        COUNT(DISTINCT SE.StudentID) AS NumberOfStudents
    FROM
        InsCourse IC
    INNER JOIN
        StudentEnrollment SE on SE.CourseID = IC.CourseID
            inner join course c on c.CourseID = se.CourseID
    where IC.InstructorID = @InstructorID
    GROUP BY
        C.CourseID, C.Title;
END;
```

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# Instructor Courses With Student Count



Course ID	Course Name	Number Of Students
6	Excel for Analysis	5
14	Model Evaluation	4
15	ML with Python	2

```
USE [ExaminationSystem]
GO
***** object: storedProcedure [dbo].[GetTopicsByCourse]      Script Date: 7/4/2025 9:20:35 PM *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO

ALTER PROCEDURE [dbo].[GetTopicsByCourse]
    @CourseID INT
AS
BEGIN
    SET NOCOUNT ON;

    SELECT
        T.TopicID,
        T.TopicName,
        C.Title AS CourseTitle
    FROM
        Topic T
    INNER JOIN
        Course C ON T.CourseID = C.CourseID
    WHERE
        T.CourseID = @CourseID;
END;
```

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# Topics By Course



Topic ID	Topic Name	Course Title
22	Pandas and DataFrames	Python for Data Analysis
23	Data Cleaning	Python for Data Analysis
24	File I/O in Python	Python for Data Analysis

```
USE [ExaminationSystem]
GO
***** Object: StoredProcedure [dbo].[GetStudentAnswersByExam]      Script Date: 7/4/2025 9:23:11 PM *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
ALTER PROCEDURE [dbo].[GetStudentAnswersByExam]
    @ExamID INT,
    @StudentID INT
AS
BEGIN
    SET NOCOUNT ON;

    SELECT
        Q.QuestionID,
        Q.QuestionText,
        Q.Type,
        Q.CorrectAnswer,
        SA.StudentAnswer
    FROM
        Question Q
    LEFT JOIN
        StudentAnswer SA
            ON Q.QuestionID = SA.QuestionID
            AND SA.StudentID = @StudentID
    WHERE
        Q.ExamID = @ExamID
    ORDER BY
        Q.QuestionID;
END;

EXEC GetStudentAnswersByExam @ExamID = 1, @StudentID = 1;
```

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# Student Answers By Exam



Question ID	Question Text	Type	Student Answer
1	Which SQL command is used to retrieve data from a database?	MCQ	SELECT
2	Which SQL function returns the current date and time?	MCQ	CURRENT_DATE()
3	Which SQL operator is used for logical conjunction?	MCQ	OR
4	Which SQL command is used to create a new table?	MCQ	INSERT INTO
5	Which function returns the number of rows in a query result?	MCQ	MAX
6	What is used to combine rows from two or more tables in SQL?	MCQ	WHERE
7	Which keyword is used to define a temporary table in SQL?	MCQ	NEW TEMP TABLE

```
USE [ExaminationSystem]
GO
***** Object:  StoredProcedure [dbo].[GetExamQuestionsWithChoicess]      Script Date: 7/4/2025 9:24:49 PM *****/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
ALTER PROCEDURE [dbo].[GetExamQuestionsWithChoicess]
    @ExamID INT
AS
BEGIN
    SET NOCOUNT ON;

    SELECT
        P.QuestionID,
        P.QuestionText,
        P.QuestionType AS Type,
        P.[1] AS ChoiceA,
        P.[2] AS ChoiceB,
        P.[3] AS ChoiceC,
        P.[4] AS ChoiceD
    FROM
    (
        SELECT
            Q.QuestionID,
            CAST(Q.QuestionText AS NVARCHAR(4000)) AS QuestionText,
            Q.Type AS QuestionType,
            C.AnswerText,
            ROW_NUMBER() OVER (PARTITION BY Q.QuestionID ORDER BY C.ChoiceID) AS ChoiceNum
        FROM
            Question Q
        LEFT JOIN
            Choice C ON Q.QuestionID = C.QuestionID
        WHERE
            Q.ExamID = @ExamID
    ) AS SourceData
    PIVOT
    (
        MAX(AnswerText)
        FOR ChoiceNum IN ([1], [2], [3], [4])
    ) AS P
    ORDER BY
        P.QuestionID;
END;
```

# Exam Questions With Choices



**Which SQL command is used to retrieve data from a database?**

- 1. SELECT
  - 2. INSERT
  - 3. UPDATE
  - 4. DELETE
- 

**Which SQL function returns the current date and time?**

- 1. GETDATE()
  - 2. CURRENT\_DATE()
  - 3. NOW()
  - 4. SYSDATE()
- 

**Which SQL operator is used for logical conjunction?**

- 1. AND
  - 2. OR
  - 3. NOT
  - 4. BETWEEN
- 

**Which SQL command is used to create a new table?**

- 1. CREATE TABLE
  - 2. INSERT INTO
  - 3. ALTER TABLE
  - 4. DROP TABLE
- 

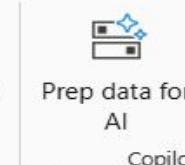
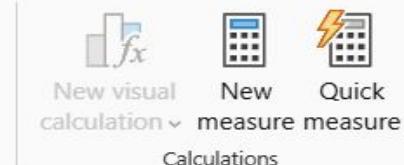
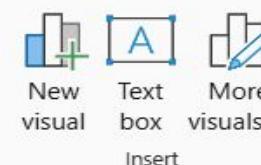
**Which function returns the number of rows in a query result?**

- 1. COUNT
  - 2. SUM
  - 3. MAX
  - 4. AVG
- 

**What is used to combine rows from two or more tables in SQL?**

- 1. JOIN
  - 2. GROUP BY
  - 3. ORDER BY
  - 4. WHERE
-

# REPORTS DEPLOYMENT ON POWER BI



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## Topics By Course



Topic ID	Topic Name	Course Title
4	Variables and Data Types	JavaScript Basics
5	Functions and Scope	JavaScript Basics
6	DOM Manipulation	JavaScript Basics

1 out of 1

CourseID

2	^
<input type="checkbox"/> 1	
<input checked="" type="checkbox"/> 2	
<input type="checkbox"/> 3	
<input type="checkbox"/> 4	
<input type="checkbox"/> 5	
<input type="checkbox"/> 6	
<input type="checkbox"/> 7	



TopicsByCourse

StudentGradesByID

StudentByDepartment

Student Answers By Exam

InstructorCoursesWithStudentCount

GetExamQuestionsW



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## Student By Department

Student ID	Student Name	Email	Gender	Phone	Age	City	Social Link	Track Name	Dept Name
6	Dina Ibrahim	dina6@email.com	Female	01157087604	25	Fayoum	fb.com/dina6	Cloud Architect	Computer Engineering
7	Hany Ali	hany7@email.com	Male	01174647588	27	Cairo	fb.com/hany7	Embedded Systems	Computer Engineering
16	Ibrahim Samir	ibrahim16@email.com	Male	01140846431	22	Suez	fb.com/ibrahim16	Cloud Architect	Computer Engineering
17	Sara Nabil	sara17@email.com	Female	01190028835	29	Ismailia	fb.com/sara17	Embedded Systems	Computer Engineering
26	Mostafa Said	mostafa26@email.com	Male	01171093876	30	Suez	fb.com/mostafa26	Cloud Architect	Computer Engineering
27	Fatma Gamal	fatma27@email.com	Female	01149389262	21	Suez	fb.com/fatma27	Embedded Systems	Computer Engineering
36	Sara Adel	sara36@email.com	Female	01168147254	28	Mansoura	fb.com/sara36	Cloud Architect	Computer Engineering
37	Sara Fathy	sara37@email.com	Female	01138949469	22	Fayoum	fb.com/sara37	Embedded Systems	Computer Engineering
46	Hassan Mostafa	hassan46@email.com	Male	01184174204	23	Zagazig	fb.com/hassan46	Cloud Architect	Computer Engineering
47	Mostafa Gamal	mostafa47@email.com	Male	01141711449	30	Banha	fb.com/mostafa47	Embedded Systems	Computer Engineering
56	Khaled Ibrahim	khaled56@email.com	Male	01186892635	29	Cairo	fb.com/khaled56	Cloud Architect	Computer Engineering
57	Omar Fathy	omar57@email.com	Male	01154674482	21	Fayoum	fb.com/omar57	Embedded Systems	Computer Engineering
66	Mohamed	mohamed66@	Male	01161345793	29	Banha	fb.com/mohamed66	Cloud Architect	Computer

- DeptName
- Artificial Intelligence
  - Computer Engineering
  - Data Science
  - Design and Media
  - Information Security
  - IT Infrastructure
  - Mobile Technology
  - Software Engineering



TopicsByCourse

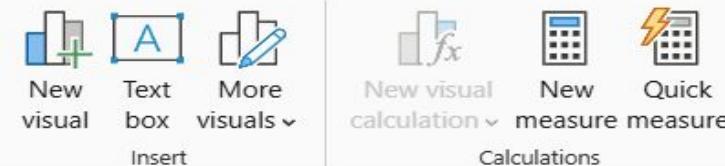
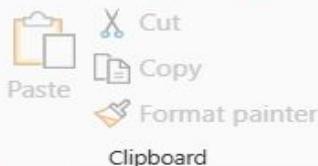
StudentGradesByID

StudentByDepartment

Student Answers By Exam

InstructorCoursesWithStudentCount

GetExamQuestions



Export ▾ Page 1 of 1 Open report

## Student Answers By Exam



Information  
Technology  
Institute

Question ID	Question Text	Type	Student Answer
1	Which SQL command is used to retrieve data from a database?	MCQ	SELECT
2	Which SQL function returns the current date and time?	MCQ	GETDATE()
3	Which SQL operator is used for logical conjunction?	MCQ	AND
4	Which SQL command is used to create a new table?	MCQ	CREATE TABLE
5	Which function returns the number of rows in a query result?	MCQ	COUNT
6	What is used to combine rows from two or more tables in SQL?	MCQ	JOIN
7	Which keyword is used to define a temporary table in SQL Server?	MCQ	CREATE TABLE #temp
8	Which clause is used to group rows that have the same values?	MCQ	GROUP BY
9	Which SQL keyword is used to combine the results of two queries?	MCQ	UNION
10	Which clause is used to filter results in SQL?	MCQ	WHERE
11	What does the ORDER BY clause do?	MCQ	Sorts results based on specified columns
12	What is the role of a FOREIGN KEY?	MCQ	Links records between tables
13	Which SQL statement is used to update data in a table?	MCQ	UPDATE
14	Which function returns the maximum value in a column?	MCQ	MAX
15	Which normal form removes partial dependency?	MCQ	Second Normal Form (2NF)
16	What SQL command is used to delete records from a table?	MCQ	DELETE
17	Which clause is used to join two tables in a query?	MCQ	JOIN
18	What is a composite key in a relational database?	MCQ	A key made of two or more columns



TopicsByCourse

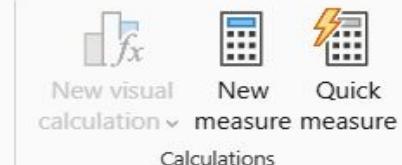
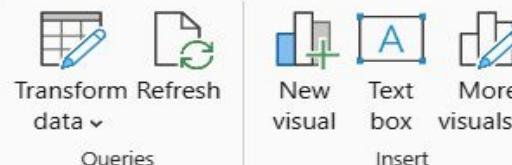
StudentGradesByID

StudentByDepartment

Student Answers By Exam

InstructorCoursesWithStudentCount

GetExamQuestion



Export ▾ Page 1 of 1 Open report

## Instructor Courses With Student Count



Course ID	Course Name	Number Of Students
16	Network Security	5
17	Ethical Hacking Basics	2
49	CCNA Prep	3
50	Network Security Intro	3

1 out of 1

### InsName

- Ahmed ElSayed
- Alaa Morsi
- Dina Hossam
- Fady Farouk
- Hazem Nabil
- Hossam Badr
- Khaled Mostafa
- Lamia Gamal
- Marwa Zaki
- Mohamed Ibrahim
- Mona Hassan
- Nahla Saad
- Nourhan Samir
- Omar Fathy
- Rania Ehab
- Reem Magdy
- Sara Adel
- Sherif Hanafy



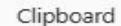
Cut



Copy



Format painter



Get data



workbook catalog



Excel



OneLake



SQL Server



Enter data



Dataverse



Recent sources



Transform data



Refresh data



New visual



Text box



More visuals

Insert



New visual calculation



New measure



Quick measure



Sensitivity



Publish

Print



Export



Page

1

of 7



Open report



## Exam Questions With Choices



**Which SQL command is used to retrieve data from a database?**

1. SELECT
2. INSERT
3. UPDATE
4. DELETE

**Which SQL function returns the current date and time?**

1. GETDATE()
2. CURRENT\_DATE()
3. NOW()
4. SYSDATE()

**Which SQL operator is used for logical conjunction?**

1. AND
2. OR
3. NOT
4. BETWEEN

**Which SQL command is used to create a new table?**

1. CREATE TABLE
2. INSERT INTO
3. ALTER TABLE



TopicsByCourse

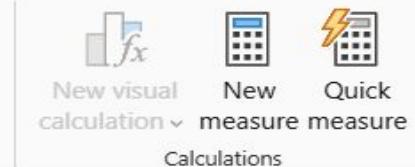
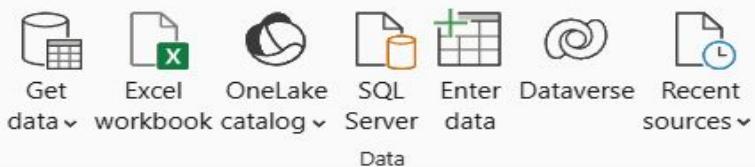
StudentGradesByID

StudentByDepartment

Student Answers By Exam

InstructorCoursesWithStudentCount

GetExamQuestions



Export ▾ Page 1 of 1 Open report

## Student Grade By ID



Course Title	Course ID	Exam ID	Student Grade	Total Possible	Percentage
SQL for Developers	5	1		100	0.00
HTML & CSS	1	2		100	0.00
JavaScript Basics	2	3	66	100	66.00
React Framework	3	4		100	0.00
Node.js Backend	4	5		100	0.00
Excel for Analysis	6	6		100	0.00
Power BI	7	7		100	0.00
Python for Data Analysis	8	8	13	100	13.00
Data Visualization	9	9		100	0.00
Statistics Fundamentals	10	10		100	0.00
Intro to Machine Learning	11	11		100	0.00

79

1 out of 1

- StudentName**
- Ahmed Adel
  - Ahmed Khaled
  - Dina Ali
  - Dina Ibrahim
  - Dina Mostafa
  - Dina Nabil
  - Fatma Fathy
  - Fatma Gamal
  - Fatma Khaled
  - Fatma Mostafa
  - Fatma Nabil



TopicsByCourse

StudentGradesByID

StudentByDepartment

Student Answers By Exam

InstructorCoursesWithStudentCount

GetExamQuestionsW

# Dashboards

## Expected outcomes

- +20 Dashboards completed from the student, instructor, Admin, and HR view
- All DAX measures were optimized
- Reusable, responsive, clean layout for business users
- Highly interactive: slicing by date, intake, Branch, or track
- Consistent visual identity across dashboards



# Instructor Dashboard

## Instructor Overview

Total Instructors



20

Male Students



53

Female Students



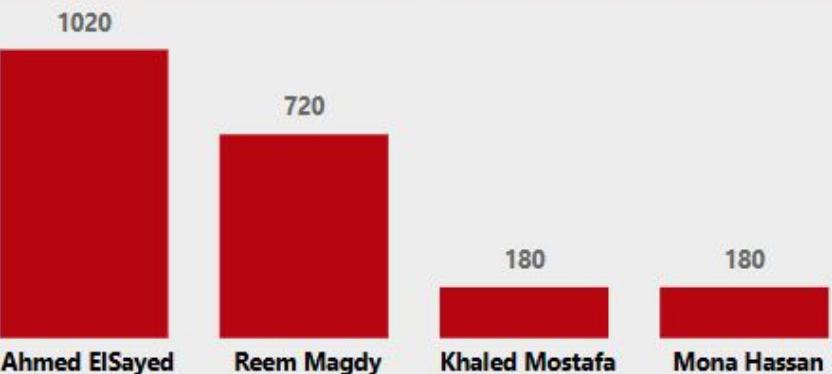
47

Total Courses

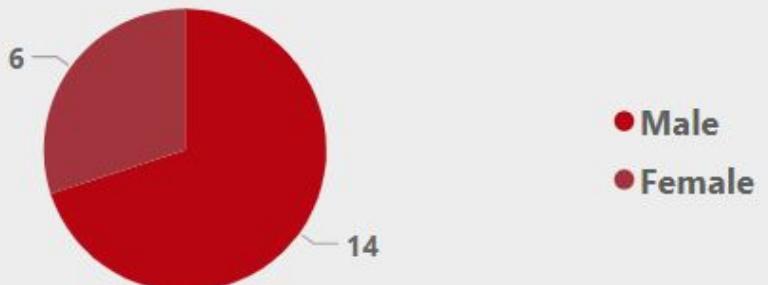


130

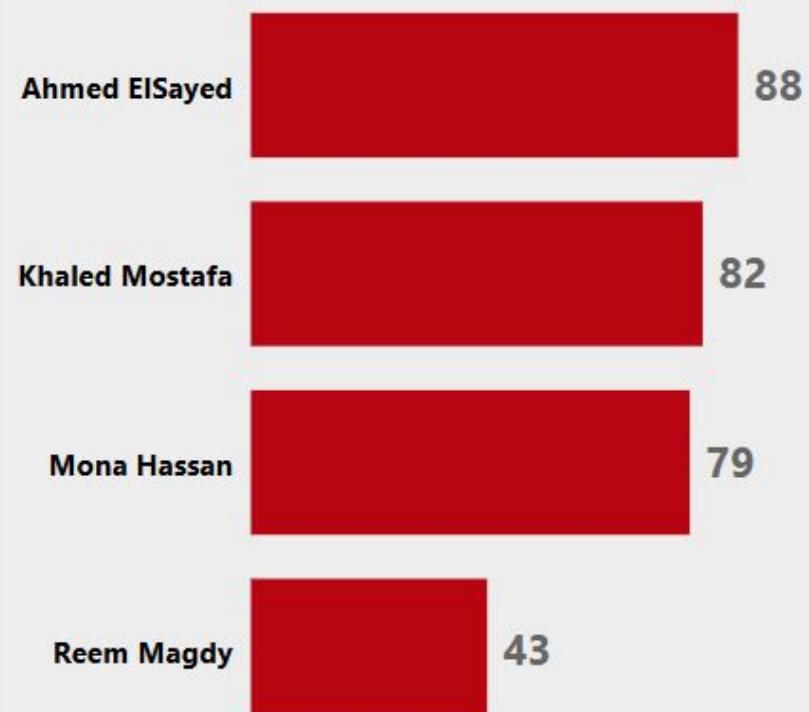
### Student Count per Instructor



### Count of Instructors by Gender



### Avg Student Score by InstructorName



## Student Performance by Instructor

Total Instructors

 20

Participating Students

 2100

Top Avg Score

 87.98

Lowest Avg Score

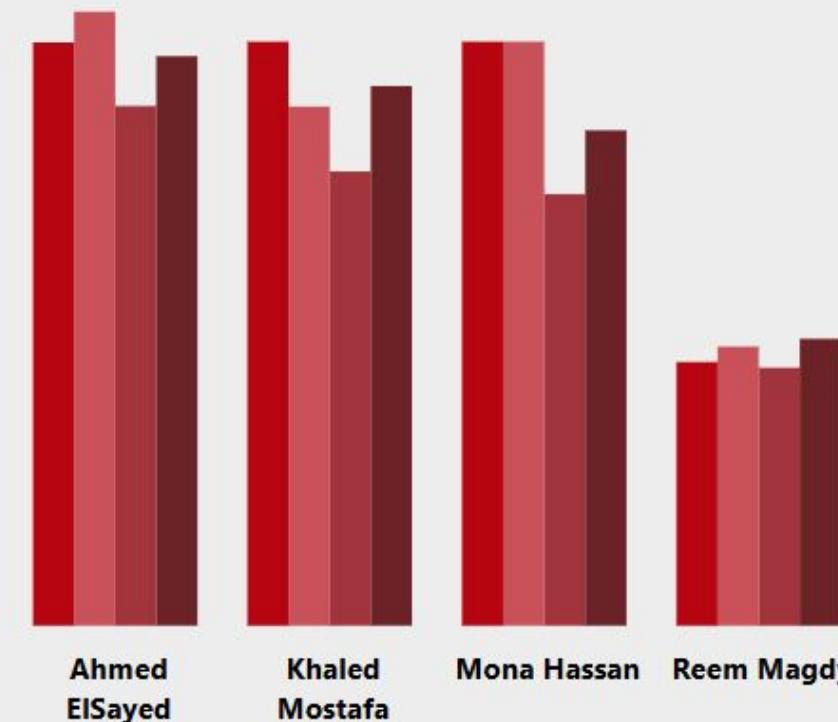
 42.67

### Avg Student Score by Specialization



### Avg Student Score by Instructor and Branch

BranchName ● ITI Alexandria ● ITI Mansoura ● ITI Minya ● ITI Smart Village



## Instructor Activity

**Total Instructors**

**20**
**Active Instructors**

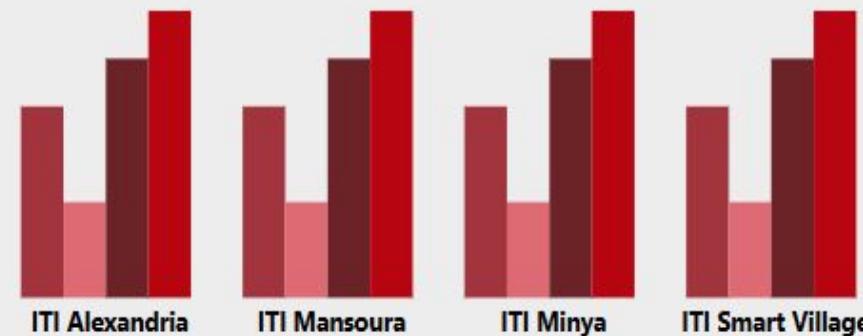
**16**
**Inactive Instructors**

**4**
**Intakes Covered**

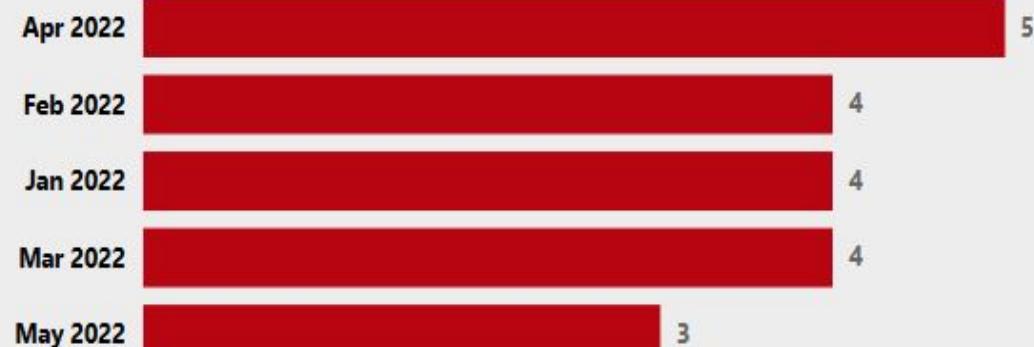
**9**

### Count of InstructorName by BranchName and Specialization

Specialization ● Big Data Analytics ● Ethical Hacking ● Frontend Engine... ● Web Develop...



### Instructor Starts Count by StartMonthYear



IntakeName	Intake 1 - 2023		Intake 1 - 2024		Intake 1 - 2025		Intake 3 - 2025		Total	
	InstructorName	Students in Fact	Avg Student Score	Students in Fact						
Ahmed ElSayed	340	88.13	340	90.76	170	90.00	170	80.09	1020	87.98
Khaled Mostafa	60	78.25	60	91.50	30	80.00	30	70.00	180	81.58
Mona Hassan	60	74.75	60	88.25	30	83.00	30	66.50	180	79.25
Reem Magdy	240	41.81	240	42.69	120	47.25	120	39.75	720	42.67
<b>Total</b>	<b>700</b>	<b>70.26</b>	<b>700</b>	<b>74.13</b>	<b>350</b>	<b>73.89</b>	<b>350</b>	<b>64.23</b>	<b>2100</b>	<b>71.15</b>

## Exam Overview

Passed Students

 1665

Failed Students

 435

Total Exams



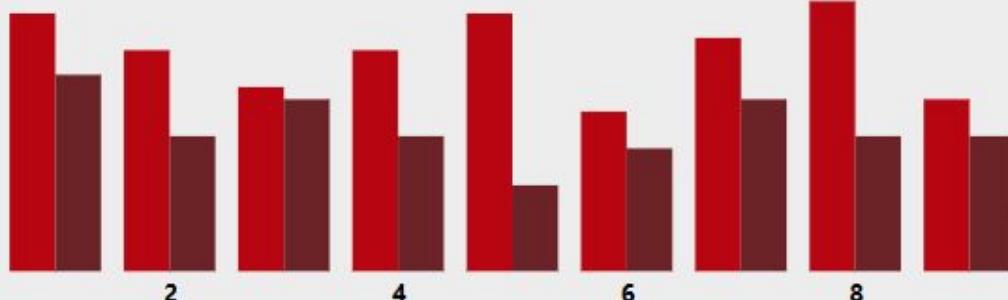
11

Total Questions

 266

### Questions per Exam by QuestionType

QuestionType ● MCQ ● TF



### Pass Rate by InstructorName

1.00

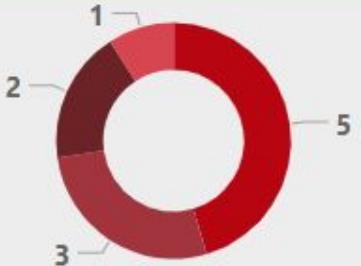


0.99

0.92

0.44

### Exams per Course by CourseTitle



- HTML & CSS
- JavaScript Ba...
- Node.js Back...
- React Frame...

Khaled  
Mostafa

Ahmed  
ElSayed

Mona Hassan Reem Magdy

## Instructor Deep Dive

**Total Instructors**

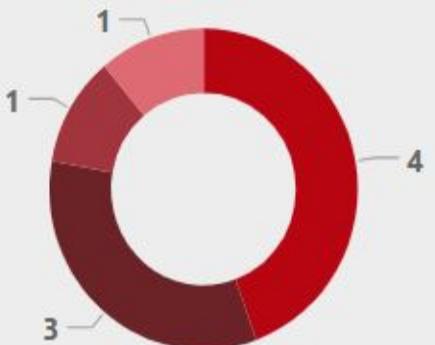
**20**
**Total Students**

**100**
**Courses Taught**

**9**
**Pass Rate**

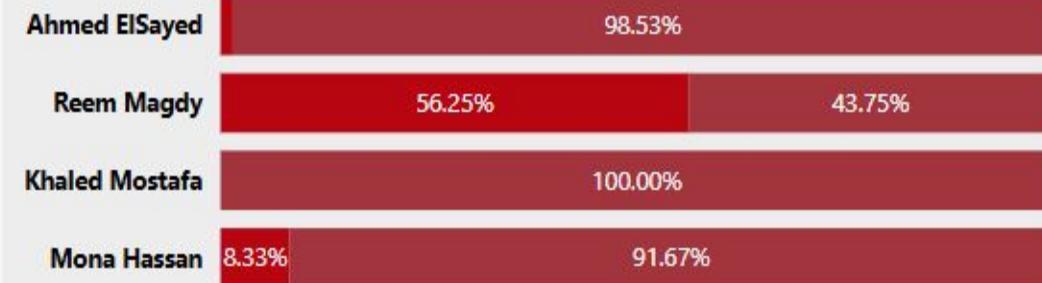
**0.79**

### Total Courses Taught by InstructorName



- Reem Magdy
- Ahmed ElSayed
- Khaled Mostafa
- Mona Hassan

### Students by Instructor and Result Category

**Result Category** ● Failed ● Passed


InstructorName	Gender	Specialization	Total Courses Taught	Students in Fact	Avg Student Score	Passed Students	Pass Rate	Year	Month	Day	IsCurent
Ahmed ElSayed	Male	Web Development	3	1020	87.98	1005	0.99	2022	January	8	True
Khaled Mostafa	Male	Big Data Analytics	1	180	81.58	180	1.00	2022	January	22	False
Mona Hassan	Female	Frontend Engineering	1	180	79.25	165	0.92	2022	January	15	True
Reem Magdy	Female	Ethical Hacking	4	720	42.67	315	0.44	2022	February	12	True
<b>Total</b>			<b>9</b>	<b>2100</b>	<b>71.15</b>	<b>1665</b>	<b>0.79</b>				

# Admin Dashboard



Information  
Technology  
Institute

## Exam Overview (Admin Perspective)

Total Exams Taken



9

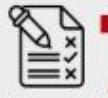
Avg Exams per Student



35

Exam Overview  
(Admin...)

Average Grade



71.15

Full Mark Students



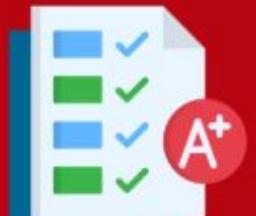
11

Instructor Performance...

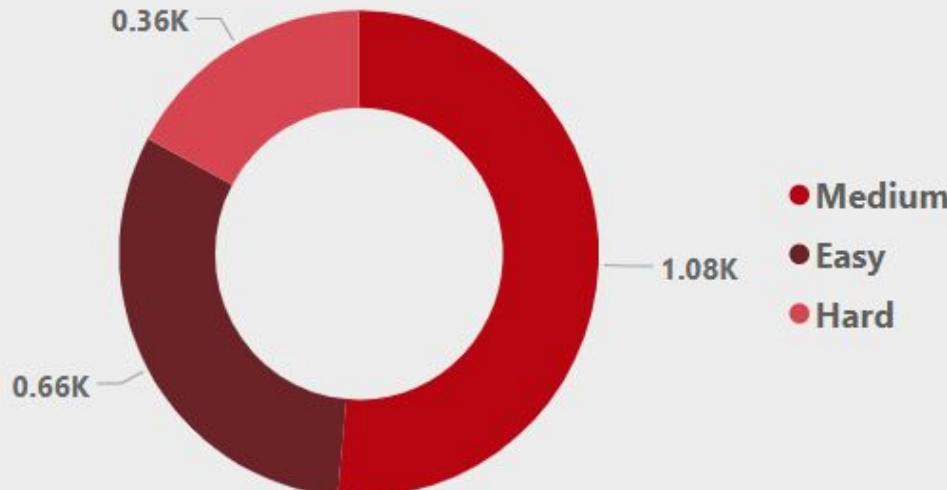
Course & Exam Health Overvie...

Student Performance...

Branch Comparison...



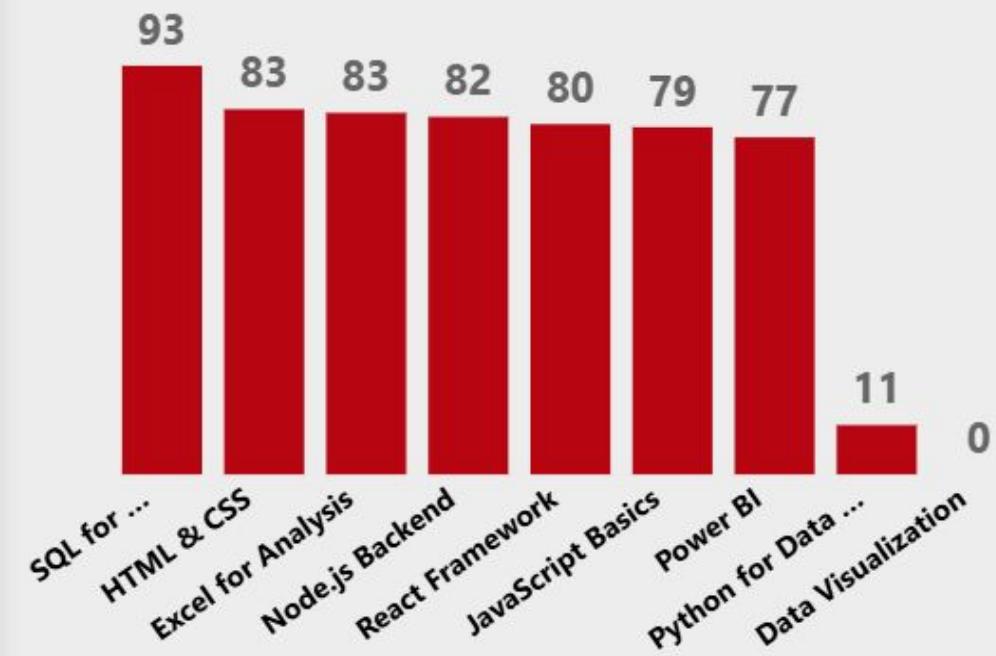
### Exam Difficulty Distribution



### Avg Grade by Course & Instructor

CourseTitle	Ahmed ElSayed	Khaled Mostafa	Mona Hassan	Reem Magdy	Total
Data Visualization				0.00	0.00
Excel for Analysis				82.50	82.50
HTML & CSS	83.33				83.33
JavaScript Basics			79.25		79.25
Node.js Backend	81.58				81.58
Power BI			76.92		76.92
Python for Data Analytics			11.25		11.25
Total	87.98	81.58	79.25	42.67	71.15

### Average of Score by CourseTitle



# Instructor Performance Summary (Admin Perspective)

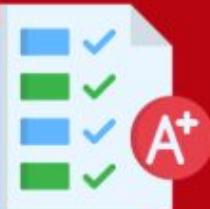
Exam Overview  
(Admin...)

Instructor  
Performance...

Course & Exam  
Health Overvie...

Student  
Performance...

Branch  
Comparison...



Avg Score

**72.87**



Top Instructor Score

**87.98**

Avg Score by InstructorName

Gender ● Female ● Male

Ahmed ElSayed

88

Khaled Mostafa

82

Mona Hassan

79

Reem Magdy

43

Instructor Summary

InstructorName	Avg Score	Instructor Pass Rate	Courses Taught	Credit Hours Taught
Ahmed ElSayed	87.98	100.00%	9	359
Alaa Morsi			9	359
Dina Hossam			9	359
Fady Farouk			9	359
Hazem Nabil			9	359
Hossam Badr			9	359
Khaled Mostafa	81.58	100.00%	9	359
Lamia Gamal			9	359
Marwa Zaki			9	359
Mohamed Ibrahim			9	359
Mona Hassan	79.25	100.00%	9	359
Nahla Saad			9	359
Total	72.87	82.86%	9	359

Pass Rate by Instructor

100.00% 100.00% 100.00%



50.00%

Ahmed  
ElSayed

Khaled  
Mostafa

Mona Hassan Reem Magdy

# Course & Exam Health Overview (Admin Perspective)

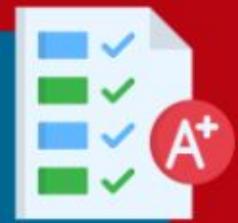
[Exam Overview  
\(Admin...\)](#)

[Instructor  
Performance...](#)

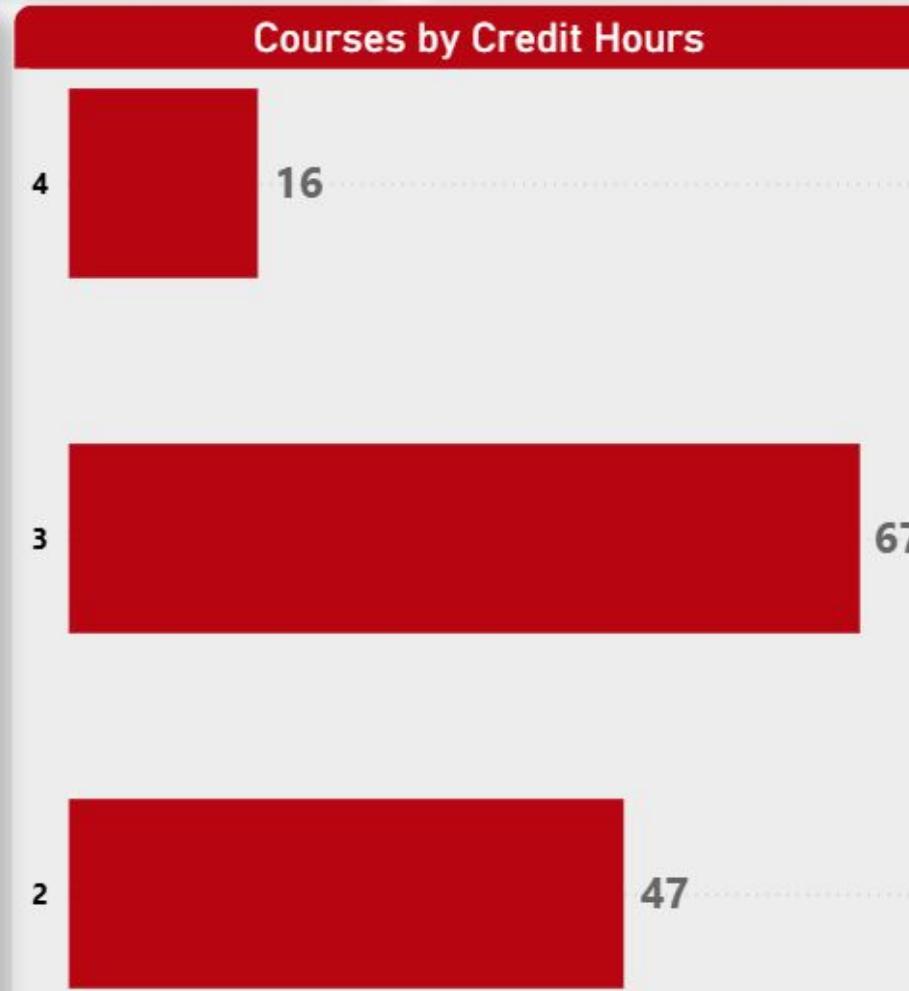
[Course & Exam  
Health Overvie...](#)

[Student  
Performance...](#)

[Branch  
Comparison...](#)



Courses Overview					
CourseName	InstructorName	BranchName	Credit Hours	Difficulty Level	Grade
Data Visualization	Reem Magdy	ITI Alexandria	3	Medium	100.00
Data Visualization	Reem Magdy	ITI Mansoura	3	Medium	100.00
Data Visualization	Reem Magdy	ITI Minya	3	Medium	100.00
Data Visualization	Reem Magdy	ITI Smart Village	3	Medium	100.00
Excel for Analysis	Reem Magdy	ITI Alexandria	2	Hard	100.00
Excel for Analysis	Reem Magdy	ITI Mansoura	2	Hard	100.00
Excel for Analysis	Reem Magdy	ITI Minya	2	Hard	100.00
Excel for Analysis	Reem Magdy	ITI Smart Village	2	Hard	100.00
HTML & CSS	Ahmed ElSayed	ITI Alexandria	2	Easy	100.00
HTML & CSS	Ahmed ElSayed	ITI Mansoura	2	Easy	100.00
HTML & CSS	Ahmed ElSayed	ITI Minya	2	Easy	100.00
HTML & CSS	Ahmed ElSayed	ITI Smart Village	2	Easy	100.00
JavaScript Basics	Mona Hassan	ITI Alexandria	3	Medium	100.00
JavaScript Basics	Mona Hassan	ITI Mansoura	3	Medium	100.00
JavaScript Basics	Mona Hassan	ITI Minya	3	Medium	100.00
JavaScript Basics	Mona Hassan	ITI Smart Village	3	Medium	100.00
Node.js Backend	Khaled Mostafa	ITI Alexandria	4	Easy	100.00
Node.js Backend	Khaled Mostafa	ITI Mansoura	4	Easy	100.00
Node.js Backend	Khaled Mostafa	ITI Minya	4	Easy	100.00



# Student Performance Snapshot (Admin Perspective)

**Total Students**

**100**
**Average Score**

**71.15**
**Score Distribution Chart (Highly Visual & Insightful)**

## Student Overview

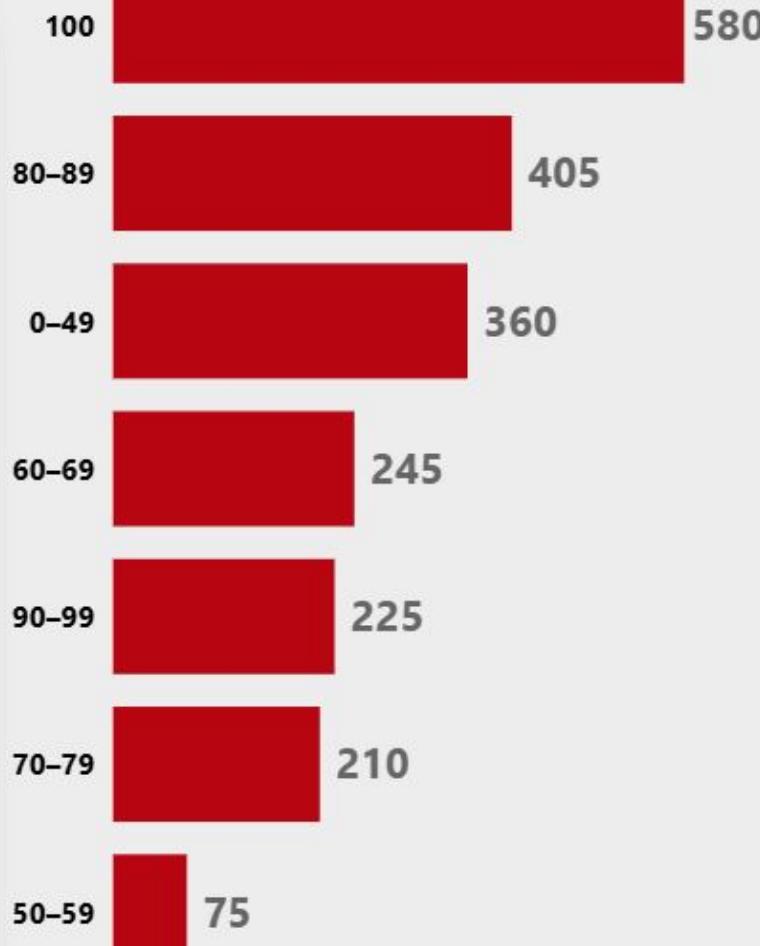
StudentSK	StudentName	City	Email	Gender	SocialLink
1	Hany Ibrahim	Alex	hany1@email.com	Male	fb.com/hany1
2	Mona Fathy	Zagazig	mona2@email.com	Female	fb.com/mona2
3	Hana Said	Giza	hana3@email.com	Female	fb.com/hana3
4	Hany Nabil	Giza	hany4@email.com	Male	fb.com/hany4
5	Youssef Said	Zagazig	youssef5@email.com	Male	fb.com/youssef5
6	Dina Ibrahim	Fayoum	dina6@email.com	Female	fb.com/dina6
7	Hany Ali	Cairo	hany7@email.com	Male	fb.com/hany7
8	Mohamed Mostafa	Tanta	mohamed8@email.com	Male	fb.com/mohamed8
9	Rania Nabil	Fayoum	rania9@email.com	Female	fb.com/rania9
10	Ahmed Khaled	Giza	ahmed10@email.com	Male	fb.com/ahmed10
11	Hana Mostafa	Alex	hana11@email.com	Female	fb.com/hana11
12	Youssef Gamal	Zagazig	youssef12@email.com	Male	fb.com/youssef12
13	Omar Mostafa	Mansoura	omar13@email.com	Male	fb.com/omar13
14	Yasmin Said	Ismailia	yasmin14@email.com	Female	fb.com/yasmin14
15	Hany Fathy	Banha	hany15@email.com	Male	fb.com/hany15
16	Ibrahim Samir	Suez	ibrahim16@email.com	Male	fb.com/ibrahim16
17	Sara Nabil	Ismailia	sara17@email.com	Female	fb.com/sara17
18	Nourhan Nabil	Mansoura	nourhan18@email.com	Female	fb.com/nourhan18
19	Ibrahim Samir	Suez	ibrahim19@email.com	Male	fb.com/ibrahim19
20	Dina Mostafa	Tanta	dina20@email.com	Female	fb.com/dina20

 Exam Overview  
(Admin...)

 Instructor  
Performance...

 Course & Exam  
Health Overview...

 Student  
Performance...

 Branch  
Comparison...




Exam Overview  
(Admin...)

Instructor  
Performance...

Course & Exam  
Health Overvie...

Student  
Performance...

Branch  
Comparison...



## Branch Comparison (Admin Perspective)

### Avg Score per Branch



71.15

### Exams Taken per Branch



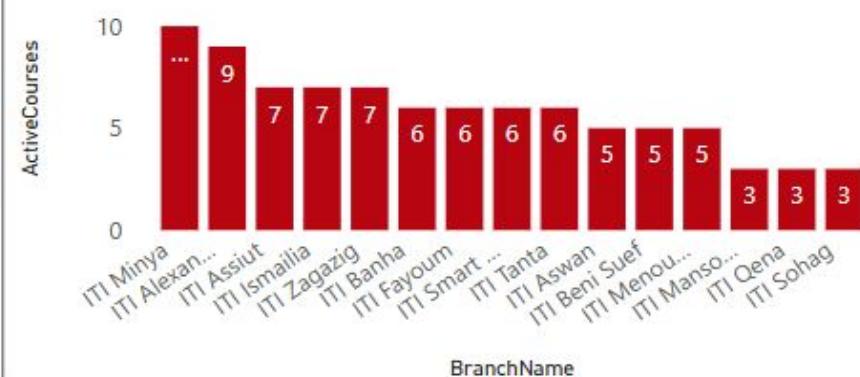
9

### Pass Rate per Branch



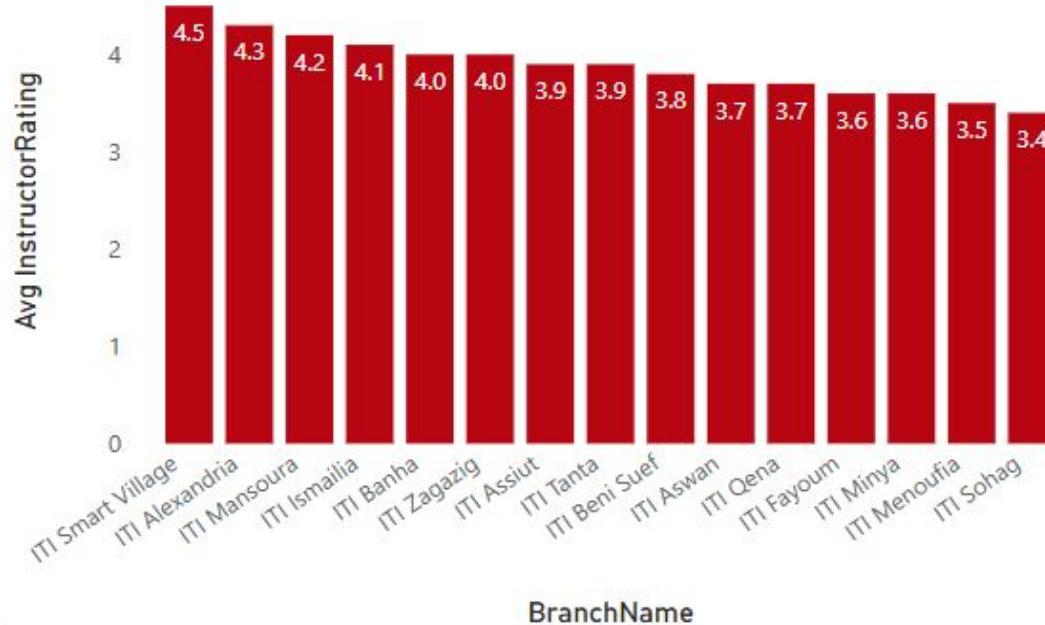
100%

### Course Distribution by Branch



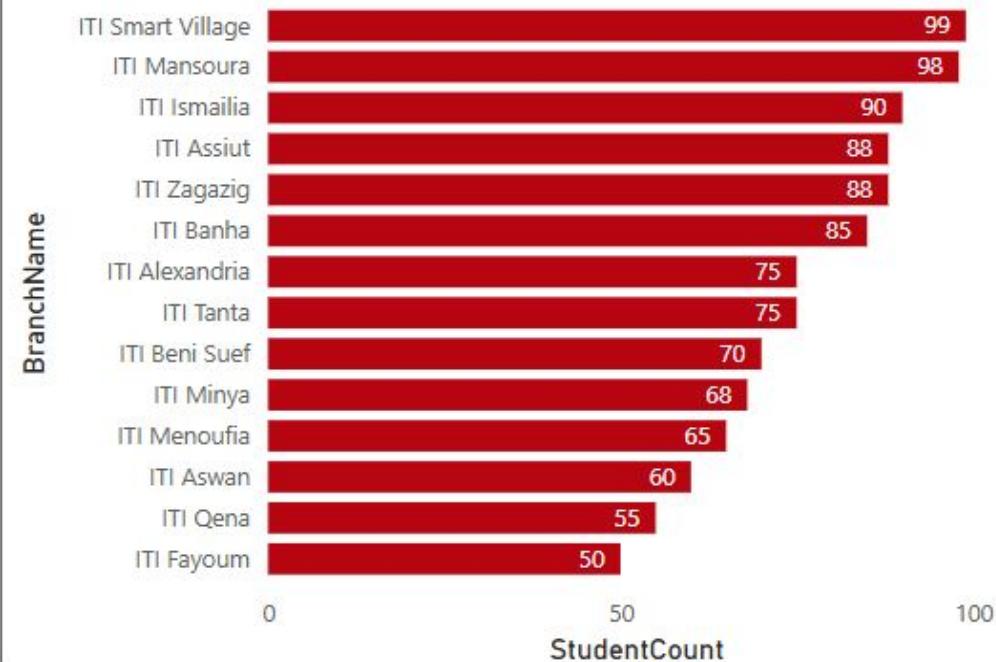
### Avg Instructor Rating by Branch

#### Avg InstructorRating



### Students per Branch

#### BranchName



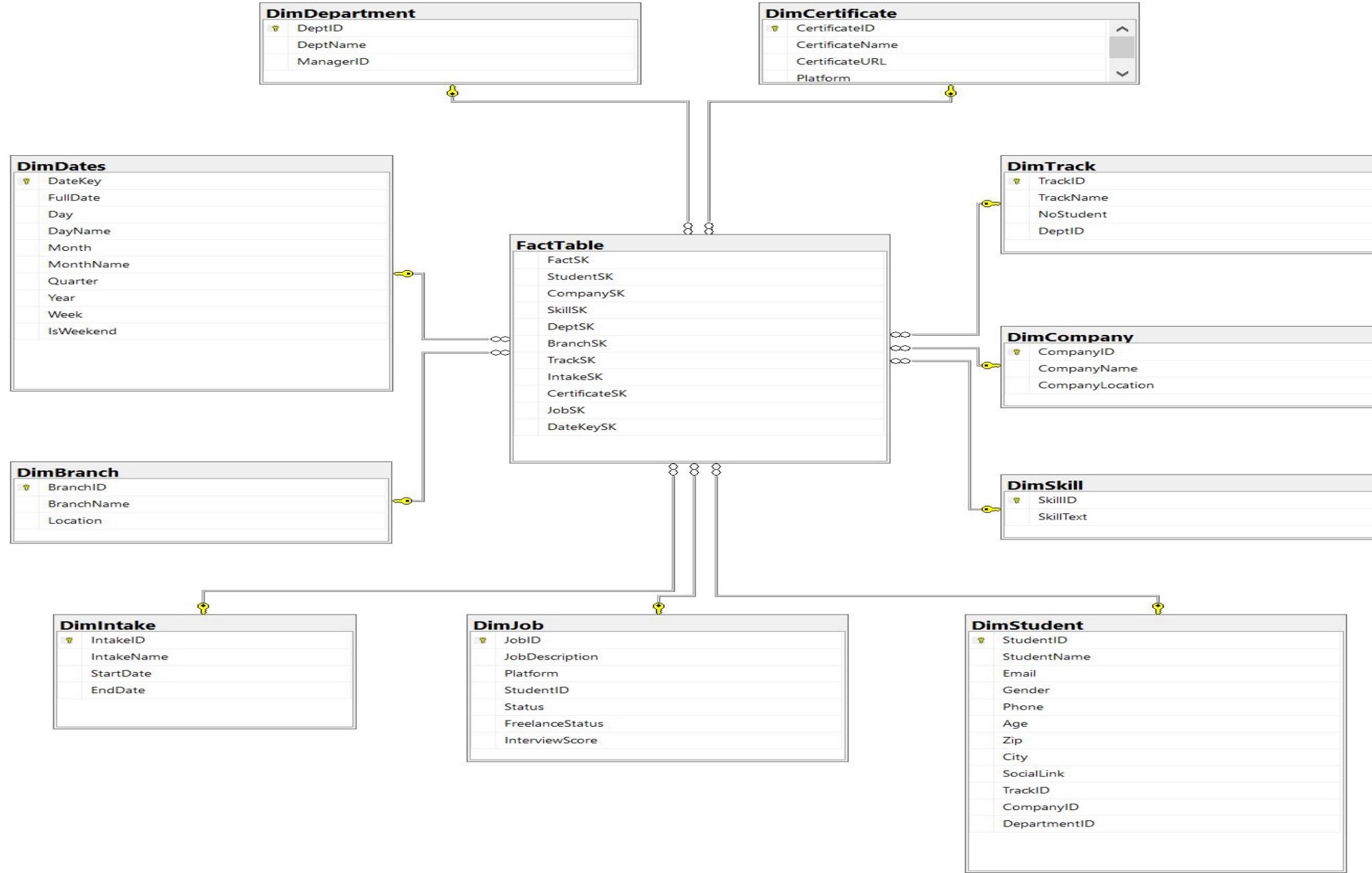
# HR Data Mart

## Expected outcomes

Create a centralized, denormalized star schema that allows fast, intuitive, and insightful reporting for:

- Performance analytics
- Skill readiness
- Certification tracking
- Job placement
- Interviewer feedback





# SSIS

## Expected outcomes

- SSIS provides a robust, scalable ETL pipeline
- Data in the DW and HR mart is clean, consistent, and ready for Power BI
- Surrogate keys and default fallbacks prevent model breaks
- Logical precedence ensures no FK violations



# Recruiters' "HR" Dashboard



# HR Tracking System

Track

All

Branch

All

Department

All

StudentCity

All



Clear all Filters

**100**

Count of StudentID

**25**

Count of Certificat...

**95%**

Cert Verification Co...

**27%**

Average Readiness

**75%**

Cert Drop-off

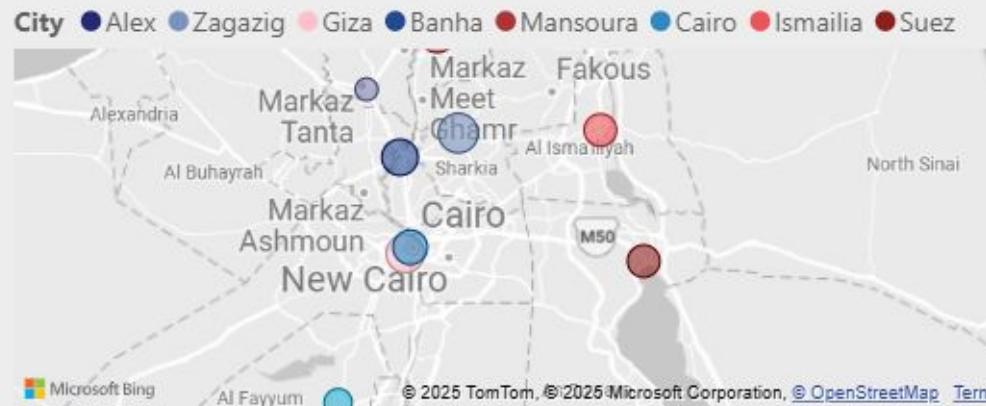
**2.61**

Avg Cert Score

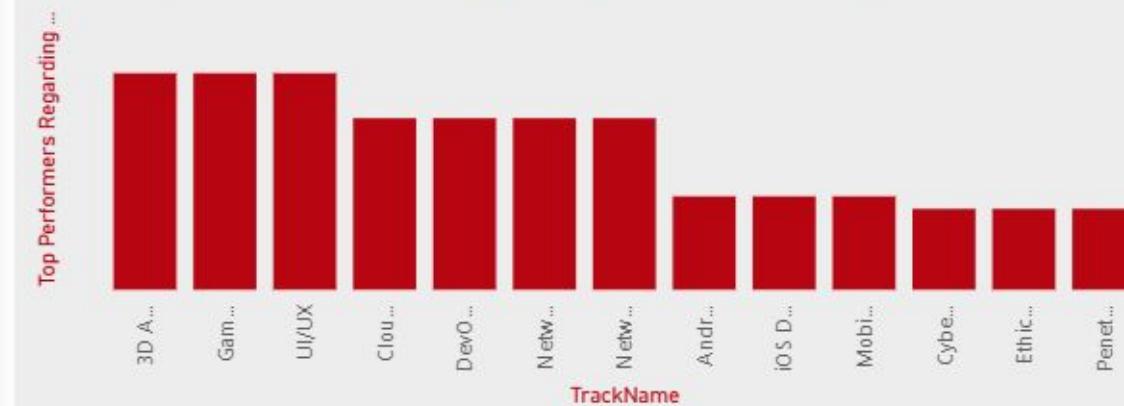
**3.33**

Avg Interviewee Score

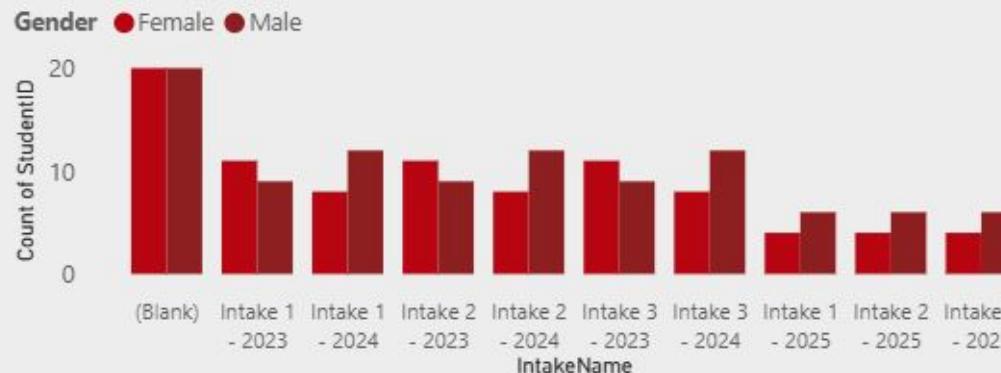
## Tracks Distribution by City



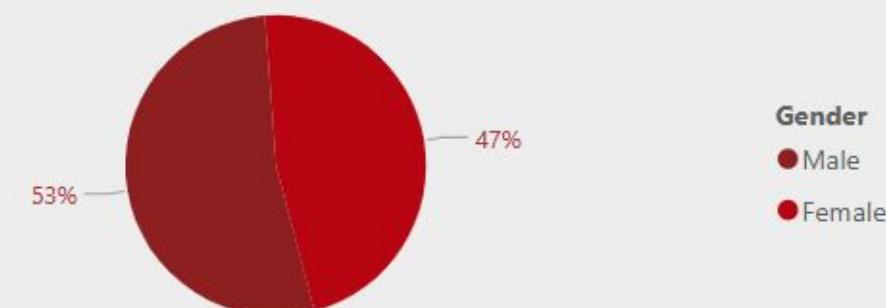
## Top Performers Regarding Certificates by TrackName



## Count of StudentID by IntakeName and Gender



## Count of StudentID by Gender





# HR Tracking System

## Track

All

Branch

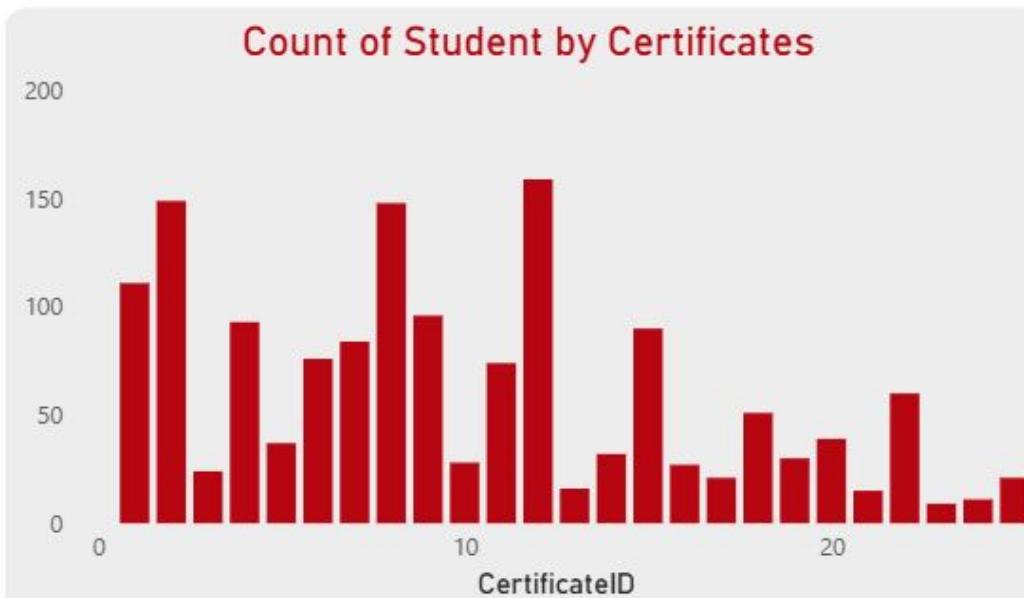
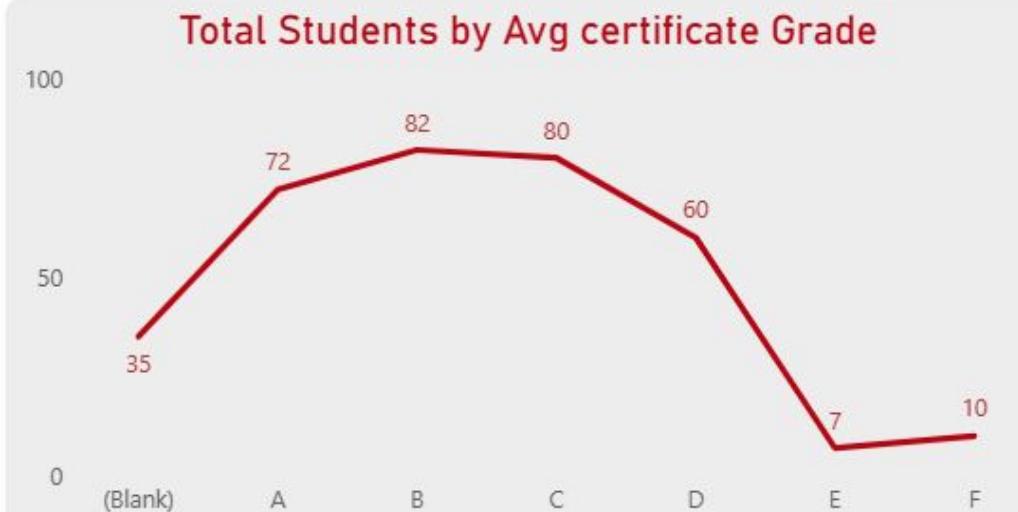
AII

Department

A

StudentCity

 Clear all Filters



CertificateName	Total Students	Average of C...	Cert Verifica...	Completion
UX Designer Career Path (Beginner)	24	3.00	100%	E
UX Designer Career Path (Beginner)	24	2.00		E
Security, Compliance, and Identity...	51	4.00	100%	E
Security, Compliance, and Identity...	51	2.00		E
Security, Compliance, and Identity...	51	1.00		E
Project Manager Career Path (Inte...	37	4.00		E
Project Manager Career Path (Inte...	37	2.00	100%	E
Power Platform Fundamentals (PL...	21	4.00	100%	E
Power Platform Fundamentals (PL...	21	3.00	100%	E
Microsoft 365 Fundamentals (MS...	39	3.00	100%	E
Microsoft 365 Fundamentals (MS...	39	2.00	100%	E
Microsoft 365 Fundamentals (MS...	39	1.00	100%	E



## HR Tracking System

## Track

All

## Branch

All

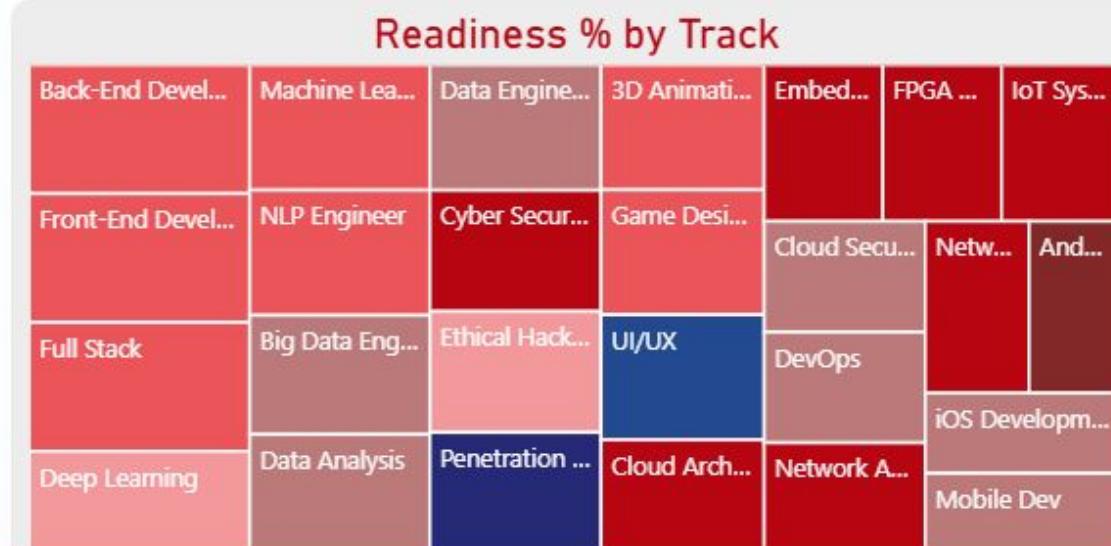
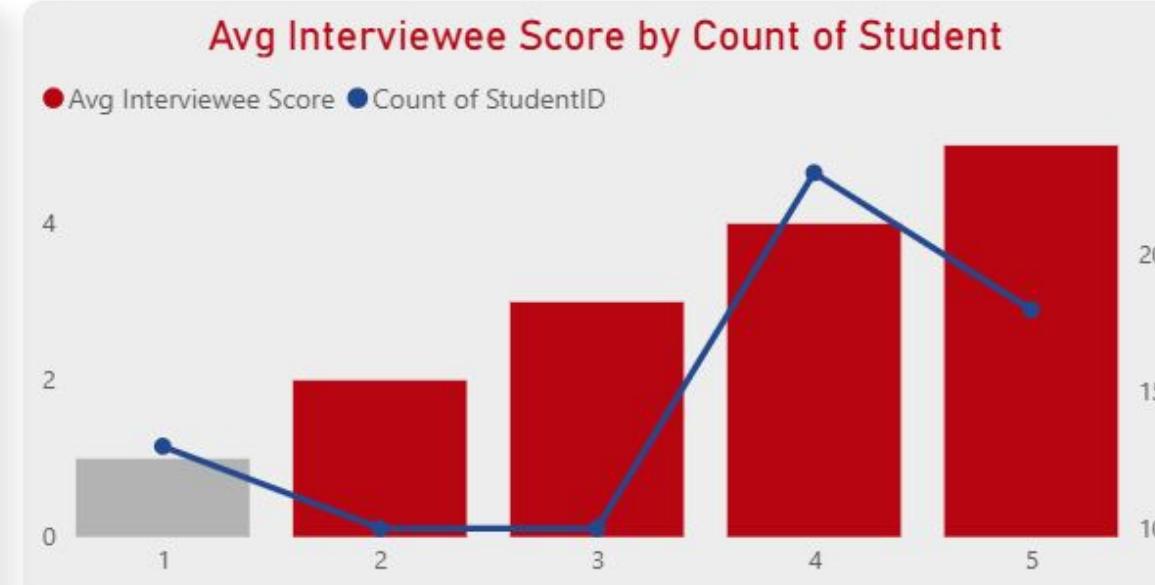
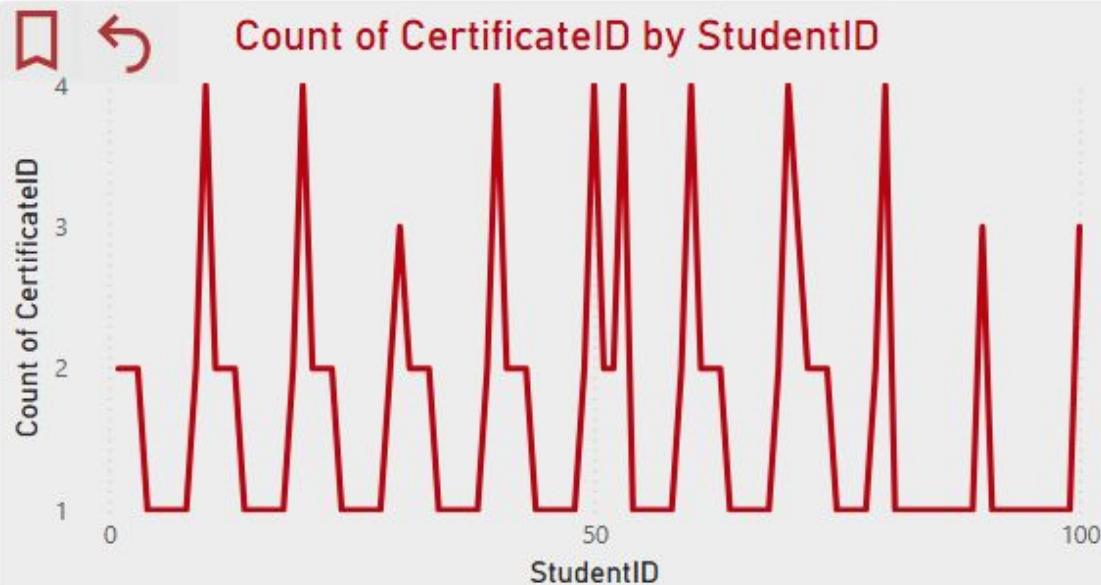
Departme..

A

StudentCity

A

[Clear all Filters](#)



StudentName	Count of S...	FreelanceStatus	Status	LastCompany
Ahmed Adel	3	Available	interviewed	
Ahmed Adel	3	Not Available	interviewed	
Ahmed Khaled	4	Available	Interviewd	
Ahmed Khaled	4	Not Available	interviewed	
Dina Ali	4			Raya Integration
Dina Ibrahim	3	Available	Interviewd	NTG Clarity
Dina Ibrahim	3	Not Available	Hired	NTG Clarity
Dina Mostafa	4	Available	Interviewd	Valeo Egypt
Dina Nabil	12			
Fatma Fathy	3	Available	interviewed	DXC Technology
Fatma Gamal	3	Not Available	Hired	Link Development



# HR Tracking System

Track

All  
...

Branch

All  
...

Departme...

All  
...

StudentCity

All  
...



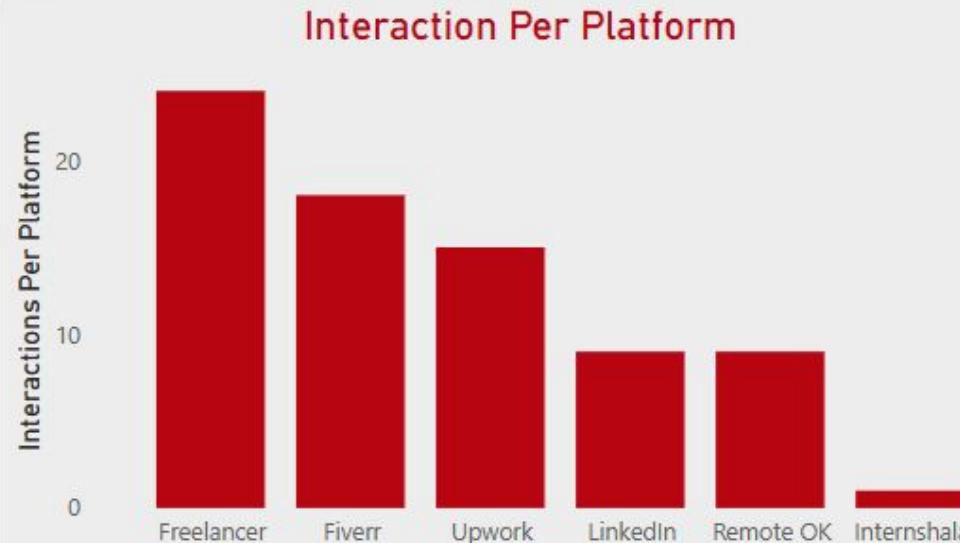
Clear all Filters

100

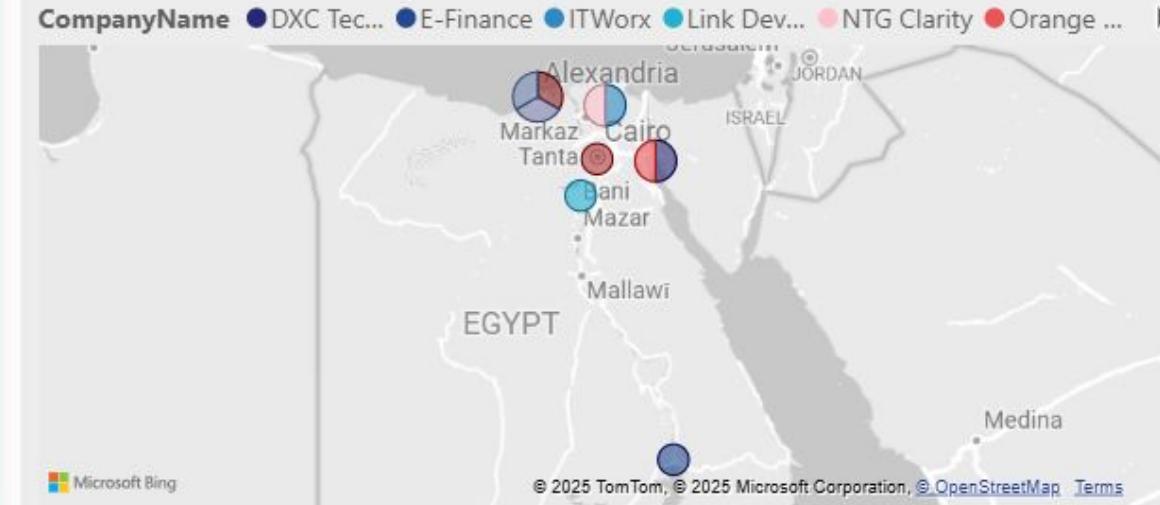
Interaction Per Company

76

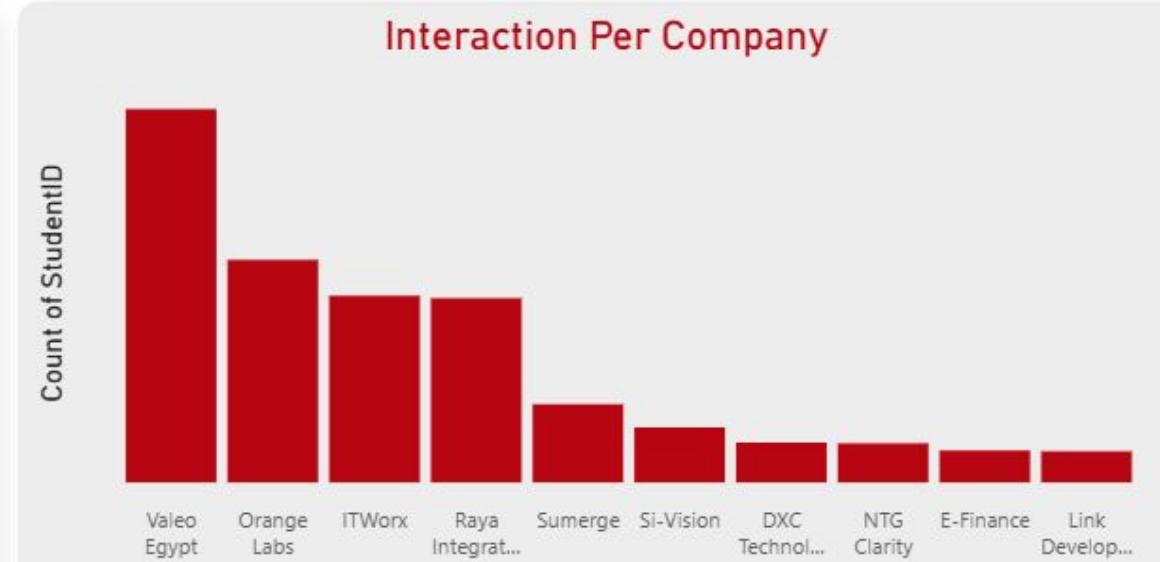
Interactions Per Platform



### Interaction Per Company



### Interaction Per Company





# HR Tracking System

Track

All

Branch

All

Departme...

All

StudentCity

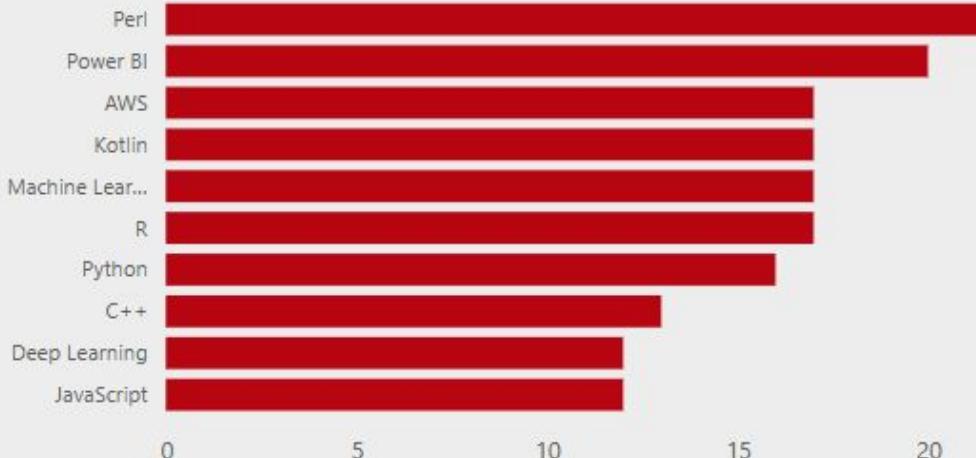
All



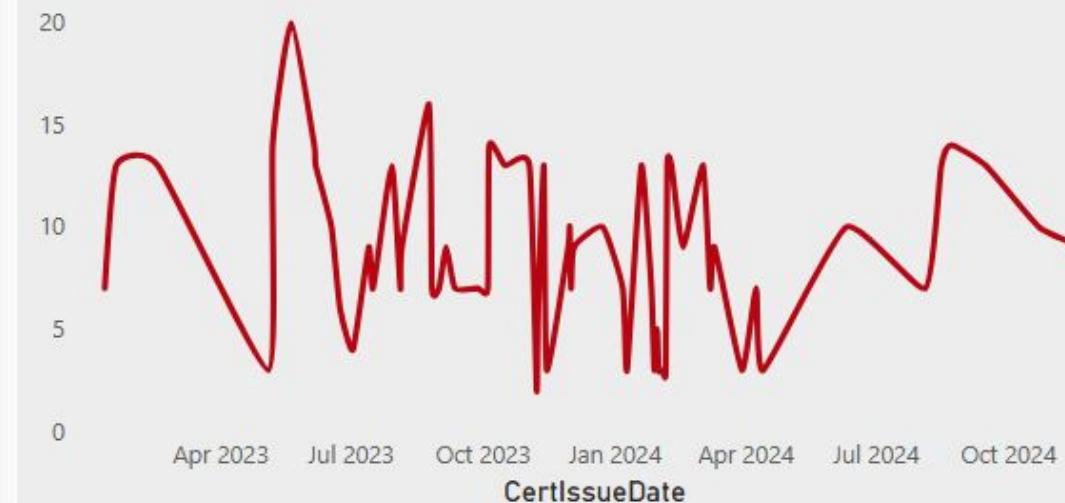
Clear all Filters



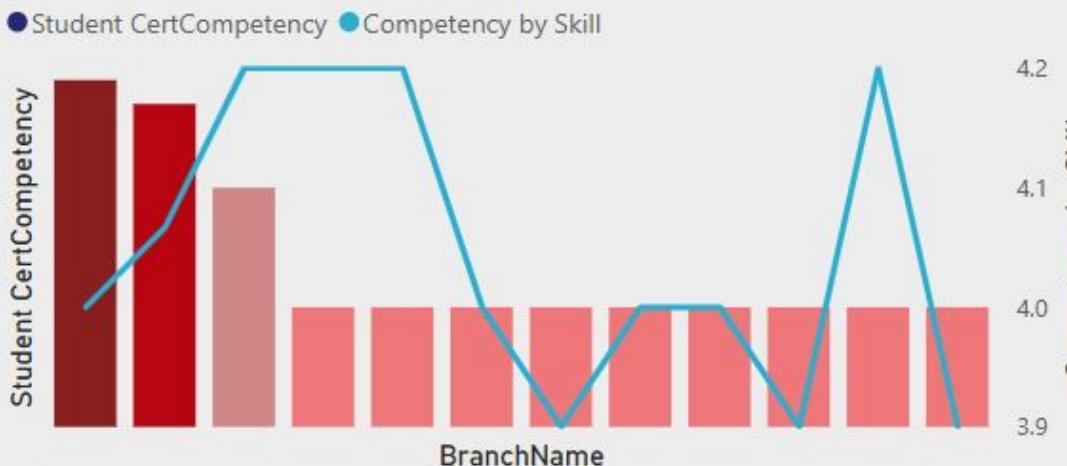
## Count of Student by Skills



## Student Competency Over Time



## Student Competency Over Branches



## Count of CertificateID by Platform





# HR Tracking System

Track

All

Branch

All

Departme...

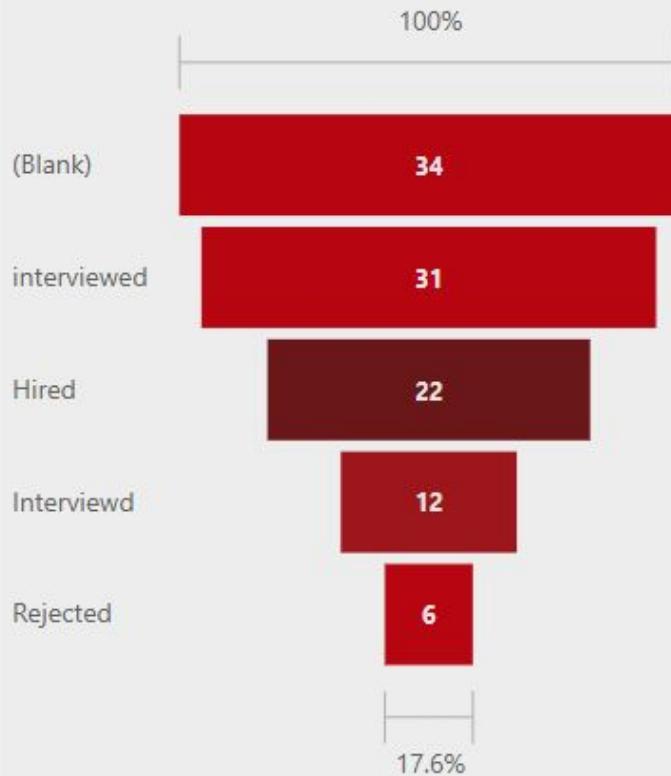
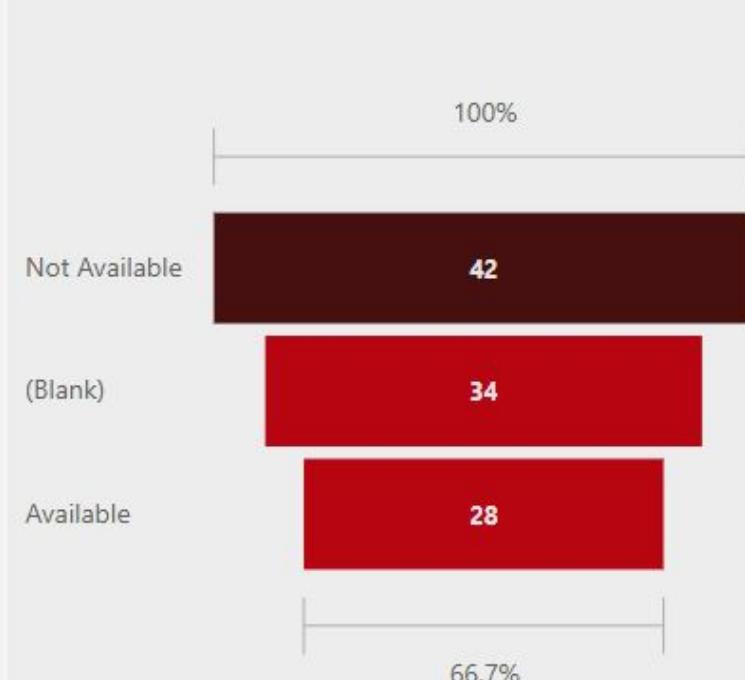
All

StudentCity

All



Clear all Filters

**25%***Cert Verification Completion %***75%***Cert Drop-off***27%***Average Readiness***Count of Student by JobStatus****Count of Student by FreelanceStatus****Certificate Achievement %**



# HR Tracking System

Track

All

Branch

All

Departme...

All

StudentCity

All



Clear all Filters



3.33

Avg Interviewee Score



4

Competency by Skill



27%

Average Readiness

StudentName

Skill Gap Fro...

Readiness Score

Readiness %

Nadine Adel	2	8	60%
Hany Mostafa	2	10	50%
Khaled Mostafa	2	10	50%
Hana Gamal	2	11	45%
Khaled Khaled	-2	3	45%
Mona Khaled	2	11	45%
Ahmed Khaled	3	8	40%
Dina Mostafa	6	12	40%
Fatma Nabil	3	12	40%
Omar Gamal	6	12	40%
Dina Nabil	-2	6	35%
Hany Fathy	4	13	35%

StudentName

SkillText

SocialLink

City

Zip

Ahmed Adel	Machine Learning	fb.com/ahmed44	Giza	12389	0
Ahmed Adel	Power BI	fb.com/ahmed44	Giza	12389	0
Ahmed Adel	Python	fb.com/ahmed44	Giza	12389	0
Ahmed Adel	CSS	fb.com/ahmed53	Cairo	12398	0
Ahmed Adel	Data Analysis	fb.com/ahmed53	Cairo	12398	0
Ahmed Adel	Java	fb.com/ahmed53	Cairo	12398	0
Ahmed Khaled	Data Analysis	fb.com/ahmed10	Giza	12355	0
Ahmed Khaled	JavaScript	fb.com/ahmed10	Giza	12355	0
Ahmed Khaled	Power BI	fb.com/ahmed10	Giza	12355	0
Ahmed Khaled	Rust	fb.com/ahmed10	Giza	12355	0
Ahmed Khaled	Data Analysis	fb.com/ahmed70	Giza	12415	0

StudentName

CertificateID

CertificateName

Ahmed Adel	2	Front-End Developer Career Pat...	<a href="https://www.coursera.org">https://www.coursera.org</a>
Ahmed Adel	4	Cybersecurity Analyst Career Pa...	<a href="https://www.coursera.org">https://www.coursera.org</a>
Ahmed Adel	12	Become a Software Developer	<a href="https://www.linkedin.com">https://www.linkedin.com</a>
Ahmed Adel	18	Security, Compliance, and Identit...	<a href="https://learn.microsoft.co">https://learn.microsoft.co</a>
Ahmed Adel	19	Azure AI Fundamentals (AI-900)	<a href="https://learn.microsoft.co">https://learn.microsoft.co</a>
Ahmed Khaled	2	Front-End Developer Career Pat...	<a href="https://www.coursera.org">https://www.coursera.org</a>
Ahmed Khaled	8	Full Stack Development by MIT ...	<a href="https://xpro.mit.edu/prog">https://xpro.mit.edu/prog</a>
Ahmed Khaled	9	AI and Machine Learning for Bu...	<a href="https://www.edx.org/lear">https://www.edx.org/lear</a>
Ahmed Khaled	12	Become a Software Developer	<a href="https://www.linkedin.com">https://www.linkedin.com</a>
Ahmed Khaled	19	Azure AI Fundamentals (AI-900)	<a href="https://learn.microsoft.co">https://learn.microsoft.co</a>
Dina Ali	7	Computer Science for Artificial I...	<a href="https://www.edx.org/prof">https://www.edx.org/prof</a>



2.00

Avg Cert Score

9

Skill Gap From 10

1

# Skills

1

Interactions Per Plat...

0.10

Readiness

18

Readiness Score



# Ahmed Adel

Software Engineering

Department

ITI Smart Village

Branch

Cloud Security

Track Name

Intake 1 - 2023

Intake

SkillText

Python

CertificateName

Azure AI Fundamentals (AI-900)

Available

Freelance Status

Giza

4

InterviewScore

44

StudentID

# **Student Dashboard**

Year

All

BranchName

All

IntakeName

All



Total Exams Taken

2100

Average Score

71.15

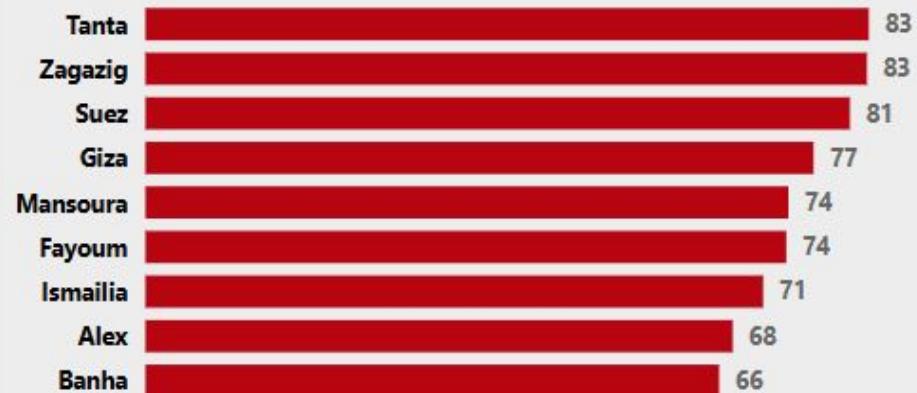
Average Course Rating

3.72

Total Students

100

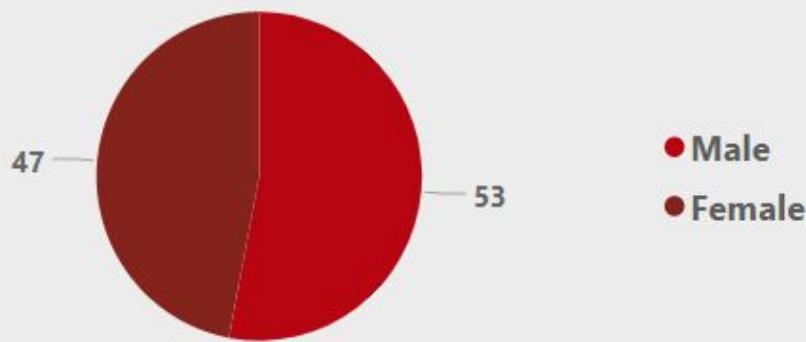
### Average Score by City



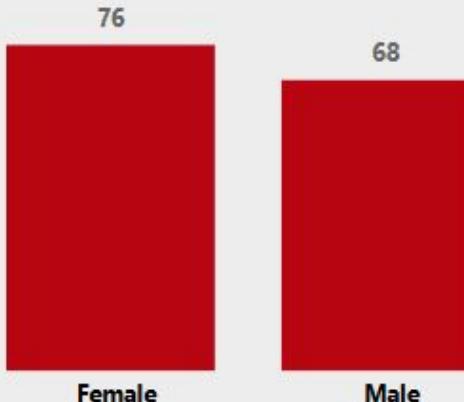
### Average of Score by Year and Month



### Gender Distribution



### Average Score by Gender





Information  
Technology  
Institute

Year

All

BranchName

All

IntakeName

All



Total Exams Taken

2100

Average Score

71.15

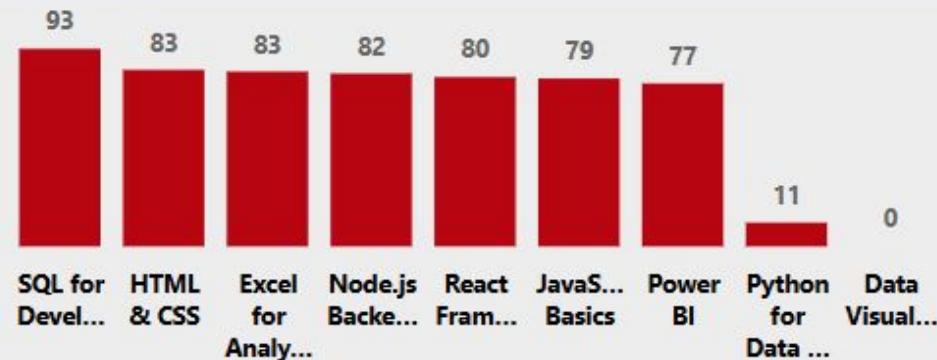
Average Course Rating

3.72

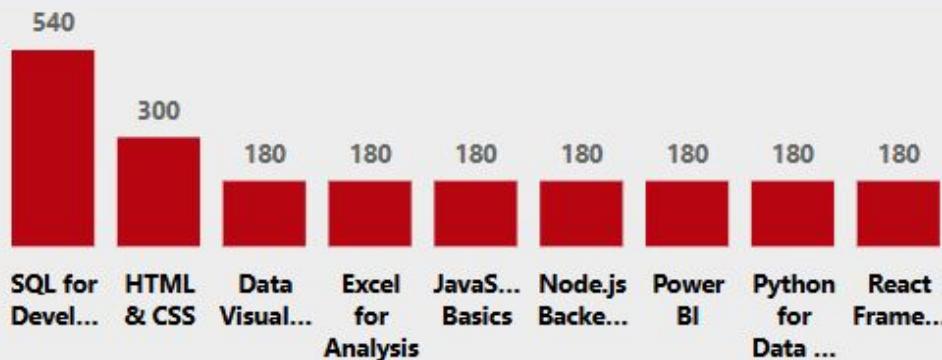
Total Course Enrollment

2100

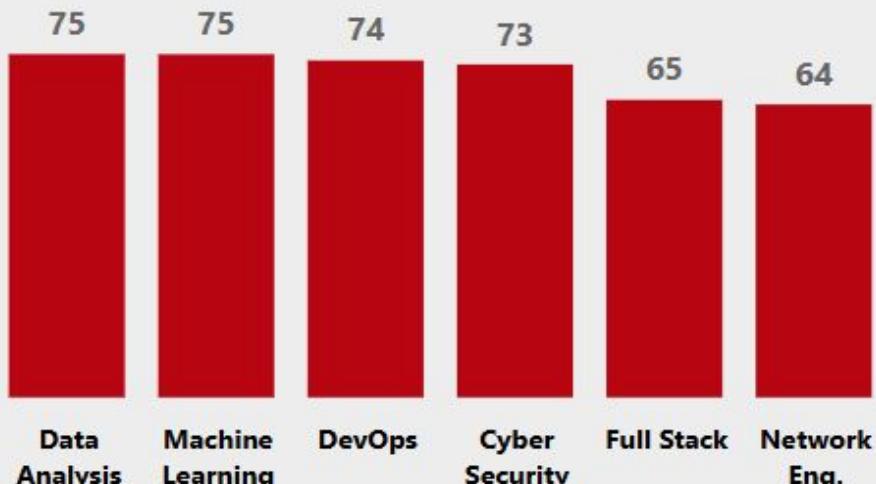
Average Score by CourseTitle



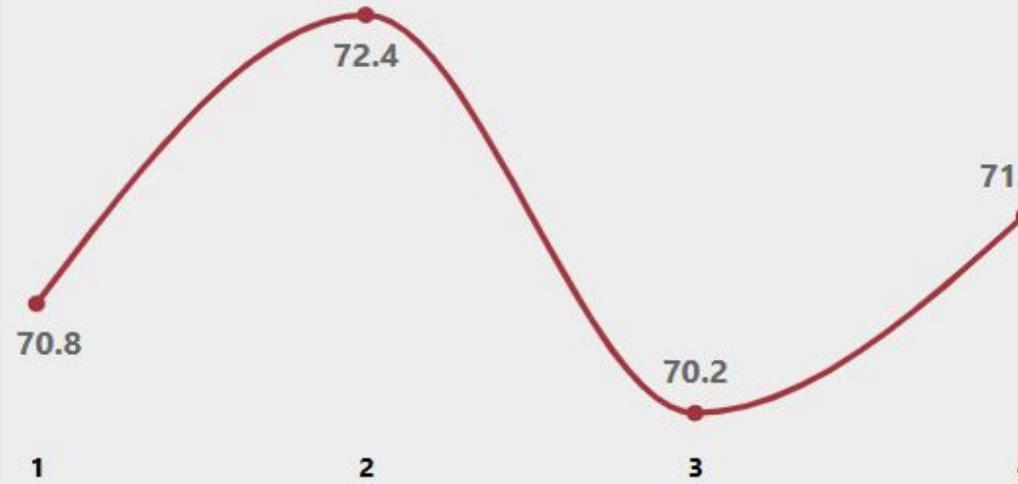
Total Course Enrollments by CourseTitle



Average Score by TrackName



Average Score by Quarter





Information  
Technology  
Institute

Year

All

BranchName

All

IntakeName

All



Total Score

149.41K

Average Score

71.15

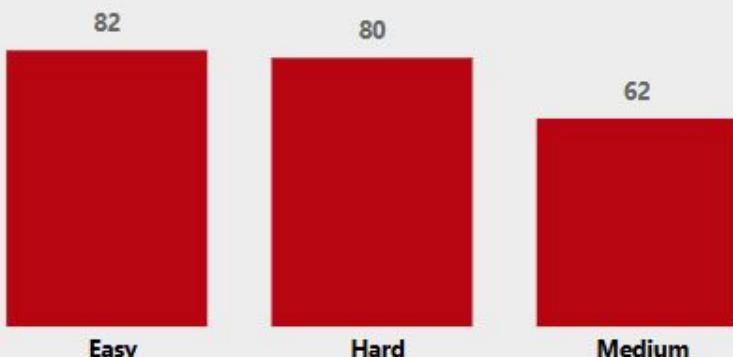
Max Score

100.00

Min Score

0.00

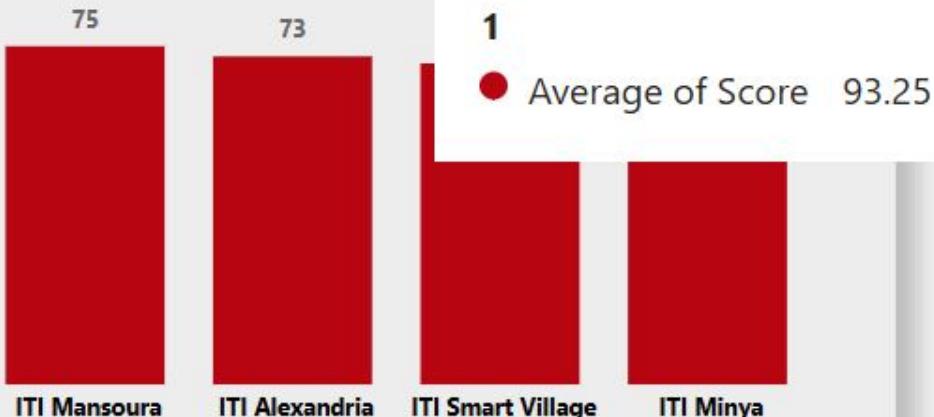
Average Score by DifficultyLevel



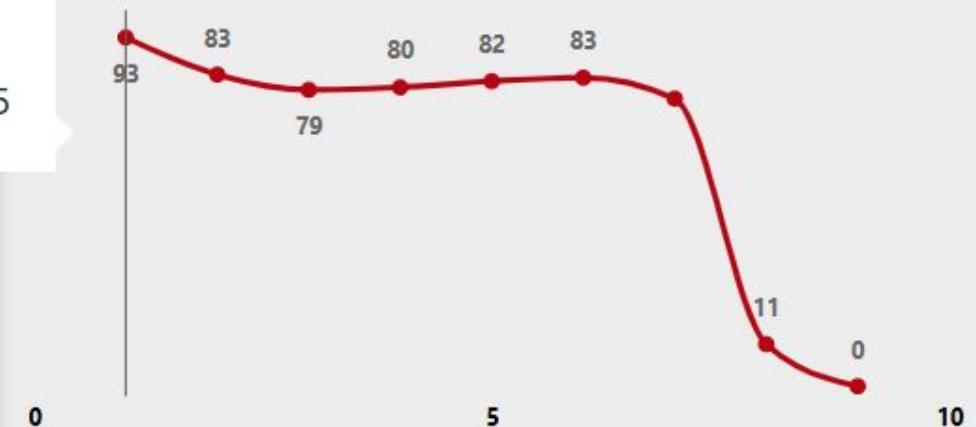
Average Score by Exam ID & Date

1 - 2023-01-10	93
2 - 2023-01-11	83
6 - 2023-01-15	83
5 - 2023-01-14	82
4 - 2023-01-13	80
3 - 2023-01-12	79
7 - 2023-01-16	77
8 - 2023-01-17	11

Average Score by BranchName



Average of Score by ExamSK





Information  
Technology  
Institute

Total Students

100

Total Exams Taken

2100

Average Score

71.15

Pass Rate

0.83

Year

All

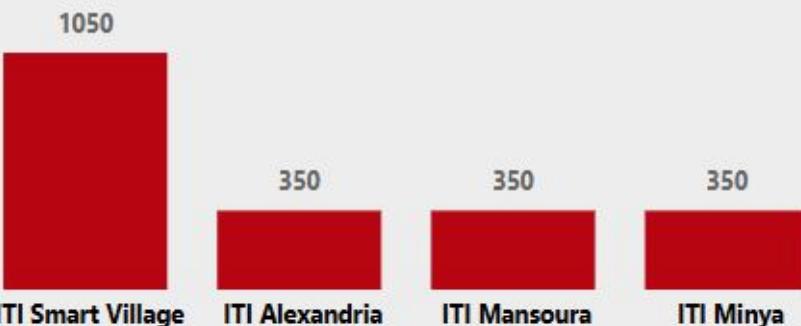
BranchName

All

IntakeName

All

### Number of Students per Branch



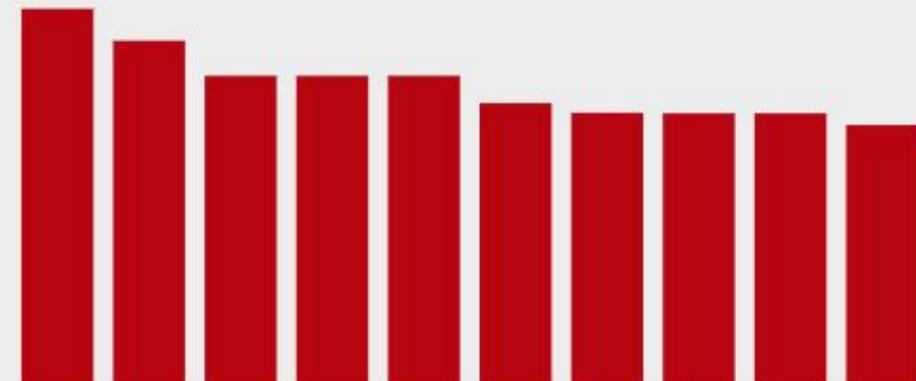
### Number of Exams Held per Branch



### Course Performance by Student

StudentName	CourseTitle	Average Score
Ahmed Khaled	Data Visualization	0.0
Dina Ali	Data Visualization	0.0
Hany Mostafa	Data Visualization	0.0
Hany Said	Data Visualization	0.0
Hassan Ali	Data Visualization	0.0
Khaled Khaled	Data Visualization	0.0
Khaled Mostafa	Data Visualization	0.0
Laila Khaled	Data Visualization	0.0
Nadine Adel	Data Visualization	0.0
Total		71.15

### Top 10 Students by Total Score





Information  
Technology  
Institute

Total Enrollments

2100

Avg. Exam Score

71.15

Pass Rate

0.83

Total Exams Taken

2100

Year

All

BranchName

All

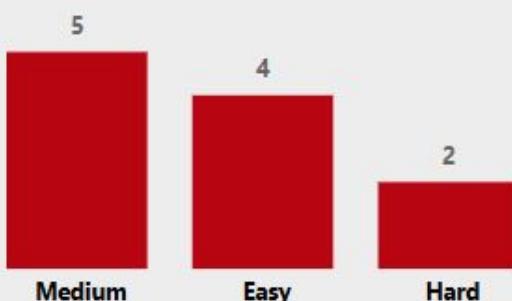
IntakeName

All

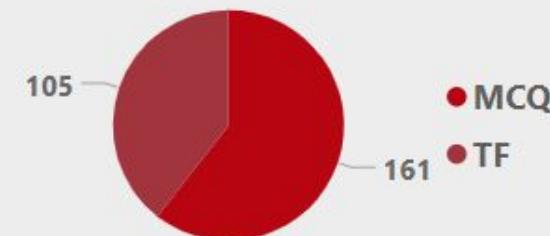
Pass Rate per Difficulty Level



Number of Exams per Difficulty Level



Distribution of Question Types



### Course Performance Summary

CourseTitle	Average Score	Average Course Rating	Total Course Enrollments
SQL for Developers	93.25	3.72	540
HTML & CSS	83.33	3.72	300
Excel for Analysis	82.50	3.72	180
Node.js Backend	81.58	3.72	180
React Framework	79.92	3.72	180
JavaScript Basics	79.25	3.72	180
Power BI	76.92	3.72	180
Python for Data Analysis	11.25	3.72	180
Data Visualization	0.00	3.72	180
3D Modeling		3.72	
Airflow Scheduling		3.72	
Total	71.15	3.72	2100





Year

All

BranchName

All

IntakeName

All



Total Exams

11

Total Exams Taken

2100

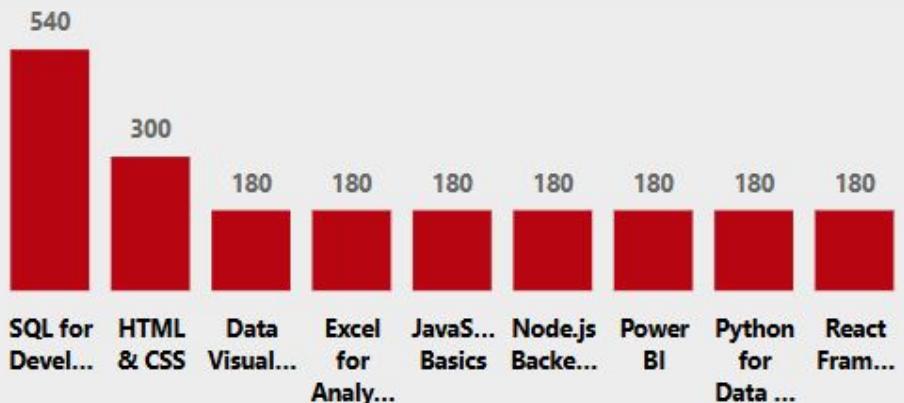
Average Score

71.15

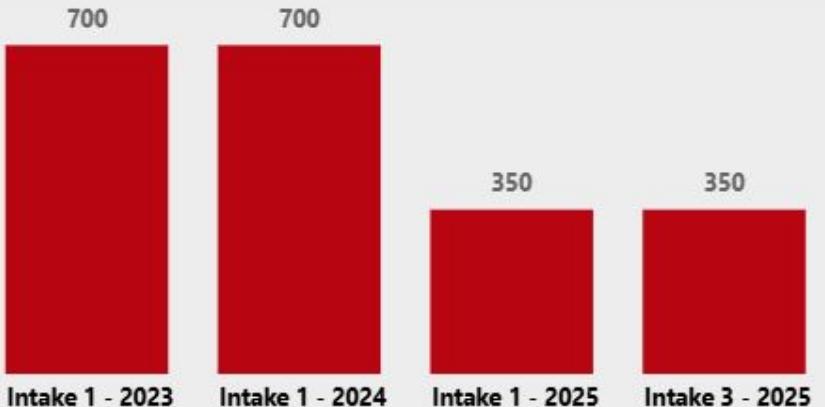
Pass Rate

0.83

## Total Exams Taken by CourseTitle



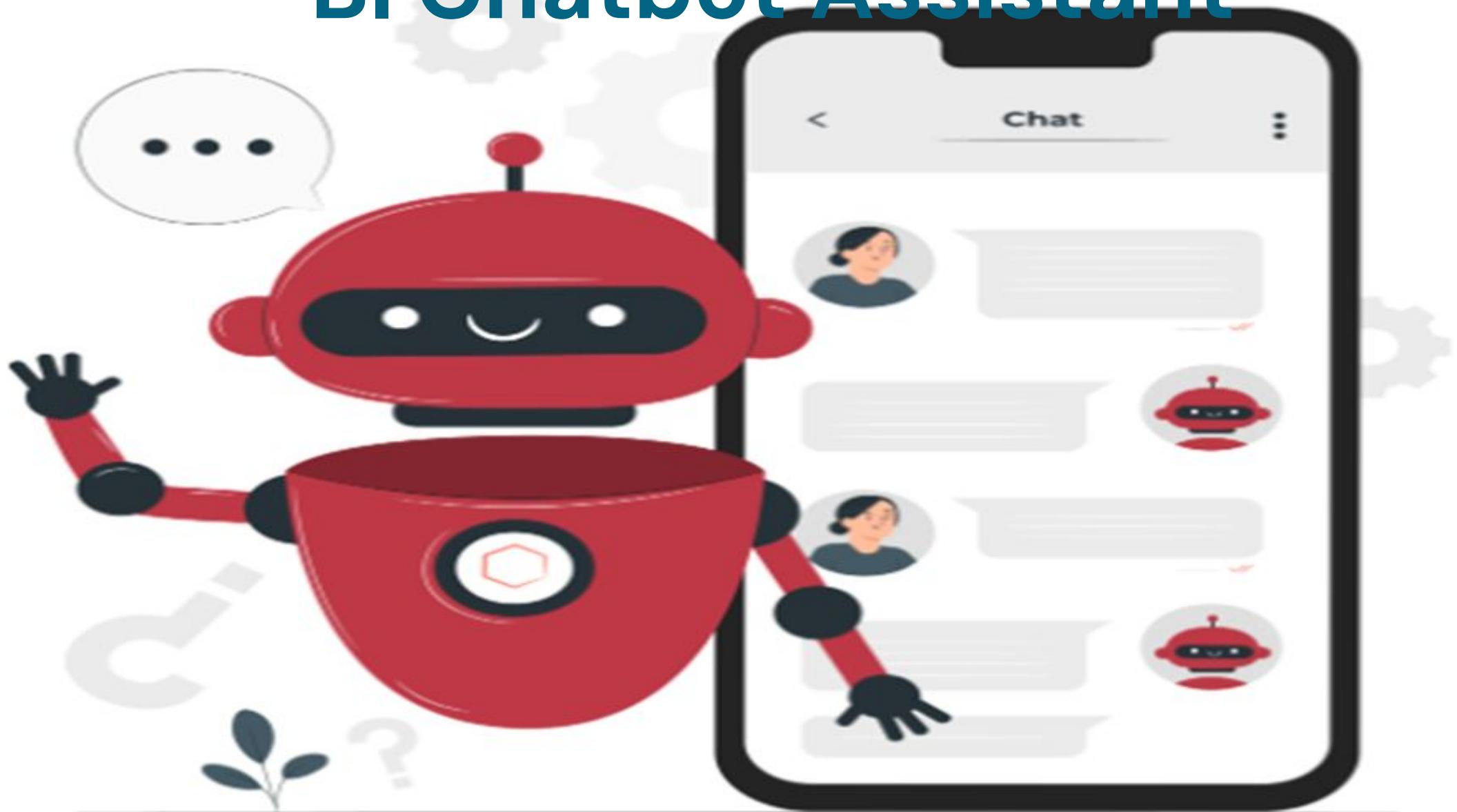
## #Students\_Did\_Exam by IntakeName



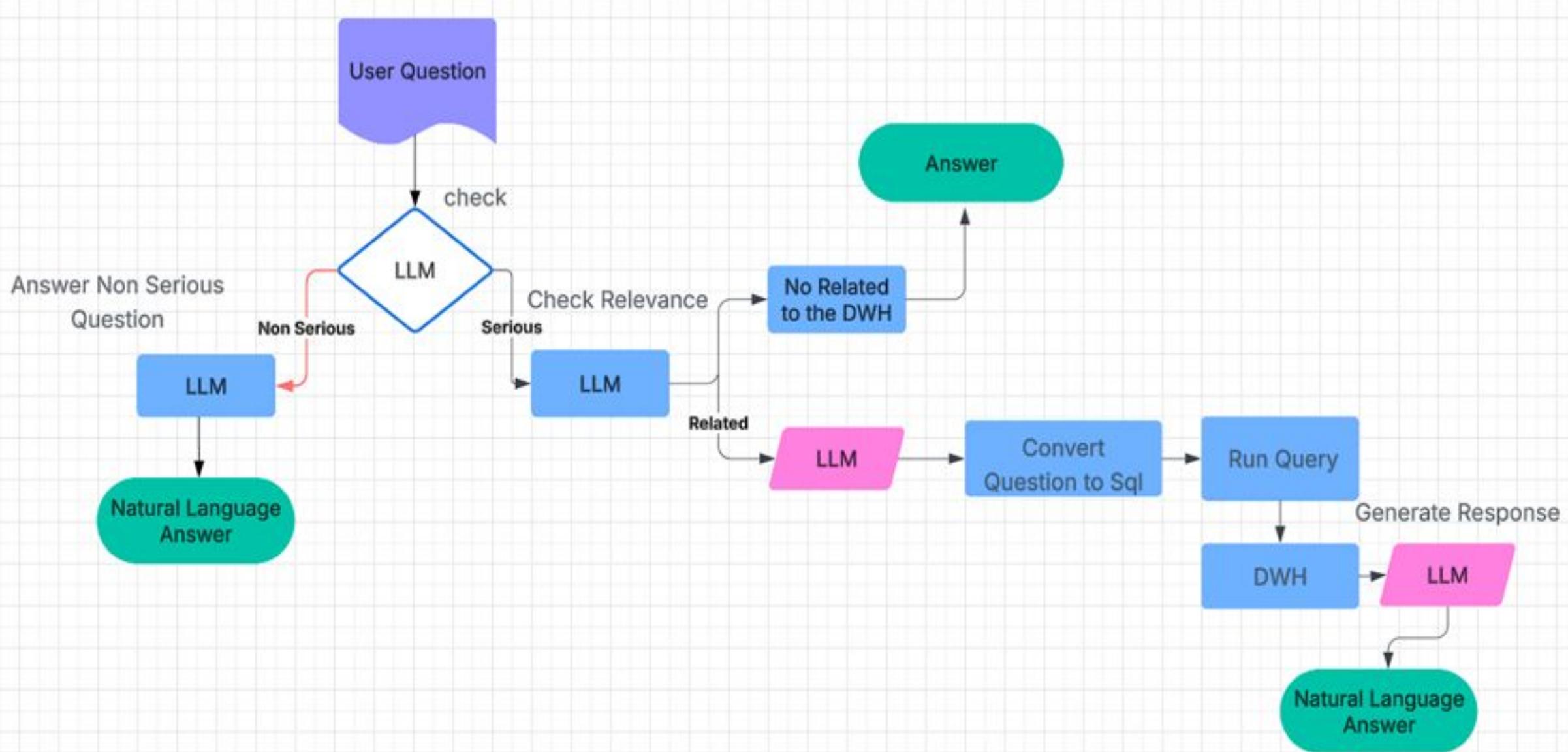
## Student Progress (Score per Exam)

StudentName	Exam ID & Date	Score
Ahmed Adel	3 - 2023-01-12	100.00
Hana Gamal	5 - 2023-01-14	100.00
Hana Said	1 - 2023-01-10	100.00
Hana Said	6 - 2023-01-15	100.00
Hany Ibrahim	1 - 2023-01-10	100.00
Hany Ibrahim	6 - 2023-01-15	100.00
Hany Nabil	1 - 2023-01-10	100.00
Hany Nabil	6 - 2023-01-15	100.00
Hassan Ali	4 - 2023-01-13	100.00
Khaled Khaled	7 - 2023-01-16	100.00
Laila Adel	2 - 2023-01-11	100.00
Laila Adel	7 - 2023-01-16	100.00
Laila Gamal	3 - 2023-01-12	100.00
Laila Ibrahim	2 - 2023-01-11	100.00
Laila Khaled	4 - 2023-01-13	100.00
Laila Nabil	2 - 2023-01-11	100.00
Laila Nabil	7 - 2023-01-16	100.00
Mohamed Gamal	3 - 2023-01-12	100.00
Mohamed Nabil	5 - 2023-01-14	100.00
Mona Adel	3 - 2023-01-12	100.00
Mona Fathy	1 - 2023-01-10	100.00

# BI Chatbot Assistant



# ChatBot PIPELINE



**Database Connection**

Host

localhost

Port

1433

User

Dev\_Mohamed

Password

....



Database

ExaminationSystem\_DWH\_

**Connect**

# Examination System - BI Assistant

Connected successfully!



Hello! I'm your BI Assistant. Ask me anything about your data warehouse.

Type your question here...



# Examination System - BI Assistant



Hello! I'm your BI Assistant. Ask me anything about your data warehouse.



ازبك عامل ايه



الحمد لله، تمام الحمد لله! وانت عامل ايه؟ ألمدى أن تكون بخير. اسمع، أنا مقن ببس يفهم في الأرقام، أنا كمان عددي نكت حلوة أو ي لو  
حاليلك تسمع واحدة 😊



يارب دائمًا يا حبيبي



آمين يا رب العالمين! يا رب يكرمك ويسعد قلبك. وماذا يمكنني أن أساعدك به اليوم؟ 😊



ممكن تقولي مين اكتر موظف عمل مبيعات الشهر دا



سؤالك لا يبدو متعلقاً بالبيانات. أسأل عن الامتحانات أو الطلاب أو الدرجات.

Type your question here...





ما هو متوسط درجة الطالب في كل كورس؟



متوسط درجات الطالب في كل كورس هو كالتالي:

- **تصور البيانات (Data Visualization): 0**
- **إكسل للتحليل (Excel for Analysis): 82.5**
- **HTML & CSS: 83.33**
- **أساسيات جافا سكريبت (JavaScript Basics): 79.25**
- **خلفية نود جي إس (Node.js Backend): 81.58**
- **باور بي آي (Power BI): 76.92**
- **بايثون لتحليل البيانات (Python for Data Analysis): 11.25**
- **إطار عمل رياكت (React Framework): 79.92**
- **SQL للمطورين (SQL for Developers): 93.25**

لاحظ أن متوسط درجة كورس "تصور البيانات" هو صفر، وهذا قد يشير إلى عدم وجود درجات مسجلة لهذا الكورس.



ما الكورس الذي حصل فيه الطالب على أعلى متوسط درجات؟



"للمطورين SQL" الكورس الذي حقق فيه الطالب أعلى متوسط درجات هو.

Type your question here...





ما اسم الطالب الذي حصل على أعلى درجة في كل امتحان؟



يُظهر الاستعلام أن هاني إبراهيم، وفني فتحى، وهانى نبيل هم من حقوا أعلى الدرجات في الامتحانات. ولكن، الاستعلام لا يحدد أعلى درجة في كل امتحان على حدة، بل يُظهر جميع الطلاب الذين حقوا أعلى درجة بغض النظر عن الامتحان. لذلك، هناك تكرار لأسماء الطلاب لأنهم حقوا أعلى الدرجات في أكثر من امتحان واحد.



كم عدد الطلاب الذين شاركوا في كل امتحان؟



يُظهر الاستعلام أن عدد الطلاب الذين شاركوا في كل امتحان هو 12 طالباً. وقد شارك نفس العدد من الطلاب في جميع الامتحانات التسعة.



What is the average score of students in each course?



The average scores for each course are as follows:

- **Data Visualization:** 0.00
- **Excel for Analysis:** 82.50
- **HTML & CSS:** 83.33
- **JavaScript Basics:** 79.25
- **Node.js Backend:** 81.58
- **Power BI:** 76.92
- **Python for Data Analysis:** 11.25
- **React Framework:** 79.92
- **SQL for Developers:** 93.25

Type your question here...





What is the average score of students in each course?



The average scores for each course are as follows:

- **Data Visualization:** 0.00
- **Excel for Analysis:** 82.50
- **HTML & CSS:** 83.33
- **JavaScript Basics:** 79.25
- **Node.js Backend:** 81.58
- **Power BI:** 76.92
- **Python for Data Analysis:** 11.25
- **React Framework:** 79.92
- **SQL for Developers:** 93.25



Which course has the highest average student score?



The course with the highest average student score is SQL for Developers, with an average score of 93.25.

Type your question here...





Which instructor supervised the highest number of exams?



Reem Magdy supervised the highest number of exams.



thank you for your help



You're very welcome! Is there anything else I can help you "figure" out today? 😊



NO , thanks



Okay, no problem! Suit yourself! Is there anything else I can help you with... or perhaps a fun fact about the stock market you'd like to hear instead? 😊

Type your question here...





THANK YOU