Assignment for class

**Write an SQL script to create a database named StudentRecords.**

CREATE DATABASE StudentRecords;

USE master;

**Rename the StudentRecords database to UniversityRecords.**

ALTER DATABASE StudentRecords MODIFY NAME = UniversityRecords;

**Delete the UniversityRecords database safely.**

ALTER DATABASE UniversityRecords SET SINGLE\_USER WITH ROLLBACK IMMEDIATE;

DROP DATABASE UniversityRecords;

**List and describe common SQL Server data types.**

CREATE DATABASE StudentRecords;

USE StudentRecords;

CREATE TABLE Students (

StudentID INT PRIMARY KEY,

Name VARCHAR(100),

Age INT,

Gender CHAR(1),

Department VARCHAR(50)

);

**Create a Students table with appropriate columns and data types.**

CREATE TABLE Students (

StudentID INT PRIMARY KEY,

Name VARCHAR(100),

Age INT,

Gender CHAR(1),

Department VARCHAR(50),

Email VARCHAR(100)

);

**Add a new column Email to the Students table.**

ALTER TABLE Students

ADD Email VARCHAR(100);

**Rename the Students table to UniversityStudents.**

EXEC sp\_rename 'Students', 'UniversityStudents';

**Delete the UniversityStudents table.**

DROP TABLE UniversityStudents;

**Insert five sample student records into the Students table.**

INSERT INTO Students (StudentID, Name, Age, Gender, Department, Email) VALUES

(1, 'Logan', 20, 'F', 'Computer Science', 'logan@example.com'),

(2, 'Mason', 22, 'M', 'Mechanical Engineering', 'mason@example.com'),

(3, 'Harper', 19, 'F', 'Electrical Engineering', 'harper@example.com'),

(4, 'Elijah', 21, 'M', 'Computer Science', 'elijah@example.com'),

(5, 'Aria', 18, 'F', 'Biotechnology', 'aria@example.com');

**Update the email of a specific student.**

UPDATE Students

SET Email = 'logan.jamie@university.edu'

WHERE StudentID = 1;

**Delete a record of a student who has graduated.**

DELETE FROM Students

WHERE StudentID = 2;

**Select and display only the names and emails of students.**

SELECT Name, Email FROM Students;

**Retrieve students based on a specific condition (e.g., age > 18).**

SELECT \* FROM Students

WHERE Age > 18;

**Fetch all records from the table.**

SELECT \* FROM Students;

**Retrieve students who belong to a specific department.**

SELECT \* FROM Students

WHERE Department = 'Computer Science';

**Write queries to demonstrate filtering using these operators.**

SELECT \* FROM Students WHERE Age = 20;

**Execute filtering queries and explain the results.**

**Not Equal**

SELECT \* FROM Students WHERE Department <> 'Biotechnology';

**Greater Than**

SELECT \* FROM Students WHERE Age > 18;

**Less Than**

SELECT \* FROM Students WHERE Age < 21;

**BETWEEN**

SELECT \* FROM Students WHERE Age BETWEEN 18 AND 21;

**IN**

SELECT \* FROM Students WHERE Department IN ('Computer Science', 'Electrical Engineering');

**LIKE**

SELECT \* FROM Students WHERE Name LIKE 'A%';

**IS NULL**

SELECT \* FROM Students WHERE Email IS NULL;

**AND**

SELECT \* FROM Students WHERE Age > 18 AND Department = 'Computer Science';

OR

SELECT \* FROM Students WHERE Department = 'Biotechnology' OR Department = 'Mechanical Engineering';