1885 SALLENING UNIVERSITY

DATABASE MANAGEMENT SYSTEM

DEPARTMENT OF SOFTWARE ENGINEERING

UNIVERSITY DATABASE

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ROLE OF DATABASE IN UNIVERSITY DATA

A database plays a vital role in university data by storing and managing data for university, enabling dynamic content, user interactions, and data retrieval. It ensures data consistency, integrity, and scalability, supporting search capabilities, and facilitating efficient data manipulation and retrieval. Common databases used in university data include relational databases like MySQL databases.



NOW LETS MAKE A TABLES OF UNIVERSITY DATA

```
create database university;use university;
```

```
-- Table: Students
                                                                               -- Table: Departments
                                          -- Table: Professors
                                                                                                            -- Table: Courses
CREATE TABLE Students (
                                        CREATE TABLE Professors (

⇒ CREATE TABLE Courses (
                                                                               CREATE TABLE Departments
     StudentID INT PRIMARY KEY,
                                               ProfessorID INT PRIMARY KEY,
                                                                                                               CourseID INT PRIMARY KEY,
     FirstName VARCHAR(50),
                                                                                  DepartmentID INT PRIMARY KEY,
                                               FirstName VARCHAR(50),
     LastName VARCHAR(50),
                                                                                                               CourseName VARCHAR(100),
                                               LastName VARCHAR(50),
     DateOfBirth DATE,
                                                                                  DepartmentName VARCHAR(100)
                                                                                                               DepartmentID INT
                                               DepartmentID INT
     MajorID INT
                                         - );
```

NOW WE HAVE TO INSERT VALUES

```
-- Insert Data into Departments
                                     -- Insert Data into Students
INSERT INTO Departments (DepartmentID, DepartmentNa
                                     INSERT INTO Students (StudentID, FirstName, La
(1, 'Computer Science'),
                                     (1, 'Ali', 'Khan', '2000-01-15', 1),
(2, 'Physics'),
                                     (2, 'Sara', 'Malik', '1999-03-22', 2),
(3, 'Mathematics'),
                                     (3, 'Ahmed', 'Sheikh', '1998-07-18', 3),
(4, 'Biology'),
                                     (4, 'Ayesha', 'Zafar', '2001-05-05', 4),
(5, 'Chemistry');
                                     (5, 'Bilal', 'Hussain', '2000-11-10', 5);
-- Insert Data into Courses
                                        -- Insert Data into Enrollments
INSERT INTO Courses (CourseID, CourseINSERT INTO Enrollments (Enrollme
(101, 'Introduction to Programming', (1, 1, 101, 'A'),
(102, 'Data Structures', 1),
                                        (2, 1, 102, 'B'),
(201, 'Quantum Physics', 2),
                                    (3, 2, 201, 'A'),
(202, 'Classical Mechanics', 2),
                                    (4, 2, 202, 'A'),
(301, 'Calculus I', 3),
                                        (5, 3, 301, 'B'),
(302, 'Linear Algebra', 3),
                                       (6, 3, 302, 'C'),
(401, 'General Biology', 4), (7, 4, 401, 'A'),
(402, 'Genetics', 4),
                                        (8, 4, 402, 'B'),
(501, 'Organic Chemistry', 5), (9, 5, 501, 'A'),
(502, 'Inorganic Chemistry', 5); (10, 5, 502, 'A');
```

-- Insert Data into Professors

INSERT INTO Professors (ProfessorID,

(1, 'Dr. Kamran', 'Farooq', 1),

(2, 'Dr. Rabia', 'Qureshi', 2),

(3, 'Dr. Salman', 'Yousuf', 3),

(4, 'Dr. Nadia', 'Ali', 4),

(5, 'Dr. Faisal', 'Raza', 5);

SOME OF QUIRES FROM 50 WHICH WE HAVE MADE

Q.1 SELECT * FROM Students;

OUTPUT:

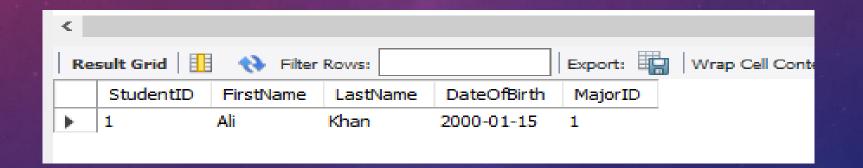
Result Grid 1						
	StudentID	FirstName	LastName	DateOfBirth	MajorID	
>	1	Ali	Khan	2000-01-15	1	
	2	Sara	Malik	1999-03-22	2	
	3	Ahmed	Sheikh	1998-07-18	3	
	4	Ayesha	Zafar	2001-05-05	4	
	5	Bilal	Hussain	2000-11-10	5	
	NULL	MULL	MULL	NULL	NULL	
Students 23 ×						

SOME OF QUIRES FROM 50 WHICH WE HAVE MADE

Q.2

```
133 • SELECT Students.* FROM Enrollments
134     JOIN Students ON Enrollments.StudentID = Students.StudentID
135     WHERE Enrollments.CourseID = 101;
136
```

OUTPUT:



SOME OF QUIRES FROM 50 WHICH WE HAVE MADE

Q.3

```
-- 25. List professors who teach in the 'Chemistry' department.

SELECT Professors.FirstName, Professors.LastName FROM Professors

JOIN Departments ON Professors.DepartmentID = Departments.DepartmentID

WHERE Departments.DepartmentName = 'Chemistry';
```

OUTPUT:

