2nd Internal Example Paper 24 marks

Create database with name as internal_exam2

User internal_exam2 and save all query in **internal_exam1.sql**

Create the below tables with constraints.

Table creation with contains and insert the records

1. Create Students Table

   Create a table called Students with the following columns:
   - StudentID (INT): The unique identifier for each student (Primary Key).
   - Name (VARCHAR): The name of the student (NOT NULL).
   - Age (INT): The age of the student (CHECK constraint to be between 14 and 18).
   - Class (VARCHAR): The class the student is enrolled in.
   - City (VARCHAR): The city where the student resides (NOT NULL).

1. Students

StudentID	Name	Age	Class	City
101	Alice	16	10th	New York
102	Bob	17	11th	Chicago
103	Charlie	16	10th	Boston

2 marks

2. Create Courses Table

Create a table called Courses with the following columns:

- CourseID (VARCHAR): The unique identifier for the course (Primary Key).
- CourseName (VARCHAR): The name of the course.
- Teacher (VARCHAR): The name of the course instructor (NOT NULL).
- Ensure that CourseName is **Unique** to avoid duplicate course names.

2. Courses

CourseID	CourseName	Teacher
C01	Math	Mr. Smith
C02	Science	Mrs. Lee
C03	History	Mr. Brown

2 marks

3. Create Enrollments Table

Create a table called Enrollments with the following columns:

- EnrollmentID (INT): The unique identifier for the enrollment (Primary Key).
- StudentID (INT): The ID of the student (Foreign Key referencing StudentID from Students).
- CourseID (VARCHAR): The ID of the course (Foreign Key referencing CourseID from Courses).
- Grade (VARCHAR): The grade obtained by the student.

3. Enrollments

EnrollmentID	StudentID	CourseID	Grade
1	101	C01	A
2	102	C02	B+
3	103	C03	A-
4	101	C02	B

2 marks

4. Create Exams Table

Create a table called Exams with the following columns:

- ExamID (INT): The unique identifier for the exam (Primary Key).
- CourseID (VARCHAR): The ID of the course (Foreign Key referencing CourseID from Courses).
- StudentID (INT): The ID of the student (Foreign Key referencing StudentID from Students).
- Score (INT): The score the student obtained in the exam (CHECK constraint to ensure score is between 0 and 100).

4. Exams

ExamID	CourseID	StudentID	Score
1	C01	101	85
2	C02	102	78
3	C03	103	82
4	C02	101	80

2 marks

5. Create Student Attendance Table

   Create a table called StudentAttendance with the following columns:
   - AttendanceID (INT): The unique identifier for the attendance record (Primary Key).
   - StudentID (INT): The ID of the student (Foreign Key referencing StudentID from Students).
   - CourseID (VARCHAR): The ID of the course (Foreign Key referencing CourseID from Courses).
   - AttendanceDate (DATE): The date of the class.
   - Status (VARCHAR): The attendance status (either 'Present' or 'Absent').

   Add a **CHECK constraint** on Status to ensure only 'Present' or 'Absent' can be recorded.

Sample Data for `StudentAttendance` Table:

AttendanceID	StudentID	CourseID	AttendanceDate	Status
1	101	C01	2025-02-01	Present
2	101	C02	2025-02-01	Absent
3	102	C01	2025-02-02	Present
4	102	C02	2025-02-02	Present
5	103	C01	2025-02-03	Absent
6	103	C03	2025-02-03	Present
7	101	C03	2025-02-04	Present
8	102	C03	2025-02-04	Absent

2 marks

6. Table: Teachers
   Description: This table holds information about teachers.
   - **TeacherID**: Unique identifier for each teacher (Primary Key).
   - **Name**: Name of the teacher (NOT NULL).
   - **Subject**: The subject taught by the teacher (NOT NULL).
   - **City**: The city the teacher resides in (NOT NULL).

Sample Records:

TeacherID	Name	Subject	City
T001	Mr. Smith	Math	New York
T002	Mrs. Lee	Science	Chicago
T003	Mr. Brown	History	Boston
T004	Mr. Green	Geography	Los Angeles

2 mark

7. Table: CourseTeachers
   Description: This table assigns a **teacher** to a **course** (many-to-many relationship).
   - **CourseID**: ID of the course (Foreign Key from Courses table).
   - **TeacherID**: ID of the teacher (Foreign Key from Teachers table).

Sample Records:

CourseID	TeacherID
C01	T001
C02	T002
C03	T003
C04	T004
C02	T004

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2 mark

8. Table: Assignments

Description: This table holds information about assignments for students.

- **AssignmentID**: Unique identifier for each assignment (Primary Key).
- **CourseID**: ID of the course (Foreign Key from Courses table).
- **Title**: The title of the assignment (NOT NULL).
- **DueDate**: The due date for the assignment (NOT NULL).
- **TeacherID**: ID of the teacher who assigned the task (Foreign Key from Teachers table).

Sample Records:

AssignmentID	CourseID	Title	DueDate	TeacherID
A001	C01	Algebra Homework	2025-02-10	T001
A002	C02	Lab Experiment Report	2025-02-15	T002
A003	C03	History Project	2025-02-20	T003
A004	C02	Science Essay	2025-02-18	T004

2 mark

9. Table: AssignmentSubmissions
   Description: This table tracks student submissions for assignments.
   - **SubmissionID**: Unique identifier for each submission (Primary Key).
   - **AssignmentID**: ID of the assignment (Foreign Key from Assignments table).
   - **StudentID**: ID of the student (Foreign Key from Students table).
   - **SubmissionDate**: Date when the assignment was submitted.
   - **Score**: The score the student received for the assignment.

   Sample Records:

SubmissionID	AssignmentID	StudentID	SubmissionDate	Score
S001	A001	101	2025-02-08	85
S002	A002	102	2025-02-14	90
S003	A003	103	2025-02-19	88
S004	A004	101	2025-02-17	92

2 mark

10. Table: Classrooms
    Description: This table records classroom details for each course.
    - **ClassroomID**: Unique identifier for each classroom (Primary Key).
    - **CourseID**: ID of the course (Foreign Key from Courses table).
    - **RoomNumber**: The room number where the class is held (NOT NULL).
    - **Building**: The building in which the classroom is located (NOT NULL).

Sample Records:

ClassroomID	CourseID	RoomNumber	Building
CR001	C01	101	Science
CR002	C02	201	Main
CR003	C03	301	History
CR004	C04	401	Geography

2 mark

11. Table: StudentGrades
    Description: This table records the final grades for students in each course.
    - **GradeID**: Unique identifier for each grade record (Primary Key).
    - **StudentID**: ID of the student (Foreign Key from Students table).
    - **CourseID**: ID of the course (Foreign Key from Courses table).
    - **Grade**: The final grade received by the student (NOT NULL).

Sample Records:

GradeID	StudentID	CourseID	Grade
G001	101	C01	A
G002	102	C02	B+
G003	103	C03	A-
G004	101	C02	B

2 mark

12. Table: CourseMaterials

Description: This table holds links to resources or materials for each course.

- **MaterialID**: Unique identifier for each material (Primary Key).
- **CourseID**: ID of the course (Foreign Key from Courses table).
- **MaterialType**: Type of the material (e.g., 'Textbook', 'Presentation', 'Video').
- **MaterialLink**: URL or link to the material (NOT NULL).

Sample Records:

MaterialID	CourseID	MaterialType	MaterialLink
M001	C01	Textbook	https://example.com/math-textbook.pdf
M002	C02	Presentation	https://example.com/science-presentation.ppt
M003	C03	Video	https://example.com/history-video.mp4
M004	C02	Textbook	https://example.com/chemistry-textbook.pdf

2 mark