```sql
CREATE DATABASE institute_of_management_system;

USE institute_of_management_system;


-- Table: Institute


CREATE TABLE Institute (

    institute_id INT PRIMARY KEY,

    name VARCHAR(100) NOT NULL,

    location VARCHAR(100)

);
desc Institute;
insert into Institute values(1,'itvedant','mumbai');


select * from Institute;


-- Table: Course
CREATE TABLE Course (

    course_id INT  PRIMARY KEY,

    course_name VARCHAR(100) NOT NULL,

    institute_id INT,

    FOREIGN KEY (institute_id) REFERENCES Institute(institute_id)

);
desc course;
insert into Course values
('1','fs','1'),
('2','dse','1'),
('3','aws','1');
SELECT * FROM Course;
```

-- Table: Faculty

```sql
CREATE TABLE Faculty (
    faculty_id INT  PRIMARY KEY,
    name VARCHAR(100) NOT NULL,
    specialization VARCHAR(100),
    institute_id INT,
    FOREIGN KEY (institute_id) REFERENCES Institute(institute_id)
);
desc Faculty;
insert into Faculty values(1,'rohit','fs',1),(2,'modi','dse',1),(3,'yogi','aws',1);
select * from Faculty;
```

-- Table: Student

```sql
CREATE TABLE Student (
    student_id INT PRIMARY KEY,
    name VARCHAR(100) NOT NULL,
    email VARCHAR(100),
    phone bigint,
    institute_id INT,
    FOREIGN KEY (institute_id) REFERENCES Institute(institute_id)
);
desc Student;
insert into Student values
(1,'anuj','ab@gmail.com','1234567','1'),
(2,'aniket','aab@gmail.com','123457','1'),
(3,'akash','cb@gmail.com','1234567','1'),
(4,'ankit','db@gmail.com','12345679','1'),
```

```sql
(5,'aniket','eab@gmail.com','1234570','1'),

(6,'akash','clb@gmail.com','12345687','1'),

(7,'rohit','d@gmail.com','120345679','1'),

(8,'virendra','eaab@gmail.com','12345970','1'),

(9,'salaman','cz@gmail.com','1234578687','1'),

(10,'shahrukh','edaggb@gmail.com','129934570','1'),

(11,'prabash','clkkb@gmail.com','1234560087','1'),

(12,'pawan','dhg@gmail.com','12034560079','1'),

(13,'krishna','ealab@gmail.com','1234500970','1'),

(14,'gagan','ckz@gmail.com','123450078687','1'),

(15,'rajiv','cksz@gmail.com','1450078687','1');


select * from student;



-- Table: Enrollment
CREATE TABLE Enrollment (
    enrollment_id INT PRIMARY KEY,
    student_id INT,
    course_id INT,
    enrollment_date DATE,
    FOREIGN KEY (student_id) REFERENCES Student(student_id),
    FOREIGN KEY (course_id) REFERENCES Course(course_id)
);
INSERT INTO Enrollment (enrollment_id, student_id, course_id, enrollment_date)
VALUES
(1,'1','1','2024-01-01'),

(2,'2','1','2024-01-01'),

(3,'3','1','2024-01-01'),
```

```sql
    (4,'4','1','2024-01-01'),

    (5,'5','1','2024-01-01'),

    (6,'5','2','2024-02-01'),

    (7,'7','2','2024-02-01'),

    (8,'8','2','2024-02-01'),

    (9,'9','2','2024-02-01'),

    (10,'10','2','2024-02-01'),

    (11,'11','3','2024-03-01'),

    (12,'12','3','2024-03-01'),

    (13,'13','3','2024-03-01'),

    (14,'14','3','2024-03-01'),

    (15,'15','3','2024-01-01');

desc enrollment;

select * from enrollment;


-- Table: Attendance

CREATE TABLE Attendance (

    attendance_id INT AUTO_INCREMENT PRIMARY KEY,

    enrollment_id INT,

    attendance_date DATE,

    status ENUM('Present', 'Absent'),

    FOREIGN KEY (enrollment_id) REFERENCES Enrollment(enrollment_id)

    );

    desc attendence;

INSERT INTO Attendance (enrollment_id, attendance_date, status)

VALUES

    (1, '2024-01-01', 'Present'),

    (2, '2024-01-01', 'Present'),

    (3, '2024-01-01', 'Present'),
```

```
    (4, '2024-01-01', 'Absent'),

    (5, '2024-01-01', 'Present'),

    (6, '2024-02-01', 'Absent'),

    (7, '2024-02-01', 'Present'),

    (8, '2024-02-01', 'Present'),

    (9, '2024-02-01', 'Absent'),

    (10, '2024-02-01', 'Present'),

    (11, '2024-03-01', 'Present'),

    (12, '2024-03-01', 'Present'),

    (13, '2024-03-01', 'Absent'),

    (14, '2024-03-01', 'Present'),

    (15, '2024-01-01', 'Present');


    select * from attendance;


-- Table: Grades
CREATE TABLE Grades (

    grade_id INT AUTO_INCREMENT PRIMARY KEY,

    enrollment_id INT,

    grade float,

    FOREIGN KEY (enrollment_id) REFERENCES Enrollment(enrollment_id)
);
INSERT INTO Grades (enrollment_id, grade)
VALUES

    (1, 85.5),

    (2, 90.0),

    (4, 60.8),

    (5, 95.7),

    (6, 70.3),
```

```sql
  (7, 88.9),

  (8, 79.4),

  (9, 82.1),

  (10, 91.6),

  (11, 85.2),

  (12, 78.5),

  (13, 64.7),

  (14, 93.0),

  (15, 87.3);
desc Grades;
select * from grades;
SHOW TABLES;


select * from Institute inner join Course on Institute.Institute_id = Course.course_id
inner join faculty on faculty.name = Course.specialization;




-- Query to retrieve all courses offered by an institute
SELECT * FROM Course WHERE institute_id = 1;


-- Query to find all students enrolled in a particular course
SELECT s.name AS student_name, c.course_name
FROM Student s
JOIN Enrollment e ON s.student_id = e.student_id
JOIN Course c ON e.course_id = c.course_id
WHERE c.course_id = 3;


-- Query to find faculty teaching a particular course
```

```sql
SELECT f.name AS faculty_name, c.course_name

FROM Faculty f

JOIN Course c ON f.institute_id = c.institute_id

WHERE c.course_id = 1;


-- Query to get attendance of a student for a particular course

SELECT a.attendance_date, a.status

FROM Attendance a

JOIN Enrollment e ON a.enrollment_id = e.enrollment_id

JOIN Student s ON e.student_id = s.student_id

JOIN Course c ON e.course_id = c.course_id

WHERE s.student_id = 7 AND c.course_id = 2;


-- Query to calculate average grade for a student in a particular course

SELECT AVG(grade) AS average_grade

FROM Grades

WHERE enrollment_id IN (SELECT enrollment_id FROM Enrollment WHERE student_id = 8 AND
course_id = 2);
```