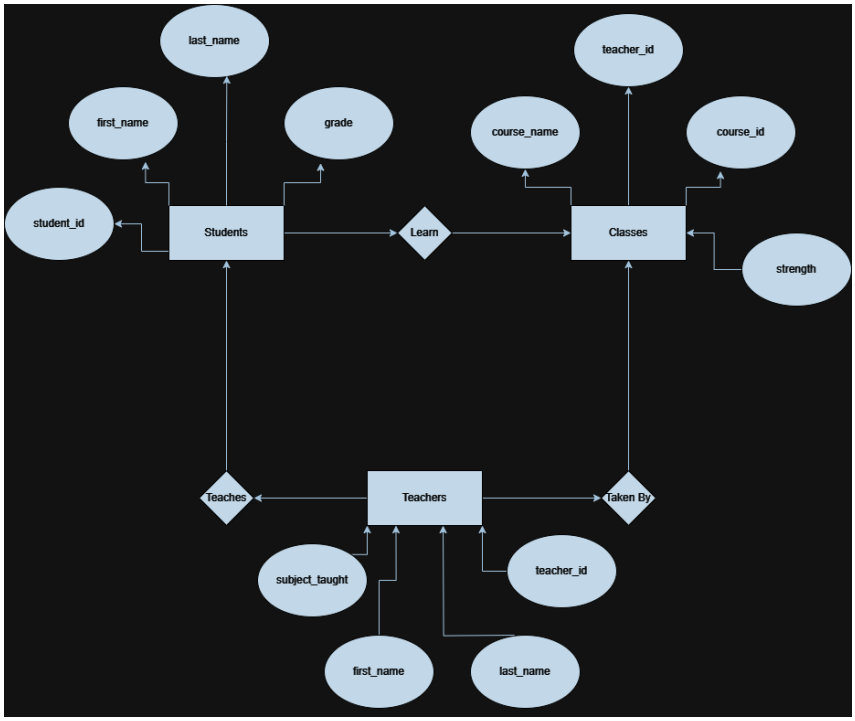
1. Create an ER diagram for
    2. School management system



3. Add tables respective to ER diagrams

```
CREATE TABLE students (
    student_id INT PRIMARY KEY,
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    age INT,
    grade VARCHAR(2) -- Assuming grades are represented as strings like "A", "B", etc.
);

CREATE TABLE classes (
    course_id INT PRIMARY KEY,
```

```
    teacher_id INT,
    course_name VARCHAR(100),
    strength INT,
    FOREIGN KEY (teacher_id) REFERENCES teachers(teacher_id)
);


CREATE TABLE teachers (
    teacher_id INT PRIMARY KEY,
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    subject_taught VARCHAR(100)
);
```

4. Add data to each table with minimum of 100 rows.

```
INSERT INTO teachers (teacher_id, first_name, last_name, subject_taught) VALUES
(1, 'John', 'Smith', 'Mathematics'),
(2, 'Emily', 'Johnson', 'English'),
(3, 'Michael', 'Williams', 'Science'),
(4, 'Jessica', 'Jones', 'History'),
(5, 'Daniel', 'Brown', 'Physics'),
(6, 'Sarah', 'Davis', 'Biology'),
(7, 'David', 'Miller', 'Chemistry'),
(8, 'Jennifer', 'Wilson', 'Geography'),
(9, 'James', 'Taylor', 'Computer Science'),
(10, 'Laura', 'Anderson', 'Art'),
(11, 'Matthew', 'Thomas', 'Music'),
(12, 'Elizabeth', 'Jackson', 'Physical Education'),
```

(13, 'Andrew', 'White', 'Economics'),

(14, 'Emma', 'Harris', 'Psychology'),

(15, 'Christopher', 'Martin', 'Sociology'),

(16, 'Rebecca', 'Thompson', 'Political Science'),

(17, 'Ryan', 'Garcia', 'Foreign Languages'),

(18, 'Nicole', 'Martinez', 'Literature'),

(19, 'Kevin', 'Robinson', 'Philosophy'),

(20, 'Lauren', 'Clark', 'Drama'),

(21, 'Justin', 'Rodriguez', 'Business'),

(22, 'Rachel', 'Lewis', 'Environmental Science'),

(23, 'Brandon', 'Lee', 'Engineering'),

(24, 'Amanda', 'Walker', 'Health Education'),

(25, 'Robert', 'Hall', 'Criminal Justice'),

(26, 'Melissa', 'Allen', 'Anthropology'),

(27, 'Joshua', 'Young', 'Social Work'),

(28, 'Ashley', 'Hernandez', 'Communication Studies'),

(29, 'Tyler', 'King', 'Public Administration'),

(30, 'Maria', 'Wright', 'Nursing'),

(31, 'Jonathan', 'Lopez', 'Veterinary Science'),

(32, 'Michelle', 'Hill', 'Astronomy'),

(33, 'Steven', 'Scott', 'Statistics'),

(34, 'Christina', 'Green', 'Religious Studies'),

(35, 'Brian', 'Adams', 'Aviation'),

(36, 'Alexandra', 'Baker', 'Hospitality Management'),

(37, 'Kyle', 'Nelson', 'Library Science'),

(38, 'Jamie', 'Carter', 'Mathematics'),

(39, 'Patrick', 'Mitchell', 'English'),

(40, 'Heather', 'Perez', 'Science'),

(41, 'Scott', 'Roberts', 'History'),

(42, 'Stephanie', 'Turner', 'Physics'),

(43, 'Timothy', 'Phillips', 'Biology'),

(44, 'Katherine', 'Campbell', 'Chemistry'),

(45, 'Jose', 'Parker', 'Geography'),

(46, 'Samantha', 'Evans', 'Computer Science'),

(47, 'Bryan', 'Edwards', 'Art'),

(48, 'Christine', 'Collins', 'Music'),

(49, 'Gregory', 'Stewart', 'Physical Education'),

(50, 'Kaitlyn', 'Morris', 'Economics'),

(51, 'Jordan', 'Nguyen', 'Psychology'),

(52, 'Kelly', 'Sanchez', 'Sociology'),

(53, 'Dylan', 'Rivera', 'Political Science'),

(54, 'Anna', 'Cook', 'Foreign Languages'),

(55, 'Richard', 'Morgan', 'Literature'),

(56, 'Sara', 'Gonzalez', 'Philosophy'),

(57, 'Cody', 'Bell', 'Drama'),

(58, 'Leah', 'Gutierrez', 'Business'),

(59, 'Jasmine', 'Foster', 'Environmental Science'),

(60, 'Jeffrey', 'Gomez', 'Engineering'),

(61, 'Alicia', 'Perry', 'Health Education'),

(62, 'Travis', 'Russell', 'Criminal Justice'),

(63, 'Diana', 'Hayes', 'Anthropology'),

(64, 'Peter', 'Howard', 'Social Work'),

(65, 'Megan', 'Washington', 'Communication Studies'),

(66, 'Derek', 'Long', 'Public Administration'),

(67, 'Victoria', 'Barnes', 'Nursing'),

(68, 'Gary', 'Coleman', 'Veterinary Science'),

(69, 'Courtney', 'Simmons', 'Astronomy'),

(70, 'Tiffany', 'Fisher', 'Statistics'),

(71, 'Keith', 'Patterson', 'Religious Studies'),

(72, 'Monica', 'Reed', 'Aviation'),

(73, 'Dennis', 'Sanders', 'Hospitality Management'),

(74, 'Kelsey', 'Price', 'Library Science'),

(75, 'Jared', 'Bennett', 'Mathematics'),

(76, 'Alexis', 'Wood', 'English'),

(77, 'Phillip', 'Barnett', 'Science'),

(78, 'Holly', 'Lane', 'History'),

(79, 'Vincent', 'Ferguson', 'Physics'),

(80, 'April', 'Cox', 'Biology'),

(81, 'Frank', 'Ramirez', 'Chemistry'),

(82, 'Angela', 'Marshall', 'Geography'),

(83, 'Erik', 'Owens', 'Computer Science'),

(84, 'Casey', 'Rose', 'Art'),

(85, 'Bethany', 'Murray', 'Music'),

(86, 'Ronald', 'Ramirez', 'Physical Education'),

(87, 'Katelyn', 'Russell', 'Economics'),

(88, 'Ian', 'Sullivan', 'Psychology'),

(89, 'Kristen', 'Ortiz', 'Sociology'),

(90, 'Trevor', 'Porter', 'Political Science'),

(91, 'Gabrielle', 'Gordon', 'Foreign Languages'),

(92, 'Allison', 'Watson', 'Literature'),

(93, 'Larry', 'Harrison', 'Philosophy'),

(94, 'Morgan', 'Holmes', 'Drama'),

(95, 'Brett', 'Adams', 'Business'),

(96, 'Erin', 'Diaz', 'Environmental Science'),

(97, 'Bradley', 'Hunt', 'Engineering'),

(98, 'Miranda', 'Black', 'Health Education'),

(99, 'Cassandra', 'Knight', 'Criminal Justice'),

(100, 'Nathan', 'Rose', 'Anthropology');

INSERT INTO students (student_id, first_name, last_name, age, grade) VALUES

(101, 'Sophie', 'Johnson', 16, 'B'),

(102, 'Owen', 'Martinez', 17, 'A'),

(103, 'Alyssa', 'Anderson', 18, 'C'),

(104, 'Luke', 'Thompson', 16, 'B'),

(105, 'Nora', 'Garcia', 17, 'A'),

(106, 'Henry', 'Brown', 18, 'C'),

(107, 'Alexa', 'Davis', 16, 'B'),

(108, 'Gabriel', 'Wilson', 17, 'A'),

(109, 'Isabelle', 'Taylor', 18, 'C'),

(110, 'Caleb', 'Smith', 16, 'B'),

(111, 'Ella', 'Miller', 17, 'A'),

(112, 'Oliver', 'Jones', 18, 'C'),

(113, 'Anna', 'White', 16, 'B'),

(114, 'Thomas', 'Clark', 17, 'A'),

(115, 'Maya', 'Harris', 18, 'C'),

(116, 'Evan', 'Allen', 16, 'B'),

(117, 'Lily', 'Lewis', 17, 'A'),

(118, 'Jack', 'Walker', 18, 'C'),

(119, 'Grace', 'Robinson', 16, 'B'),

(120, 'Connor', 'Hill', 17, 'A'),

(121, 'Amelia', 'Young', 18, 'C'),

(122, 'Jacob', 'Evans', 16, 'B'),

(123, 'Ava', 'King', 17, 'A'),

(124, 'Elijah', 'Carter', 18, 'C'),

(125, 'Mia', 'Wright', 16, 'B'),

(126, 'Noah', 'Scott', 17, 'A'),

(127, 'Sophia', 'Green', 18, 'C'),

(128, 'William', 'Adams', 16, 'B'),

(129, 'Emily', 'Hernandez', 17, 'A'),

(130, 'Michael', 'Turner', 18, 'C'),

(131, 'Madison', 'Baker', 16, 'B'),

(132, 'Logan', 'Nelson', 17, 'A'),

(133, 'Samantha', 'Parker', 18, 'C'),

(134, 'Benjamin', 'Gonzalez', 16, 'B'),

(135, 'Avery', 'Cooper', 17, 'A'),

(136, 'Mason', 'Reed', 18, 'C'),

(137, 'Chloe', 'Rivera', 16, 'B'),

(138, 'Daniel', 'Lee', 17, 'A'),

(139, 'Hannah', 'Gomez', 18, 'C'),

(140, 'Andrew', 'Perez', 16, 'B'),

(141, 'Aria', 'Cook', 17, 'A'),

(142, 'Nathan', 'Bailey', 18, 'C'),

(143, 'Olivia', 'Russell', 16, 'B'),

(144, 'David', 'Diaz', 17, 'A'),

(145, 'Evelyn', 'Foster', 18, 'C'),

(146, 'William', 'Morgan', 16, 'B'),

(147, 'Zoe', 'Ward', 17, 'A'),

(148, 'Matthew', 'Collins', 18, 'C'),

(149, 'Addison', 'Griffin', 16, 'B'),

(150, 'Aubrey', 'Reyes', 17, 'A'),

(151, 'Dylan', 'Hamilton', 18, 'C'),

(152, 'Sofia', 'Cruz', 16, 'B'),

(153, 'Eli', 'Hughes', 17, 'A'),

(154, 'Aurora', 'Simmons', 18, 'C'),

(155, 'James', 'Stewart', 16, 'B'),

(156, 'Harper', 'Gutierrez', 17, 'A'),

(157, 'Liam', 'Knight', 18, 'C'),

(158, 'Layla', 'Perry', 16, 'B'),

(159, 'Sebastian', 'Dixon', 17, 'A'),

(160, 'Mila', 'McDonald', 18, 'C'),

(161, 'Charlotte', 'Harrison', 16, 'B'),

(162, 'Carter', 'Riley', 17, 'A'),

(163, 'Stella', 'Howard', 18, 'C'),

(164, 'Jackson', 'Graham', 16, 'B'),

(165, 'Penelope', 'Grant', 17, 'A'),

(166, 'Lucas', 'Sullivan', 18, 'C'),

(167, 'Ellie', 'Wallace', 16, 'B'),

(168, 'Gabriella', 'Fisher', 17, 'A'),

(169, 'Grayson', 'Butler', 18, 'C'),

(170, 'Lincoln', 'Snyder', 16, 'B'),

(171, 'Violet', 'Henderson', 17, 'A'),

(172, 'Hazel', 'Gardner', 18, 'C'),

(173, 'Levi', 'Payne', 16, 'B'),

(174, 'Avery', 'Stephens', 17, 'A'),

(175, 'Skylar', 'Patterson', 18, 'C'),

(176, 'Claire', 'Jordan', 16, 'B'),

(177, 'Ryan', 'Peters', 17, 'A'),

(178, 'Gianna', 'Bradley', 18, 'C'),

(179, 'Landon', 'Barrett', 16, 'B'),

(180, 'Peyton', 'George', 17, 'A'),

(181, 'Elena', 'Ross', 18, 'C'),

(182, 'Cole', 'Matthews', 16, 'B'),

(183, 'Katherine', 'Lane', 17, 'A'),

(184, 'Jaxon', 'Wheeler', 18, 'C'),

(185, 'Mackenzie', 'Olson', 16, 'B'),

(186, 'Hudson', 'Fowler', 17, 'A'),

(187, 'Ariel', 'Owens', 18, 'C'),

(188, 'Brooke', 'Grant', 16, 'B'),

(189, 'Brady', 'Kim', 17, 'A'),

(190, 'Riley', 'Medina', 18, 'C'),

(191, 'Naomi', 'Sims', 16, 'B'),

(192, 'Kingston', 'Lynch', 17, 'A'),

(193, 'Annabelle', 'Castillo', 18, 'C'),

(194, 'Jace', 'Hoffman', 16, 'B'),

(195, 'Kinsley', 'Gordon', 17, 'A'),

(196, 'Alan', 'Shaw', 18, 'C'),

(197, 'Piper', 'Hart', 16, 'B'),

(198, 'Wesley', 'Hawkins', 17, 'A'),

(199, 'Morgan', 'Guzman', 18, 'C'),

(200, 'Jasmine', 'Stanley', 16, 'B');

INSERT INTO classes (course_id, teacher_id, course_name, strength) VALUES

(1, 1, 'Algebra 101', 25),

(2, 2, 'English Literature', 30),

(3, 3, 'Biology Basics', 20),

(4, 4, 'World History', 35),

(5, 5, 'Physics Fundamentals', 28),

(6, 6, 'Chemistry Lab', 22),

(7, 7, 'Geography Explorations', 31),

(8, 8, 'Computer Science I', 26),

(9, 9, 'Art Appreciation', 29),

(10, 10, 'Music Theory', 24),

(11, 11, 'Physical Education', 27),

(12, 12, 'Economics 101', 21),

(13, 13, 'Psychology Fundamentals', 32),

(14, 14, 'Sociology Survey', 23),

(15, 15, 'Political Science', 33),

(16, 16, 'French Language', 19),

(17, 17, 'Literary Analysis', 34),

(18, 18, 'Philosophy Fundamentals', 18),

(19, 19, 'Drama Workshop', 35),

(20, 20, 'Business Management', 22),

(21, 21, 'Environmental Science', 30),

(22, 22, 'Engineering Principles', 25),

(23, 23, 'Health Education', 28),

(24, 24, 'Criminal Justice', 31),

(25, 25, 'Anthropology Survey', 27),

(26, 26, 'Social Work Basics', 29),

(27, 27, 'Communication Studies', 26),

(28, 28, 'Public Administration', 30),

(29, 29, 'Nursing Fundamentals', 25),

(30, 30, 'Veterinary Science', 28)

5. Write a Select query with and without conditions.

With conditions:

```
SELECT *
FROM students
WHERE grade='A'
```

Without condition:

```
SELECT *
FROM students
```

6. Write an insert query to add new data for all the tables

```
INSERT INTO students values(201,'arjun','sajeev','A')
INSERT INTO classes values(202,88,'Biology',50)
INSERT INTO teachers values(101,'vivek','k','maths')
```

7. Write an Delete query to delete any existing data for all the tables.

```
DELETE students
WHERE student_id=100

DELETE FROM teachers
WHERE teacher_id=81

DELETE FROM classes
WHERE course_id=20
```

8. Write an Update query to update any existing data for all the tables.

```
UPDATE students
SET first_name='arjun'
WHERE student_id=21

UPDATE teachers
SET first_name='abhi'
WHERE teacher_id=30

UPDATE classes
SET course_name='Maths'
WHERE course_id=40
```