1-4   ddl
5 - 10   dml
11 - 12   alter

```sql
CREATE TABLE Trainer (
        trainerID SERIAL PRIMARY KEY,
        fName VARCHAR(255),
        lName VARCHAR(255),
        gender CHAR(1),
        certification VARCHAR(255),
        securityCheck BOOLEAN,
        emailAddr VARCHAR(255),
        phone VARCHAR(255),
        scheduleTID INTEGER
);

CREATE TABLE Availability (
        availabilityID SERIAL PRIMARY KEY,
        day VARCHAR(255),
        startTime TIME,
        endTime TIME
);

CREATE TABLE TrainerAvailability (
        trainerID INTEGER,
        availabilityID INTEGER,
        PRIMARY KEY (trainerID, availabilityID)
);

CREATE TABLE TrainerSchedule (
        scheduleTID SERIAL PRIMARY KEY,
        trainerID INTEGER,
        updatingAdmin INTEGER
);

CREATE TABLE TrainerView (
        profileID INTEGER,
        trainerID INTEGER,
        PRIMARY KEY (profileID, trainerID)
);

CREATE TABLE TrainerAssigns (
        trainerID INTEGER,
        profileID INTEGER,
        exerciseID INTEGER,
        PRIMARY KEY (trainerID, profileID)
);
```

```sql
CREATE TABLE Member (
        memberID SERIAL PRIMARY KEY,
        profileID INTEGER,
        fName VARCHAR(255),
        lName VARCHAR(255),
        gender CHAR(1),
        emailAddr VARCHAR(255),
        phone VARCHAR(255),
        homeNum VARCHAR(255),
        streetName VARCHAR(255),
        postalCode VARCHAR(255),
        dateOfBirth DATE CHECK (dateOfBirth <= CURRENT_DATE - INTERVAL '18
years')
);

CREATE TABLE MemberSchedule (
        scheduleMID SERIAL PRIMARY KEY,
        memberID INTEGER,
        updatingAdmin INTEGER
);

CREATE TABLE EventsMember (
        bookingID INTEGER,
        scheduleMID INTEGER,
        PRIMARY KEY (bookingID, scheduleMID)
);

CREATE TABLE Booking (
        bookingID SERIAL PRIMARY KEY,
        room VARCHAR(255),
        type VARCHAR(255),
        date DATE,
        time TIME,
        status VARCHAR(255),
        instructor INTEGER,
        processingAdmin INTEGER,
        equipmentStatus BOOLEAN,
        roomStatus BOOLEAN,
        trainerAvailable BOOLEAN,
        scheduleTID INTEGER,
        duration SMALLINT
);
```

```sql
CREATE TABLE RequestBooking (
        bookingID INTEGER,
        memberID INTEGER,
        PRIMARY KEY (bookingID, memberID)
);

CREATE TABLE Equipment (
        equipmentID SERIAL PRIMARY KEY,
        name VARCHAR(255),
        location VARCHAR(255),
        monitoringAdmin INTEGER,
        lastMonitored DATE,
        score SMALLINT CHECK (score BETWEEN 1 AND 10)
);

CREATE TABLE Admin (
        adminID SERIAL PRIMARY KEY,
        fName VARCHAR(255),
        lName VARCHAR(255),
        emailAddr VARCHAR(255),
        phone VARCHAR(255)
);

CREATE TABLE Payment (
        paymentID SERIAL PRIMARY KEY,
        type VARCHAR(255),
        dateIssued DATE,
        dateBilled DATE,
        amount MONEY,
        processingAdmin INTEGER,
        payee INTEGER
);

CREATE TABLE Profile (
        profileID SERIAL PRIMARY KEY,
        memberID INTEGER,
        status VARCHAR(255),
        weight INTEGER,
        bloodPressure VARCHAR(255),
        bodyFat INTEGER
);

CREATE TABLE Goal (
        goalID SERIAL PRIMARY KEY,
```

```sql
        targetWeight INTEGER,
        targetPace TIME,
        targetBodyFat INTEGER
);

CREATE TABLE Achievements (
        achievID SERIAL PRIMARY KEY,
        goalID INTEGER
);

CREATE TABLE ProfileAchievements (
        profileID INTEGER,
        achievID INTEGER,
        PRIMARY KEY (profileID, achievID)
);

CREATE TABLE ProfileGoals (
        profileID INTEGER,
        goalID INTEGER,
        PRIMARY KEY (profileID, goalID)
);

CREATE TABLE ProfileRoutines (
        profileID INTEGER,
        exerciseID INTEGER,
        PRIMARY KEY (profileID, exerciseID)
);

CREATE TABLE Exercise(
        exerciseID SERIAL PRIMARY KEY,
        name VARCHAR(255),
        description TEXT
);

-- ALTER TABLE statements remain unchanged.
```

```sql
INSERT INTO Trainer (fName, lName, gender, certification, securityCheck, emailAddr, phone,
scheduleTID)
VALUES
('John', 'Doe', 'M', 'Certified Personal Trainer', TRUE, 'johndoe@email.com', '123-456-7890', 1),
('Jane', 'Smith', 'F', 'Certified Strength and Conditioning Specialist', TRUE,
'janesmith@email.com', '098-765-4321', 2);

INSERT INTO Availability (day, startTime, endTime)
VALUES
('Monday', '08:00:00', '12:00:00'),
('Tuesday', '13:00:00', '17:00:00');

INSERT INTO TrainerAvailability (trainerID, availabilityID)
VALUES
(1, 1),
(2, 2);

INSERT INTO TrainerSchedule (trainerID, updatingAdmin)
VALUES
(1, 1),
(2, 2);

INSERT INTO TrainerView (profileID, trainerID)
VALUES
(1, 1),
(2, 2);

INSERT INTO TrainerAssigns (trainerID, profileID, exerciseID)
VALUES
(1, 1, 1),
(2, 2, 2);

INSERT INTO Member (fName, lName, gender, emailAddr, phone, homeNum, streetName,
postalCode, dateOfBirth)
VALUES
('Alice', 'Wong', 'F', 'alicewong@email.com', '234-567-8901', '123', 'Maple Street', 'A1A 2B2',
'1985-04-12'),
('Bob', 'Johnson', 'M', 'bobjohnson@email.com', '678-901-2345', '456', 'Oak Avenue', 'B2B 3C3',
'1978-08-24');

INSERT INTO MemberSchedule (memberID, updatingAdmin)
VALUES
(1, 1),
(2, 2);
```

```sql
INSERT INTO EventsMember (bookingID, scheduleMID)
VALUES
(1, 1),
(2, 2);

INSERT INTO Booking (room, type, date, time, status, instructor, processingAdmin,
equipmentStatus, roomStatus, trainerAvailable, scheduleTID, duration)
VALUES
('101', 'Personal', '2024-04-01', '10:00:00', 'Scheduled', 1, 1, TRUE, TRUE, TRUE, 1, 60),
('102', 'Group', '2024-04-02', '12:00:00', 'Scheduled', 2, 2, TRUE, TRUE, TRUE, 2, 45);

INSERT INTO RequestBooking (bookingID, memberID)
VALUES
(1, 1),
(2, 2);

INSERT INTO Equipment (name, location, monitoringAdmin, lastMonitored, score)
VALUES
('Treadmill', 'Gym Floor', 1, '2024-03-28', 9),
('Dumbbells', 'Weights Area', 2, '2024-03-29', 8);

INSERT INTO Admin (fName, lName, emailAddr, phone)
VALUES
('Charlie', 'Admin', 'charlieadmin@email.com', '123-456-7899'),
('Dana', 'Manager', 'danamanager@email.com', '987-654-3210');

INSERT INTO Payment (type, dateIssued, dateBilled, amount, processingAdmin, payee)
VALUES
('Membership', '2024-03-01', '2024-03-15', '50.00', 1, 1),
('Session', '2024-03-16', '2024-03-30', '30.00', 2, 2);

INSERT INTO Profile (memberID, status, weight, bloodPressure, bodyFat)
VALUES
(1, 'Active', 70, '120/80', 20),
(2, 'Active', 80, '130/85', 25);

INSERT INTO Goal (targetWeight, targetPace, targetBodyFat)
VALUES
(65, '00:06:00', 18),
(75, '00:05:30', 22);

INSERT INTO Achievements (goalID)
VALUES
```

```sql
(1),
(2);

INSERT INTO ProfileAchievements (profileID, achievID)
VALUES
(1, 1),
(2, 2);

INSERT INTO ProfileGoals (profileID, goalID)
VALUES
(1, 1),
(2, 2);

INSERT INTO ProfileRoutines (profileID, exerciseID)
VALUES
(1, 1),
(2, 2);

INSERT INTO Exercise (name, description)
VALUES
('Squat', 'A lower body exercise that primarily targets the thighs and the glutes.'),
('Bench Press', 'An upper body exercise that primarily targets the chest, shoulders, and triceps.');
```

```sql
INSERT INTO Trainer (fName, lName, gender, certification, securityCheck, emailAddr, phone,
scheduleTID)
VALUES
('John', 'Doe', 'M', 'Certified Personal Trainer', TRUE, 'johndoe@email.com', '123-456-7890', 1),
('Jane', 'Smith', 'F', 'Certified Strength and Conditioning Specialist', TRUE,
'janesmith@email.com', '098-765-4321', 2);

INSERT INTO Availability (day, startTime, endTime)
VALUES
('Monday', '08:00:00', '12:00:00'),
('Tuesday', '13:00:00', '17:00:00');

INSERT INTO TrainerAvailability (trainerID, availabilityID)
VALUES
(1, 1),
(2, 2);

INSERT INTO TrainerSchedule (trainerID, updatingAdmin)
VALUES
(1, 1),
(2, 2);

INSERT INTO TrainerView (profileID, trainerID)
VALUES
(1, 1),
(2, 2);

INSERT INTO TrainerAssigns (trainerID, profileID, exerciseID)
VALUES
(1, 1, 1),
(2, 2, 2);

INSERT INTO Member (fName, lName, gender, emailAddr, phone, homeNum, streetName,
postalCode, dateOfBirth)
VALUES
('Alice', 'Wong', 'F', 'alicewong@email.com', '234-567-8901', '123', 'Maple Street', 'A1A 2B2',
'1985-04-12'),
('Bob', 'Johnson', 'M', 'bobjohnson@email.com', '678-901-2345', '456', 'Oak Avenue', 'B2B 3C3',
'1978-08-24');

INSERT INTO MemberSchedule (memberID, updatingAdmin)
VALUES
(1, 1),
(2, 2);
```

```sql
INSERT INTO EventsMember (bookingID, scheduleMID)
VALUES
(1, 1),
(2, 2);

INSERT INTO Booking (room, type, date, time, status, instructor, processingAdmin,
equipmentStatus, roomStatus, trainerAvailable, scheduleTID, duration)
VALUES
('101', 'Yoga', '2024-04-01', '10:00:00', 'Scheduled', 1, 1, TRUE, TRUE, TRUE, 1, 60),
('102', 'Spinning', '2024-04-02', '12:00:00', 'Scheduled', 2, 2, TRUE, TRUE, TRUE, 2, 45);

INSERT INTO RequestBooking (bookingID, memberID)
VALUES
(1, 1),
(2, 2);

INSERT INTO Equipment (name, location, monitoringAdmin, lastMonitored, score)
VALUES
('Treadmill', 'Gym Floor', 1, '2024-03-28', 9),
('Dumbbells', 'Weights Area', 2, '2024-03-29', 8);

INSERT INTO Admin (fName, lName, emailAddr, phone)
VALUES
('Charlie', 'Admin', 'charlieadmin@email.com', '123-456-7899'),
('Dana', 'Manager', 'danamanager@email.com', '987-654-3210');

INSERT INTO Payment (type, dateIssued, dateBilled, amount, processingAdmin, payee)
VALUES
('Membership', '2024-03-01', '2024-03-15', '50.00', 1, 1),
('Session', '2024-03-16', '2024-03-30', '30.00', 2, 2);

INSERT INTO Profile (memberID, status, weight, bloodPressure, bodyFat)
VALUES
(1, 'Active', 70, '120/80', 20),
(2, 'Active', 80, '130/85', 25);

INSERT INTO Goal (targetWeight, targetPace, targetBodyFat)
VALUES
(65, '00:06:00', 18),
(75, '00:05:30', 22);

INSERT INTO Achievements (goalID)
VALUES
```

```sql
(1),
(2);

INSERT INTO ProfileAchievements (profileID, achievID)
VALUES
(1, 1),
(2, 2);

INSERT INTO ProfileGoals (profileID, goalID)
VALUES
(1, 1),
(2, 2);

INSERT INTO ProfileRoutines (profileID, exerciseID)
VALUES
(1, 1),
(2, 2);

INSERT INTO Exercise (name, description)
VALUES
('Squat', 'A lower body exercise that primarily targets the thighs and the glutes.'),
('Bench Press', 'An upper body exercise that primarily targets the chest, shoulders, and triceps.');
```

-- These statements, will be inserted after the DML Statments

```sql
ALTER TABLE Profile ADD CONSTRAINT fk_profile_member FOREIGN KEY (memberID)
REFERENCES Member(memberID);

ALTER TABLE Member ADD CONSTRAINT fk_member_profile FOREIGN KEY (profileID)
REFERENCES Profile(profileID);

ALTER TABLE Achievements ADD CONSTRAINT fk_achievements_goal FOREIGN KEY
(goalID) REFERENCES Goal(goalID);

ALTER TABLE Trainer ADD CONSTRAINT fk_trainer_scheduleTID FOREIGN KEY
(scheduleTID) REFERENCES TrainerSchedule(scheduleTID);

ALTER TABLE TrainerSchedule ADD CONSTRAINT fk_trainerSchedule_trainer FOREIGN KEY
(trainerID) REFERENCES Trainer(trainerID);
ALTER TABLE TrainerSchedule ADD CONSTRAINT fk_trainerSchedule_admin FOREIGN KEY
(updatingAdmin) REFERENCES Admin(adminID);


ALTER TABLE Booking ADD CONSTRAINT fk_booking_instructor FOREIGN KEY (instructor)
REFERENCES Trainer(trainerID);
ALTER TABLE Booking ADD CONSTRAINT fk_booking_processingAdmin FOREIGN KEY
(processingAdmin) REFERENCES Admin(adminID);
ALTER TABLE Booking ADD CONSTRAINT fk_booking_scheduleTID FOREIGN KEY
(scheduleTID) REFERENCES TrainerSchedule(scheduleTID);

ALTER TABLE MemberSchedule ADD CONSTRAINT fk_memberSchedule_member FOREIGN
KEY (memberID) REFERENCES Member(memberID);
ALTER TABLE MemberSchedule ADD CONSTRAINT fk_memberSchedule_admin FOREIGN
KEY (updatingAdmin) REFERENCES Admin(adminID);

ALTER TABLE Equipment ADD CONSTRAINT fk_equipment_admin FOREIGN KEY
(monitoringAdmin) REFERENCES Admin(adminID);

ALTER TABLE Payment ADD CONSTRAINT fk_payment_processingAdmin FOREIGN KEY
(processingAdmin) REFERENCES Admin(adminID);
ALTER TABLE Payment ADD CONSTRAINT fk_payment_payee FOREIGN KEY (payee)
REFERENCES Profile(profileID);

ALTER TABLE TrainerAvailability ADD CONSTRAINT fk_trainerAvailability_trainer FOREIGN
KEY (trainerID) REFERENCES Trainer(trainerID);
ALTER TABLE TrainerAvailability ADD CONSTRAINT fk_trainerAvailability_availability
FOREIGN KEY (availabilityID) REFERENCES Availability(availabilityID);
```

```sql
ALTER TABLE TrainerView ADD CONSTRAINT fk_trainerView_profile FOREIGN KEY
(profileID) REFERENCES Profile(profileID);
ALTER TABLE TrainerView ADD CONSTRAINT fk_trainerView_trainer FOREIGN KEY
(trainerID) REFERENCES Trainer(trainerID);

ALTER TABLE TrainerAssigns ADD CONSTRAINT fk_trainerAssigns_trainer FOREIGN KEY
(trainerID) REFERENCES Trainer(trainerID);
ALTER TABLE TrainerAssigns ADD CONSTRAINT fk_trainerAssigns_profile FOREIGN KEY
(profileID) REFERENCES Profile(profileID);
ALTER TABLE TrainerAssigns ADD CONSTRAINT fk_trainerAssigns_exercise FOREIGN KEY
(exerciseID) REFERENCES Exercise(exerciseID);

ALTER TABLE EventsMember ADD CONSTRAINT fk_eventsMember_booking FOREIGN KEY
(bookingID) REFERENCES Booking(bookingID);
ALTER TABLE EventsMember ADD CONSTRAINT fk_eventsMember_scheduleMID FOREIGN
KEY (scheduleMID) REFERENCES MemberSchedule(scheduleMID);

ALTER TABLE RequestBooking ADD CONSTRAINT fk_requestBooking_booking FOREIGN
KEY (bookingID) REFERENCES Booking(bookingID);
ALTER TABLE RequestBooking ADD CONSTRAINT fk_requestBooking_member FOREIGN
KEY (memberID) REFERENCES Member(memberID);

ALTER TABLE ProfileAchievements ADD CONSTRAINT fk_profileAchievements_profile
FOREIGN KEY (profileID) REFERENCES Profile(profileID);
ALTER TABLE ProfileAchievements ADD CONSTRAINT fk_profileAchievements_achiev
FOREIGN KEY (achievID) REFERENCES Achievements(achievID);

ALTER TABLE ProfileGoals ADD CONSTRAINT fk_profileGoals_profile FOREIGN KEY
(profileID) REFERENCES Profile(profileID);
ALTER TABLE ProfileGoals ADD CONSTRAINT fk_profileGoals_goal FOREIGN KEY (goalID)
REFERENCES Goal(goalID);

ALTER TABLE ProfileRoutines ADD CONSTRAINT fk_profileRoutines_profile FOREIGN KEY
(profileID) REFERENCES Profile(profileID);
ALTER TABLE ProfileRoutines ADD CONSTRAINT fk_profileRoutines_exercise FOREIGN KEY
(exerciseID) REFERENCES Exercise(exerciseID);
```