CREATE TABLE Musician(SSN int NOT NULL, name VARCHAR(30), PRIMARY KEY(SSN));

CREATE TABLE Instrument(instrId int NOT NULL, iName VARCHAR(30), key VARCHAR(10), PRIMARY KEY(instrId));

CREATE TABLE Home(address VARCHAR(30) NOT NULL, phoneNo VARCHAR(14) NOT NULL, PRIMARY KEY(address, phoneNo));

CREATE TABLE Album(albumId int NOT NULL, format VARCHAR(15), title VARCHAR(30), copyrightDate date, PRIMARY KEY(albumId));

CREATE TABLE Song(songId int NOT NULL, title VARCHAR(30), sArtist(30), PRIMARY KEY(songId));

INSERT INTO Musician VALUES(‘123456789’, ‘Geddy Lee’);

INSERT INTO Musician VALUES(‘234567891’, ‘John Bonham’);

INSERT INTO Musician VALUES(‘345678912’, ‘Neil Peart’);

INSERT INTO Musician VALUES(‘456789123’, ‘Maynard James Keenan’);

INSERT INTO Musician VALUES(‘567891234’, ‘Danny Carey’);

INSERT INTO Musician VALUES(‘678912345’, ‘Adam Jones’);

INSERT INTO Musician VALUES(‘789123456’, ‘Justin Chancellor’);

INSERT INTO Musician VALUES(‘891234567’, ‘John Smith’);

INSERT INTO Instrument VALUES(‘123456’, ‘Bass’, ‘EADG’);

INSERT INTO Instrument VALUES(‘234567’, ‘Drum set’, NULL);

INSERT INTO Instrument VALUES(‘345678’, ‘Drum set’, NULL);

INSERT INTO Instrument VALUES(‘456789’, ‘Keyboard’, NULL);

INSERT INTO Instrument VALUES(‘567891’, ‘Drum set’, NULL);

INSERT INTO Instrument VALUES(‘678912’, ‘Guitar’, ‘CGCGGC’);

INSERT INTO Instrument VALUES(‘789123’, ‘Bass’, ‘DADG’);

INSERT INTO Instrument VALUES(‘891234’, ‘Double-bass’, ‘EADG’);

INSERT INTO Instrument VALUES(‘912345’, ‘Keyboard’, NULL);

INSERT INTO Home VALUES(‘123 Main St.’, ‘1-224-304-0291’);

INSERT INTO Home VALUES(‘507 N. Walter St.’, ‘1-437-213-0192’);

INSERT INTO Home VALUES(‘609 E. Red Rd’, 1-433-294-0923’);

INSERT INTO Home VALUES(‘1289 Bird Road’, ‘1-333-420-0986’);

INSERT INTO Album VALUES(‘123456’, ‘CD’, ‘Lateralus’, TO\_DATE(‘02/04/1999’, ‘MM/DD/YYYY’);

INSERT INTO Album VALUES(‘234567’, ‘Cassette’, ‘Led Zeppelin’, TO\_DATE(‘03/04/1971’, ‘MM/DD/YYYY’);

INSERT INTO Album VALUES(‘345678’, ‘Vinyl’, ‘Aenima’, TO\_DATE(‘02/04/2001’, ‘MM/DD/YYYY’);

INSERT INTO Album VALUES(‘456789’, ‘CD’, ‘Moving Pictures’, TO\_DATE(‘03/02/1994’, ‘MM/DD/YYYY’);

INSERT INTO Album VALUES(‘567891’, ‘CD’, ‘10,000 Days’, TO\_DATE(‘02/06/2004’, ‘MM/DD/YYYY’);

INSERT INTO Album VALUES(‘678912’, ‘CD’, ‘Undertow’, TO\_DATE(‘03/02/1994’, ‘MM/DD/YYYY);

INSERT INTO Song VALUES(‘123456’, ‘Lateralus’, ‘Maynard James Keenan’);

INSERT INTO Song VALUES(‘234567’, ‘YYZ’, ‘Neil Peart’);

INSERT INTO Song VALUES(‘345678’, ‘Red Barchetta’, ‘Neil Peart’);

INSERT INTO Song VALUES(‘456789’, ‘Limelight’, ‘Geddy Lee’);

INSERT INTO Song VALUES(‘567891’, ‘Vicarious’, ‘Maynard James Keenan’);

INSERT INTO Song VALUES(‘678912’, ‘Schism’, ‘Maynard James Keenan’);

INSERT INTO Song VALUES(‘789123’ , ‘Good Times Bad Times’, ‘John Bonham’);

1. List the instrument ID’s of all of the drum sets:

SELECT instrId FROM Instrument WHERE iName = ‘Drum set’;

2) List all the title and albumID’s of all of the albums made after the year 2000:

SELECT title, albumId FROM Album WHERE copyrightDate > TO\_DATE(‘01/01/2000’, ‘MM/DD/YYYY’);

3) List all of the name and ID of each song by Maynard James Keenan:

SELECT songId, title FROM Song WHERE sArtist = ‘Maynard James Keenan’;

4) List the title and albumID’s of all of the albums in CD format:

SELECT title, albumId FROM Album WHERE format = ‘CD’;

5) List the tunings and instrument ID’s of of all of the bass guitars:

SELECT instrId, key FROM Instrument WHERE iName = ‘Bass’;

1. Insert a new musician into the database.

INSERT INTO Musician VALUES(‘....’, ‘....’);

2. Delete an existing song from the database.

DELETE FROM Song WHERE title = ‘...’;

DELETE FROM Performs WHERE songId = (SELECT FROM Song songId WHERE title = ‘...’);

DELETE FROM Appears WHERE songId = (SELECT FROM Song songId WHERE title = ‘...’);

3. Update the address of an existing musician.

UPDATE Home SET address = ‘...’ WHERE address = ‘...’;

UPDATE Lives SET address = ‘...’ WHERE address = ‘...’;

4. List all the album numbers that a given musician produced, along with the titles, copyright dates, and formats of the albums.

SELECT a.albumId, a.title, a.copyrightDate, a.format

FROM Album a

INNER JOIN Produces p ON (a.albumId = p.albumId)

INNER JOIN Musician m ON (p.ssn = m.ssn)  
 WHERE m.name = :musician\_name

5. List the details of all the musicians who know how to play a given instrument, sorted by their last names.

SELECT m.SSN, m.name

FROM Musician m

INNER JOIN Plays p ON (p.SSN =m.SSN)

WHERE p.iName = ‘Bass’

ORDER BY m.SSN ASC;

6. List the details of the songs in a given album.

SELECT albumId

FROM Album ←store the album ID

WHERE title = ‘...’;

SELECT s.songId, s.title

FROM Song s

INNER JOIN Appears a ON(s.songId = a.songId)

WHERE a.albumId = ‘stored-ID’

7. List the total number of albums with copyright dates in year 2005.

SELECT COUNT(albumId) as count

FROM Album

WHERE copyrightDate BETWEEN TO\_DATE(‘01/01/2005’, ‘MM/DD/YYYY’)

AND TO\_DATE(‘12/30/2005’, ‘MM/DD/YYYY’);

8. List the names of the musicians who have produced more than the average number of albums in the company.

SELECT COUNT(albumId) / COUNT(DISTINCT SSN)

FROM Produces; ← Store this value (avg)

SELECT SSN

FROM Musician

WHERE name = ‘...’; ← store this value (SSN)

SELECT DISTINCT m.name

FROM Musician m

INNER JOIN Produces p ON(m.SSN = p.SSN)

WHERE (SELECT COUNT(p.SSN) FROM Produces WHERE SSN = p.SSN) > avg;

9. List the names of the musicians who play more than two instruments.

SELECT m.name

FROM Musician m

INNER JOIN Plays p ON(m.SSN = p.SSN)

WHERE (SELECT COUNT(p.SSN) FROM Plays WHERE SSN = p.SSN) > 2;

10. List the total number of songs that each musician performed.

SELECT m.name, COUNT(p.SSN)

FROM Musician m, Performs p

WHERE p.SSN = m.SSN

GROUP BY m.name, p.SSN;