**ASSIGNMENT 11**

**A record company wishes to use a computer database to help with its operations regarding its performers, recordings and song catalogue. A requirements analysis has elicited the following information: Songs have a unique song number, a non-unique title and a composition date. A song can be written by a number of composers; the composer’s full name is required. Songs are recorded by recording artists (bands or solo performers). A song is recorded as a track of a CD. A CD has many songs on it, called tracks. CDs have a unique record catalogue number, a title and must have a producer (the full name of the producer is required). Each track must have the recording date and the track number of the CD. A song can appear on many (or no) CDs, and be recorded by many different recording artists. The same recording artist might re-record the same song on different CDs. A CD must have only 1 recording artist appearing on it. CDs can be released a number of times, and each time the release date and associated number of sales is required.**

1. **Use this information to design an appropriate ER and relational model.**
2. **Compile DDL and DML commands on the database created.**

**SQL: -**

**i.Update number of recorded albums to 4 for those artists who has recorded only 3.**

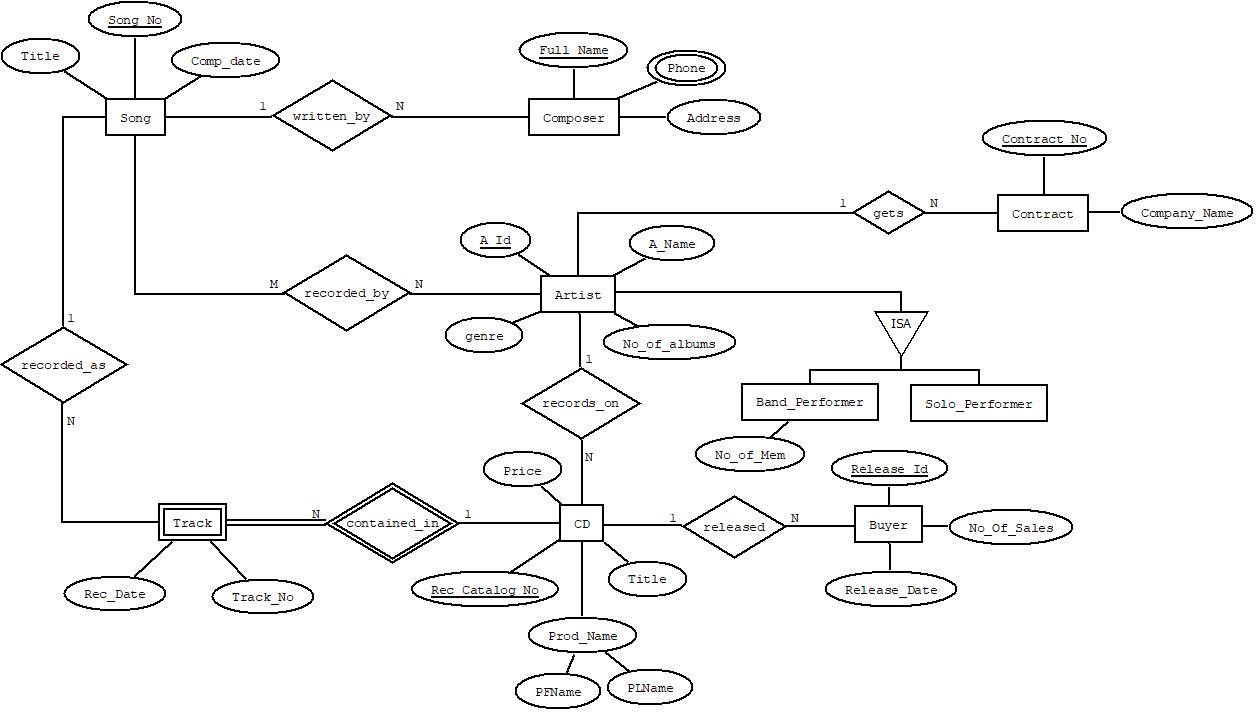
**ii.Find all artists who have recorded at least two albums.**

**iii.Find all writers who have only written one song.**

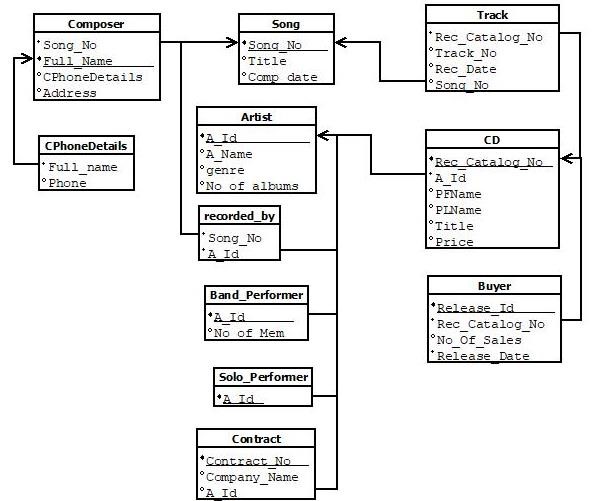
**PL/SQL: -**

**i.Write Procedure to insert a new Contract into the Contract relation.**

* **ER DIAGRAM:**



* **RELATIONAL MODEL:**

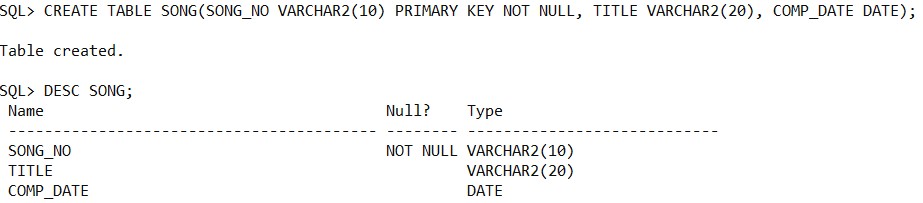


* **ASSUMPTIONS:**
* A song can be written many composers.
* Many songs are recorded by many different artists.
* An Artist (generalized entity) can be specialized into two types - Band Performer and Solo Performer.
* A song can be recorded in various tracks of different CDs.
* A CD contains many tracks. As a track cannot exists without CD, track becomes a weak entity.
* An artist can record his songs on various CDs.
* A CD can have songs of only one artist.
* A CD is released many times to buyer or market.
* An artist can get many contracts from same or different companies.
* An artist can have any number of albums recorded by him.

* **CREATE TABLE**

CREATE TABLE SONG(SONG\_NO VARCHAR2(10) PRIMARY KEY NOT NULL,

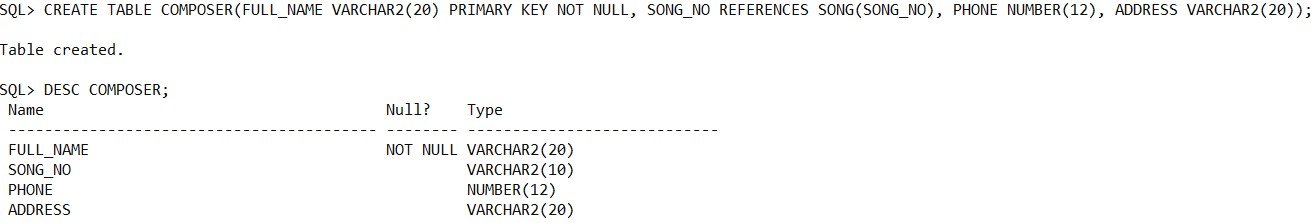
TITLE VARCHAR2(20), COMP\_DATE DATE);



CREATE TABLE COMPOSER(FULL\_NAME VARCHAR2(20) PRIMARY KEY NOT

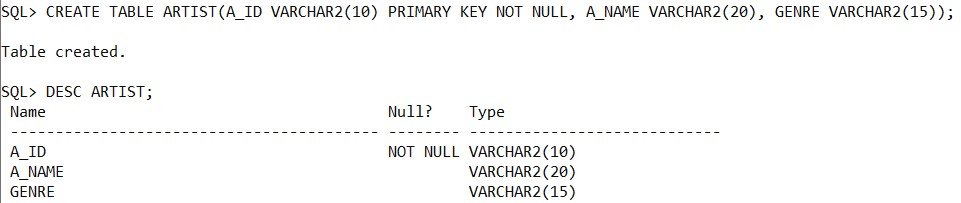
NULL, SONG\_NO REFERENCES SONG(SONG\_NO), PHONE NUMBER(12),

ADDRESS VARCHAR2(20));



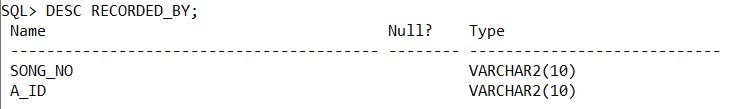
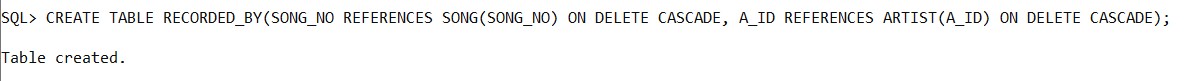
CREATE TABLE ARTIST(A\_ID VARCHAR2(10) PRIMARY KEY NOT NULL,

A\_NAME VARCHAR2(20), GENRE VARCHAR2(15));



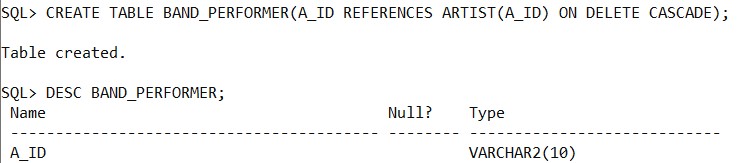
CREATE TABLE RECORDED\_BY(SONG\_NO REFERENCES SONG(SONG\_NO) ON

DELETE CASCADE, A\_ID REFERENCES ARTIST(A\_ID) ON DELETE CASCADE);



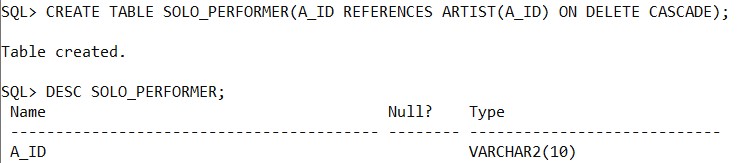
CREATE TABLE BAND\_PERFORMER(A\_ID REFERENCES ARTIST(A\_ID) ON

DELETE CASCADE);



CREATE TABLE SOLO\_PERFORMER(A\_ID REFERENCES ARTIST(A\_ID) ON

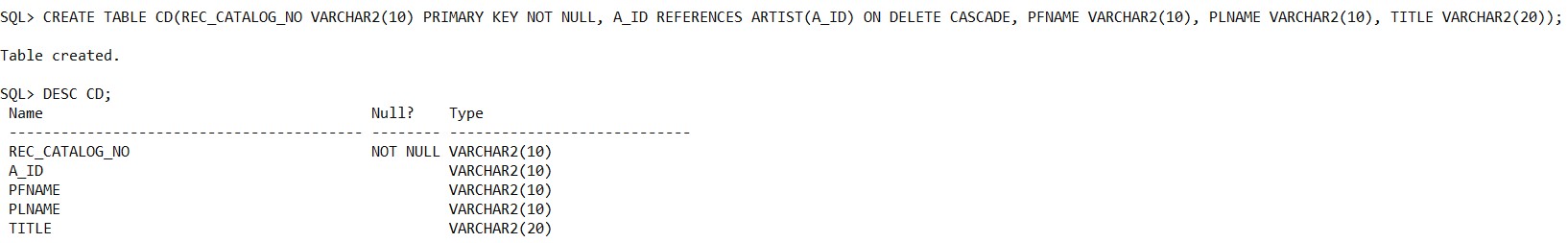
DELETE CASCADE);



CREATE TABLE CD(REC\_CATALOG\_NO VARCHAR2(10) PRIMARY KEY NOT

NULL, A\_ID REFERENCES ARTIST(A\_ID) ON DELETE CASCADE, PFNAME

VARCHAR2(10), PLNAME VARCHAR2(10), TITLE VARCHAR2(20));

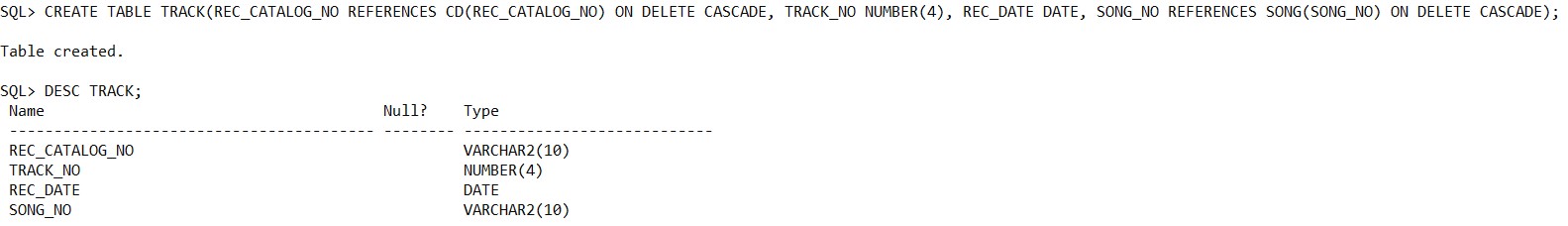


CREATE TABLE TRACK(REC\_CATALOG\_NO REFERENCES

CD(REC\_CATALOG\_NO) ON DELETE CASCADE, TRACK\_NO NUMBER(4),

REC\_DATE DATE, SONG\_NO REFERENCES SONG(SONG\_NO) ON DELETE

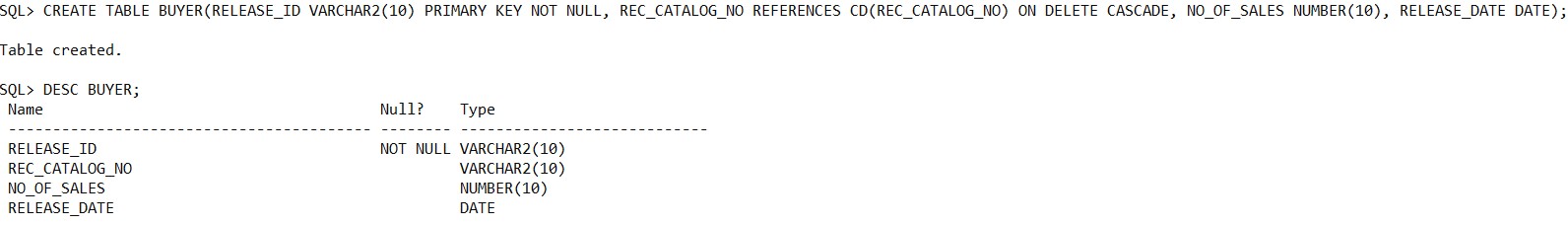
CASCADE);



CREATE TABLE BUYER(RELEASE\_ID VARCHAR2(10) PRIMARY KEY NOT NULL,

REC\_CATALOG\_NO REFERENCES CD(REC\_CATALOG\_NO) ON DELETE

CASCADE, NO\_OF\_SALES NUMBER(10), RELEASE\_DATE DATE);



* **INSERT DATA**

INSERT INTO SONG VALUES('S010','TUM HI AANA','20-FEB-2020');

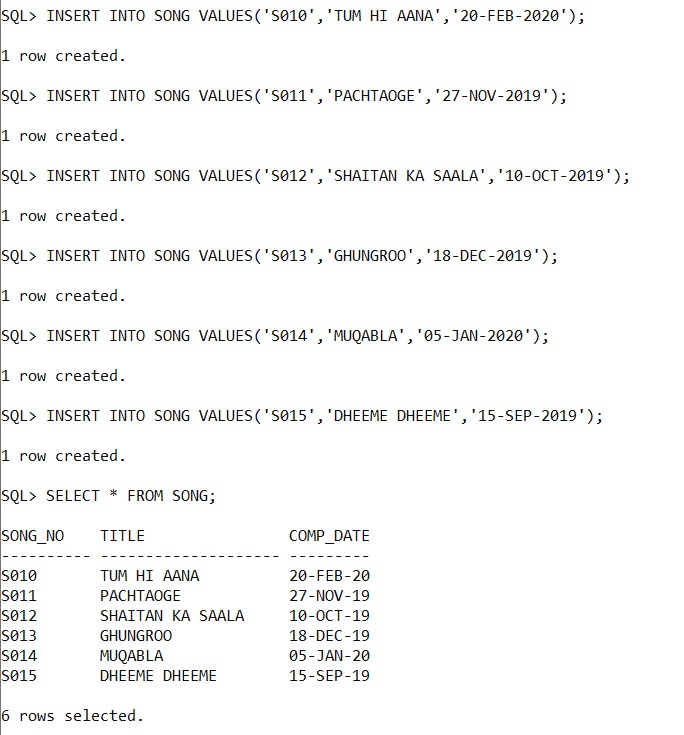
INSERT INTO SONG VALUES('S011','PACHTAOGE','27-NOV-2019');

INSERT INTO SONG VALUES('S012','SHAITAN KA SAALA','10-OCT-2019');

INSERT INTO SONG VALUES('S013','GHUNGROO','18-DEC-2019');

INSERT INTO SONG VALUES('S014','MUQABLA','05-JAN-2020');

INSERT INTO SONG VALUES('S015','DHEEME DHEEME','15-SEP-2019');



INSERT INTO COMPOSER VALUES('KUNAL VERMA','S010',9786754325,'12 MG ROAD MUMBAI');

INSERT INTO COMPOSER VALUES('VICKY KAUSHAL','S011',9587218760,'PARK STREET, KOLKATA');

INSERT INTO COMPOSER VALUES('SOHAIL SEN','S012',8583016253,'163 GT ROAD DELHI');

INSERT INTO COMPOSER VALUES('VISHAL SINGH','S013',8238167530,'16 LEE

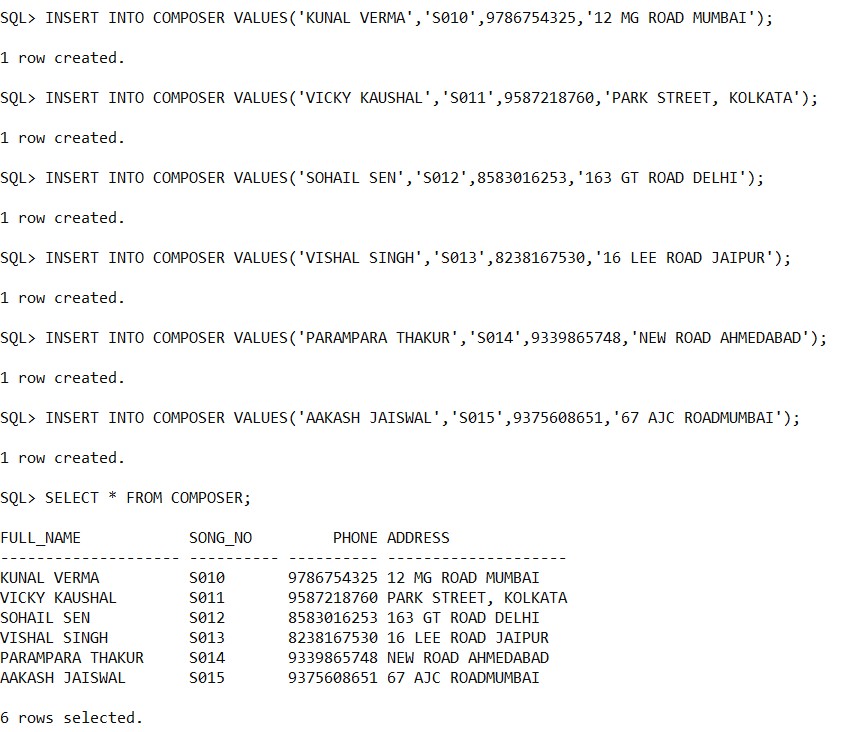
ROAD JAIPUR');

INSERT INTO COMPOSER VALUES('PARAMPARA

THAKUR','S014',9339865748,'NEW ROAD AHMEDABAD');

INSERT INTO COMPOSER VALUES('AAKASH JAISWAL','S015',9375608651,'67 AJC

ROADMUMBAI');



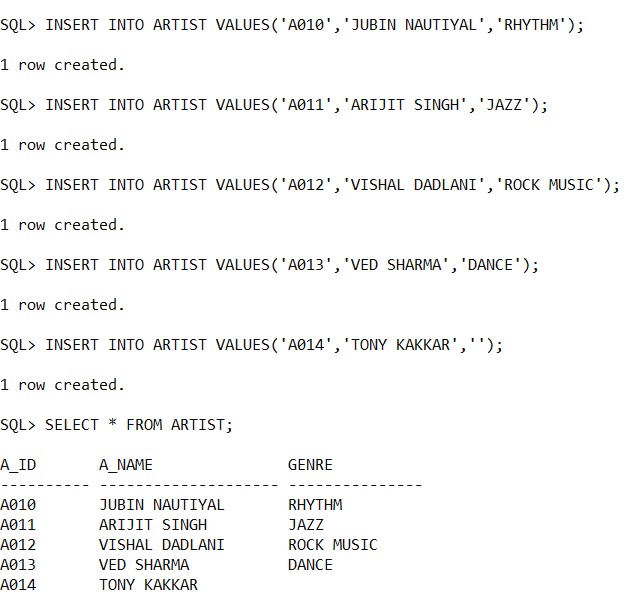
INSERT INTO ARTIST VALUES('A010','JUBIN NAUTIYAL','RHYTHM');

INSERT INTO ARTIST VALUES('A011','ARIJIT SINGH','JAZZ');

INSERT INTO ARTIST VALUES('A012','VISHAL DADLANI','ROCK MUSIC');

INSERT INTO ARTIST VALUES('A013','VED SHARMA','DANCE');

INSERT INTO ARTIST VALUES('A014','TONY KAKKAR','');



INSERT INTO RECORDED\_BY VALUES('S010','A010');

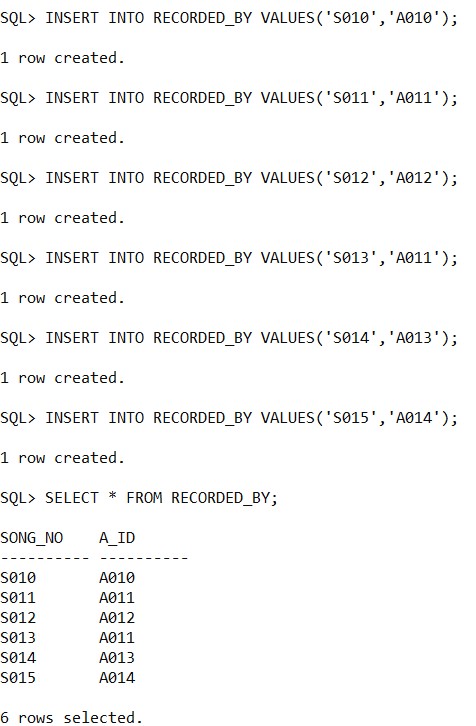
INSERT INTO RECORDED\_BY VALUES('S011','A011');

INSERT INTO RECORDED\_BY VALUES('S012','A012');

INSERT INTO RECORDED\_BY VALUES('S013','A011');

INSERT INTO RECORDED\_BY VALUES('S014','A013');

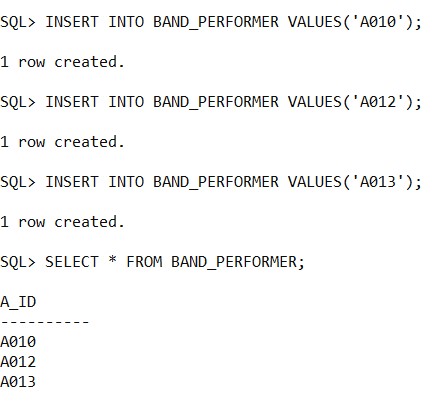
INSERT INTO RECORDED\_BY VALUES('S015','A014');



INSERT INTO BAND\_PERFORMER VALUES('A010');

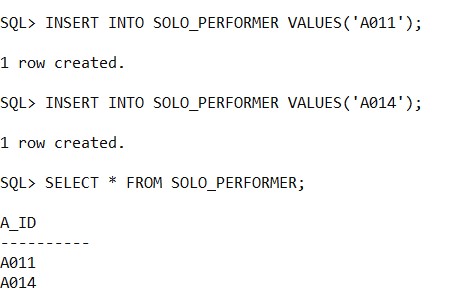
INSERT INTO BAND\_PERFORMER VALUES('A012');

INSERT INTO BAND\_PERFORMER VALUES('A013');

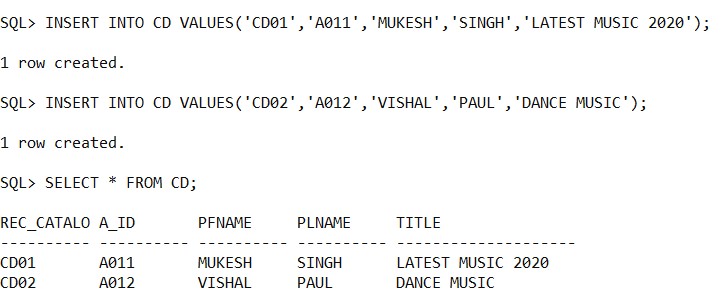


INSERT INTO SOLO\_PERFORMER VALUES('A011');

INSERT INTO SOLO\_PERFORMER VALUES('A014');

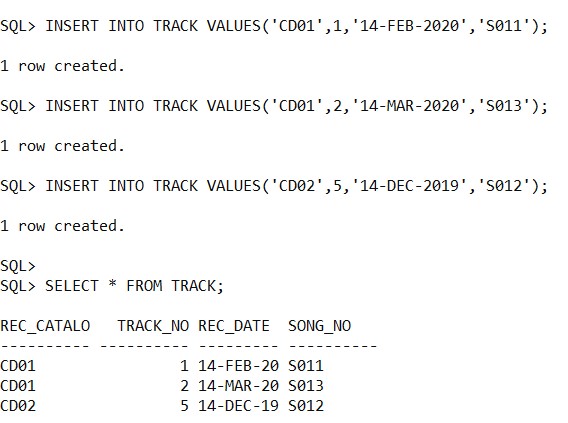


INSERT INTO CD VALUES('CD01','A011','MUKESH','SINGH','LATEST MUSIC 2020'); INSERT INTO CD VALUES('CD02','A012','VISHAL','PAUL','DANCE MUSIC');

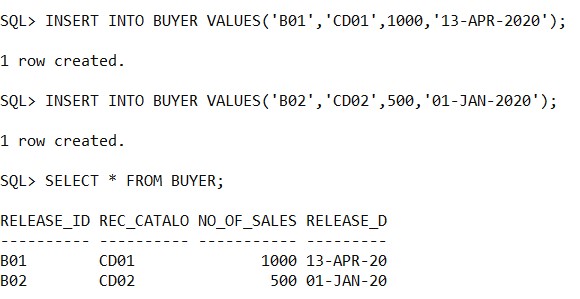


INSERT INTO TRACK VALUES('CD01',1,'14-FEB-2020','S011');

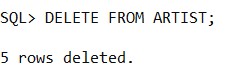
INSERT INTO TRACK VALUES('CD01',2,'14-MAR-2020','S013'); INSERT INTO TRACK VALUES('CD02',5,'14-DEC-2019','S012');



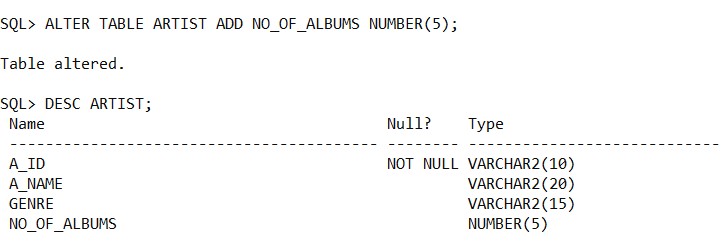
INSERT INTO BUYER VALUES('B01','CD01',1000,'13-APR-2020'); INSERT INTO BUYER VALUES('B02','CD02',500,'01-JAN-2020');



DELETE FROM ARTIST;



ALTER TABLE ARTIST ADD NO\_OF\_ALBUMS NUMBER(5);



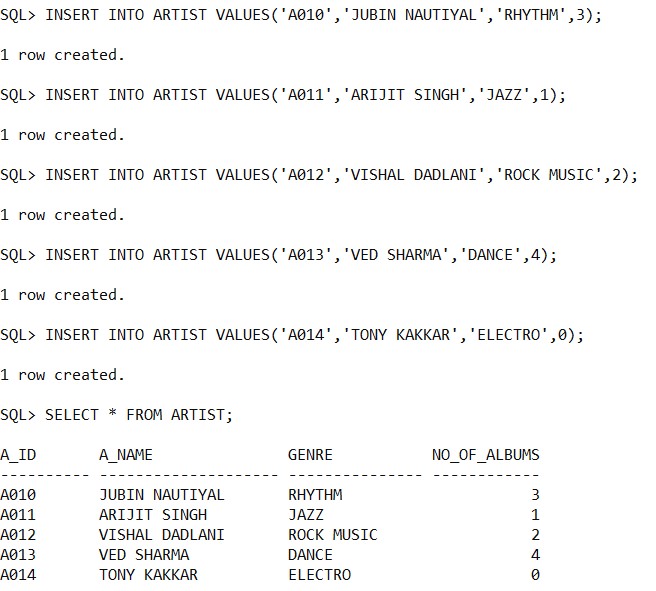
INSERT INTO ARTIST VALUES('A010','JUBIN NAUTIYAL','RHYTHM',3);

INSERT INTO ARTIST VALUES('A011','ARIJIT SINGH','JAZZ',1);

INSERT INTO ARTIST VALUES('A012','VISHAL DADLANI','ROCK MUSIC',2);

INSERT INTO ARTIST VALUES('A013','VED SHARMA','DANCE',4);

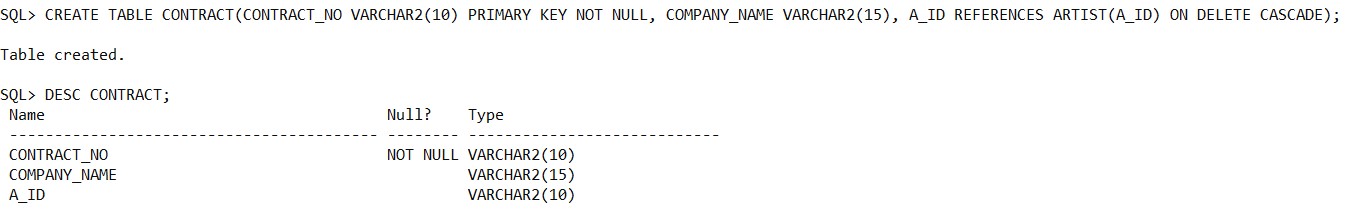
INSERT INTO ARTIST VALUES('A014','TONY KAKKAR','ELECTRO',0);



CREATE TABLE CONTRACT(CONTRACT\_NO VARCHAR2(10) PRIMARY KEY NOT

NULL, COMPANY\_NAME VARCHAR2(15), A\_ID REFERENCES ARTIST(A\_ID) ON

DELETE CASCADE);



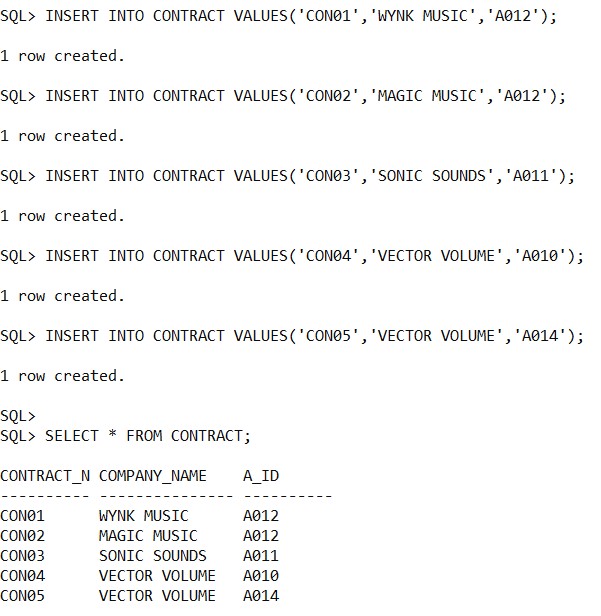
INSERT INTO CONTRACT VALUES('CON01','WYNK MUSIC','A012');

INSERT INTO CONTRACT VALUES('CON02','MAGIC MUSIC','A012');

INSERT INTO CONTRACT VALUES('CON03','SONIC SOUNDS','A011');

INSERT INTO CONTRACT VALUES('CON04','VECTOR VOLUME','A010');

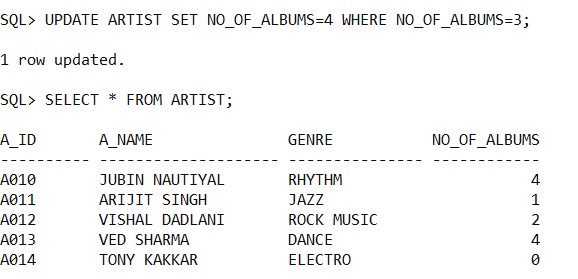
INSERT INTO CONTRACT VALUES('CON05','VECTOR VOLUME','A014');



* **SQL:**

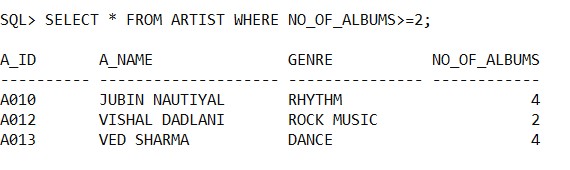
1. **Update number of recorded albums to 4 for those artists who has recorded only 3.**

UPDATE ARTIST SET NO\_OF\_ALBUMS=4 WHERE NO\_OF\_ALBUMS=3;



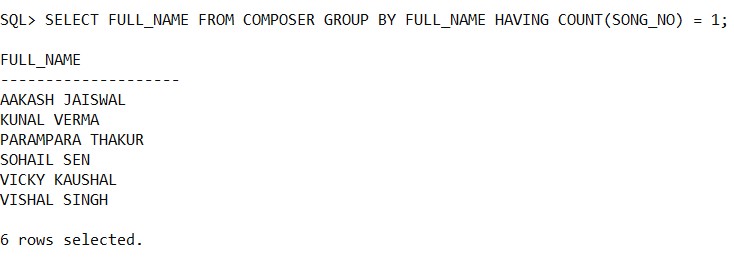
1. **Find all artists who have recorded at least two albums.**

SELECT \* FROM ARTIST WHERE NO\_OF\_ALBUMS>=2;



1. **Find all writers who have only written one song.**

SELECT FULL\_NAME FROM COMPOSER GROUP BY FULL\_NAME HAVING COUNT(SONG\_NO) = 1;



* **PL/SQL block to insert a new Contract into the Contract relation:**

DECLARE

c\_contract\_no contract.contract\_no%type; c\_company\_name contract.company\_name%type;

c\_a\_id contract.a\_id%type; total\_rows number(2);

valid number(2);

BEGIN

c\_contract\_no:=&contract\_no; c\_company\_name:=&company\_name; c\_a\_id:=&a\_id;

--inserting a value in contract table

insert into contract values(c\_contract\_no,c\_company\_name,c\_a\_id);

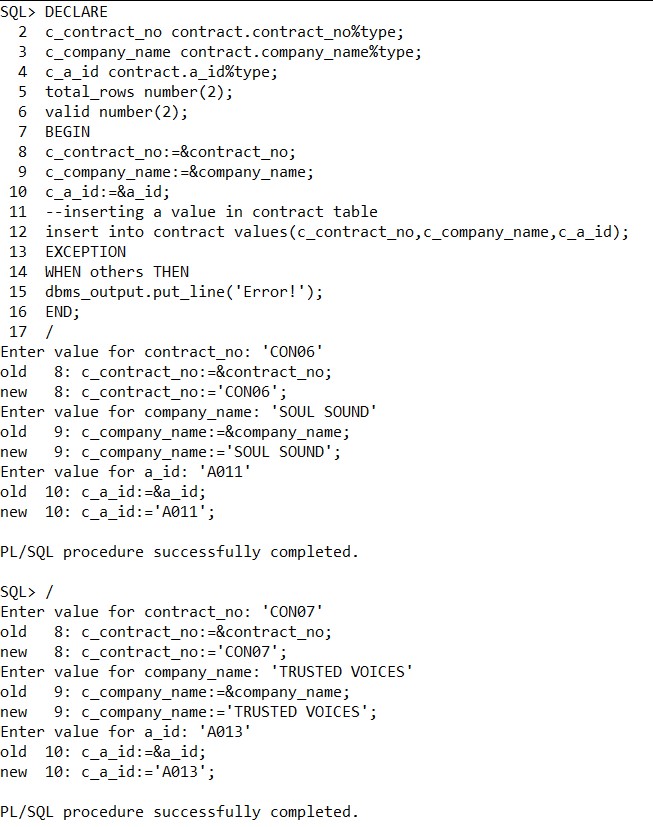
EXCEPTION

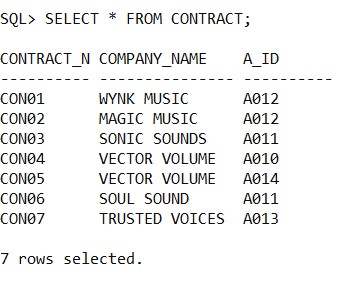
WHEN others THEN

dbms\_output.put\_line('Error!');

END;

/





**PL/SQL: Procedure to insert a new Contract into the Contract relation:**

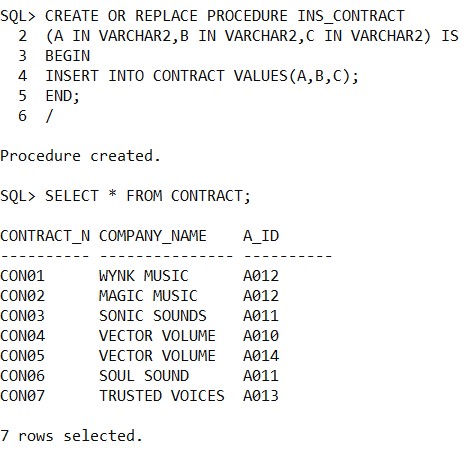
CREATE OR REPLACE PROCEDURE INS\_CONTRACT

(A IN VARCHAR2,B IN VARCHAR2,C IN VARCHAR2) IS BEGIN

INSERT INTO CONTRACT VALUES(A,B,C);

END;

/



DECLARE

C\_CONTRACT\_NO CONTRACT.CONTRACT\_NO%TYPE;

C\_COMPANY\_NAME CONTRACT.COMPANY\_NAME%TYPE;

C\_A\_ID CONTRACT.A\_ID%TYPE;

BEGIN

C\_CONTRACT\_NO:=&CONTRACT\_NO;

C\_COMPANY\_NAME:=&COMPANY\_NAME;

C\_A\_ID:=&A\_ID;

--INSERTING A VALUE IN CONTRACT TABLE USING PROCEDURE INS\_CONTRACT(C\_CONTRACT\_NO,C\_COMPANY\_NAME,C\_A\_ID);

EXCEPTION

WHEN OTHERS THEN

DBMS\_OUTPUT.PUT\_LINE('ERROR!');

END;

/

