create table instruments (name varchar(20) primary key,category varchar(20) default 'unspecified');

create table musicians (identifier char(7) primary key,name varchar(20) not null,surname varchar(20) not null,dateofbirth date not null,gender char check (gender = 'M' OR gender = 'F'),unique (name, surname, dateofbirth));

create table abilities (musician char(7),instrument varchar(20),primary key (musician, instrument),foreign key (musician) references musicians (identifier),foreign key (instrument) references instruments (name));

#Insert the list of musicians

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12340','Angela','Hewitt','1955-03-30','F');

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12341','Cecilia','Chaily','1971-12-15','F');

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12342','Billie','Holiday','1915-04-07','F');

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12343','Chet','Baker','1929-12-23','M');

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12344','Pat','Metheny','1954-08-12','M');

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12345','Keith','Richards','1943-12-18','M');

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12346','Mike','Oldfield','1949-11-20','M');

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12347','Janis','Joplin','1943-01-19','F');

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12348','John','Coltrane','1926-08-20','M');

INSERT INTO musicians (identifier,name,surname,dateofbirth,gender) VALUES ('CM12349','Miles','Davis','1926-05-26','M');

# Insert the list of instruments

INSERT INTO instruments(name,category) VALUES ('Guitar','String');

INSERT INTO instruments (name,category) VALUES ('Piano','String');

INSERT INTO instruments (name,category) VALUES ('Harp','String');

INSERT INTO instruments (name,category) VALUES ('Tenor Sax','Brass');

INSERT INTO instruments (name,category) VALUES ('Trumpet','Brass');

INSERT INTO instruments (name,category) VALUES ('Drums','Percussion');

INSERT INTO instruments (name,category) VALUES ('Bass Guitar','String');

INSERT INTO instruments (name,category) VALUES('Chimes','Percussion');

INSERT INTO instruments (name,category) VALUES ('Violin','String');

#Insert the list for abilities

INSERT INTO abilities (musician,instrument) VALUES ('CM12340','Piano');

INSERT INTO abilities (musician,instrument) VALUES ('CM12341','Harp');

INSERT INTO abilities (musician,instrument) VALUES ('CM12343','Trumpet');

INSERT INTO abilities (musician,instrument) VALUES ('CM12344','Guitar');

INSERT INTO abilities (musician,instrument) VALUES ('CM12345','Guitar');

INSERT INTO abilities (musician,instrument) VALUES ('CM12346','Piano');

INSERT INTO abilities (musician,instrument) VALUES ('CM12346','Guitar');

INSERT INTO abilities (musician,instrument) VALUES ('CM12346','Drums');

INSERT INTO abilities (musician,instrument) VALUES ('CM12346','Bass Guitar');

INSERT INTO abilities (musician,instrument) VALUES ('CM12346','Chimes');

INSERT INTO abilities (musician,instrument) VALUES ('CM12346','Trumpet');

INSERT INTO abilities (musician,instrument) VALUES ('CM12347','Guitar');

INSERT INTO abilities (musician,instrument) VALUES ('CM12348','Tenor Sax');

INSERT INTO abilities (musician,instrument) VALUES ('CM12349','Trumpet');

#Queries

SELECT distinct abilities.instrument FROM abilities, musicians WHERE gender = "M";

SELECT distinct musicians.name, surname, dateofbirth,instrument FROM musicians, instruments, abilities WHERE instruments.category = "Brass";

SELECT distinct instrument from abilities, musicians where name not in (select instrument from abilities where gender = "F");

SELECT distinct musicians.name, surname, dateofbirth, instrument FROM musicians, instruments, abilities WHERE instrument not in (select name from instruments where category="Brass");

SELECT distinct count(instrument), musicians.name, surname, dateofbirth FROM musicians, abilities WHERE identifier = "CM12346";

SELECT musicians.name from musicians, abilities where musician = "CM12346";

SELECT instrument from abilities where (select count(instrument) from abilities where instrument="Piano");

SELECT count(instrument)=2 from abilities where instrument in (SELECT DISTINCT instrument, count(instrument) from abilities group by abilities.instrument);

SELECT DISTINCT instrument from abilities group by instrument having count(\*)=2;

SELECT DISTINCT musicians.name, surname from musicians order by dateofbirth LIMIT 1;

SELECT DISTINCT musicians.name, surname, instrument from musicians, abilities group by instrument having count(\*)>=1 order by dateofbirth;

select distinct category from instruments, abilities group by category having count(\*)>1 order by category DESC LIMIT 1;