Databases

Exercise set 2

Relation schemas

The exercises contained in this exercise set relate to the *music* database. The schemas for the relations in the database are shown here. Primary key attributes are italicised. The saleXY relation has multiple instances. One for each calender year.

customer(*custID* int,fname varchar(255),lname varchar(255),houseNum varchar(255),postCode varchar(255))
album(*albumID* int,artist varchar (255),title varchar (255),label varchar (255),year numeric(255),
genre varchar(255),price decimal(6, 2))
artist(*artistID* int,name varchar(255),countryOfOrigin varchar(255))
label(*name* varchar(255),*region* varchar(255),country varchar(255))
genre(*name* varchar (255),description varchar (255))
saleXY(*salesRef* int,custID int, albumID int,saleDate date)

Exercise 1

Write a query to find the titles, artists and label of albums that do have a genre specified.

Exercise 2

Write a query to find the album IDs of albums sold in the first half of 2015 and the first half of 2016 to customers 5 and 14.

Exercise 3

Write a query to find the customer IDs of customers who bought an album in the last quarter of 2015 but not in the last quarter of 2016.

Exercise 4

Write a query to find the average rating of each album that has been rated. Group by album ID. Show the average rating to 2 decimal places.

Exercise 5

Write a query to find the album title and average rating of albums that have an average rating greater than 3.

Exercise 6

Write a query to find the album title and average rating of albums that have a higher average rating than the overall average rating.

Exercise 7

Write a query to find the full name of all users who have rated an album but not left a comment. The name should appear in the result in the format first-name<space>last-name and the attribute should be called 'name'.

Exercise 8

Write a query to find, in one table, the number of albums and the number of distinct genres in the album table. Rename the attributes with suitable names.

Exercise 9

Write a query to find the percentage of albums that have been rated that have a rating of 5.

Exercise 10

Write a query to find the album ID and number of sales of all albums that sold in 2015 and 2016. The result should be one table with the combined sales.

Exercise 11

Write a query to find the best-selling album genre in 2015 and 2016 combined. Your query should ignore null values.