1

Given the following data definition, write a query that returns the number of students whose first name is John.

TABLE students

id INTEGER PRIMARY KEY,

firstName VARCHAR(30) NOT NULL,

lastName VARCHAR(30) NOT NULL

2

A table containing the students enrolled in a yearly course has incorrect data in records with ids between 20 and 100(inclusive).

TABLE enrollments

id INTEGER NOT NULL PRIMARY KEY

year INTEGER NOT NULL

studentId INTEGER NOT NULL

Write a query that updates the field 'year' of every faulty record to 2015.

**3. Pets**

Information about pets is kept in two separate tables:

TABLE dogs

id INTEGER NOT NULL PRIMARY KEY,

name VARCHAR(50) NOT NULL

TABLE cats

id INTEGER NOT NULL PRIMARY KEY,

name VARCHAR(50) NOT NULL

Write a query that select all distinct pet names.

**4. Sessions**

App usage data are kept in the following table:

TABLE sessions

id INTEGER PRIMARY KEY,

userId INTEGER NOT NULL,

duration DECIMAL NOT NULL

Write a query that selects *userId* and average session duration for each user who has more than one session.

**5. Web Shop**

**SQL** **JOINS** **PUBLIC**

Each item in a web shop belongs to a seller. To ensure service quality, each seller has a rating.

The data are kept in the following two tables:

TABLE sellers

id INTEGER PRIMARY KEY,

name VARCHAR(30) NOT NULL,

rating INTEGER NOT NULL

TABLE items

id INTEGER PRIMARY KEY,

name VARCHAR(30) NOT NULL,

sellerId INTEGER REFERENCES sellers(id)

Write a query that selects the item name and the name of its seller for each item that belongs to a seller with a rating greater than 4.

## ****6. Users And Roles****

**SQL** **CONSTRAINTS** **PUBLIC** **NEW**

The following two tables are used to define users and their respective roles:

TABLE users

id INTEGER NOT NULL PRIMARY KEY,

userName VARCHAR(50) NOT NULL

TABLE roles

id INTEGER NOT NULL PRIMARY KEY,

role VARCHAR(20) NOT NULL

The users\_roles table should contain the mapping between each user and their roles. Each user can have many roles, and each role can have many users.

Modify the provided SQLite create table statement so that:

* Only users from the users table can exist within users\_roles.
* Only roles from the roles table can exist within users\_roles.
* A user can only have a specific role once.

## ****7. Workers****

The following data definition defines an organization's employee hierarchy.

An employee is a manager if any **other** employee has their managerId set to the first employees id. An employee who is a manager may or may not also have a manager.

TABLE employees

id INTEGER NOT NULL PRIMARY KEY

managerId INTEGER REFERENCES employees(id)

name VARCHAR(30) NOT NULL

Write a query that selects the names of employees who are not managers.