Sistemas de Informação e Bases de Dados

Lab 02: SQL queries (part 1)

The file **bank.sql** contains the SQL statements needed to create and fill the sample database illustrated in Figure 1.
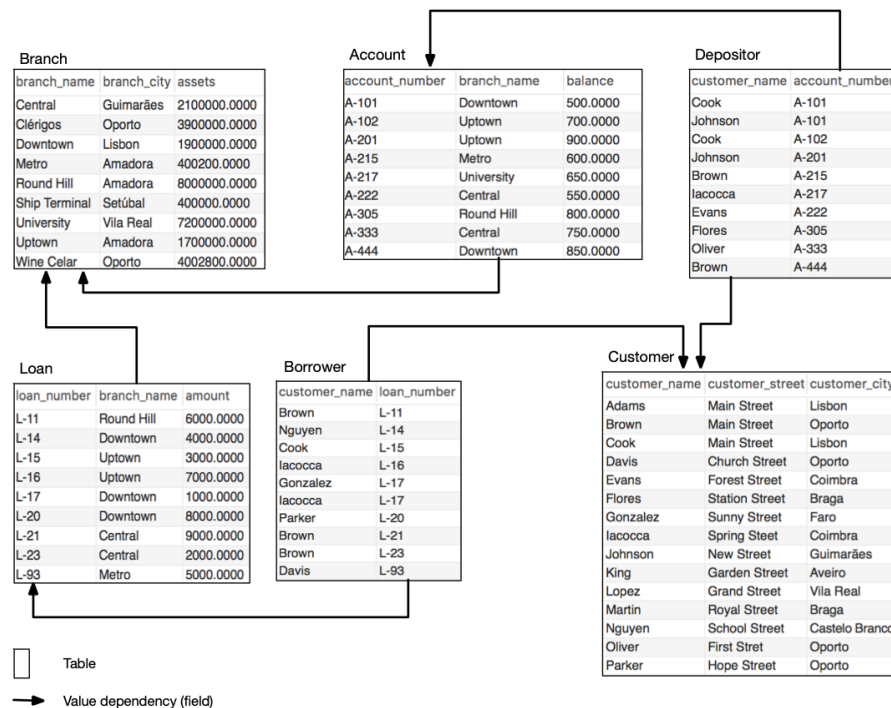

Figure 1. Illustration of the Bank database (the values presented in the table may not be the exact values in the database).

Write an SQL query to answer each of the questions posed below.

In order to see the query results, you can connect to the database server (POSTGRES DBMS) using either the **psql** console in the Sigma server or the locally installed **DataGrip** tool.

Simple queries with Filters

(a) Who are the customers that live in Lisbon

```
SELECT DISTINCT customer_name
FROM customer
WHERE customer_city = 'Lisbon';
```

(b) Which accounts have a balance greater than 500€?

(c) What would be the new account balances at Downtown branch if it offered a 27.7% bonus on the current balance of the customers?

Queries with joins

(d) Who are the customers whose accounts have a balance greater than 500€?

```
SELECT DISTINCT customer_name
FROM depositor NATURAL JOIN account
WHERE balance > 500;
```

or

```
SELECT DISTINCT customer_name
FROM depositor d JOIN account a
        ON a.account_number = a.account_number
WHERE balance > 500;
```

(e) In which cities do the customers with loans between 1000€ and 2000€ live?

(f) What is the balance of all the accounts of the customer that has loan L-15?

(g) On which branches do customers whose names begin with 'J' and end in 'n' have their accounts?

(h) What are the loan amounts of the customers who live cities whose names are exactly 6 characters long?

(i) What are the loan amounts of all clients living in a city whose name has at least one space in the middle (not at the beginning nor at the end)?

(j) What are the assets of the agencies where 'Johnson' has an account?

(k) Who are the customers that have a loan from an agency in the same city where they live?

(l) Who are the customers that live in cities that have bank branches?

(m) Who are the customers that have an account and a loan

Advanced Queries

(n) Who are the customers who live in cities where there are no bank branches? (Tip: use **NOT IN**)

(o) What is the total amount of account balances in branches in the city of Lisbon ('Lisbon')? (Tip: use **SUM**)