Level 1

Download the CSV files, study them and design a database with a star schema that contains at least 4 tables from which you can perform the following queries:

###CREATE DATABASE:

```
CREATE DATABASE star_schema_db;

USE star_schema_db;
```

#CREATE TABLE credit_cards

```
CREATE TABLE if not exists credit_cards (
    id VARCHAR(20) PRIMARY KEY,
    user_id VARCHAR(20),
    iban VARCHAR(100),
    pan VARCHAR(34),
    pin CHAR(20),
    cvv CHAR(4),
    track1 Varchar(255),
    track2 varchar(255),
    expiring_date VARCHAR(50)
);
```

#Cargar datos en la table credit_cards:

Table Data Import Wizard > Elegir el archivo credit_cards.csv> Next

#CREAR TABLA DE COMPANIES:

```
CREATE TABLE companies (
    company_id VARCHAR(50) PRIMARY KEY,
    company_name VARCHAR(255) NOT NULL,
    phone VARCHAR(20),
    email VARCHAR(150),
    country VARCHAR(100),
    website VARCHAR(255));
```

#Cargar los datos de tabla companies:

```
LOAD DATA INFILE  'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/companies.csv'
INTO TABLE companies
FIELDS TERMINATED BY ','
ENCLOSED BY '"'
LINES TERMINATED BY '\r\n'
IGNORE 1 ROWS;
```

#CREAR TABLA PRODUCTS:

```
CREATE TABLE IF NOT EXISTS products (
    id INT PRIMARY KEY,
    product_name VARCHAR(255),
    price VARCHAR (34),
```

#**CARGAR LOS DATOS EN PRODUCTS**: (Import Data Table Wizard)

```
    colour CHAR(7),
    weight DECIMAL(5, 2),
    warehouse_id VARCHAR(10));
```

#CREAR TABLA USERS:

```
CREATE TABLE users (
    id INT PRIMARY KEY,
    name VARCHAR(255),
    surname VARCHAR(255),
    phone VARCHAR(20),
    email VARCHAR(255),
    birth_date DATE,
    country VARCHAR(100),
    city VARCHAR(100),
    postal_code VARCHAR(20),
    address TEXT);
```

```
Alter table users
modify column birth_date varchar(34);
```

#CARGAR DATOS DE TABLA USERS:

```
LOAD DATA INFILE  'C:/ProgramData/MySQL/MySQL Server
8.0/Uploads/users_ca.csv'
```

```
INTO TABLE users

FIELDS TERMINATED BY ','

ENCLOSED BY '"'

LINES TERMINATED BY '\r\n'

IGNORE 1 ROWS;

LOAD DATA INFILE  'C:/ProgramData/MySQL/MySQL Server
8.0/Uploads/users_uk.csv'

INTO TABLE users

FIELDS TERMINATED BY ','

ENCLOSED BY '"'

LINES TERMINATED BY '\r\n'

IGNORE 1 ROWS;

LOAD DATA INFILE  'C:/ProgramData/MySQL/MySQL Server
8.0/Uploads/users_usa.csv'

INTO TABLE users

FIELDS TERMINATED BY ','

ENCLOSED BY '"'

LINES TERMINATED BY '\r\n'

IGNORE 1 ROWS;
```

#CREAR LA TABLA TRANSACTIONS:

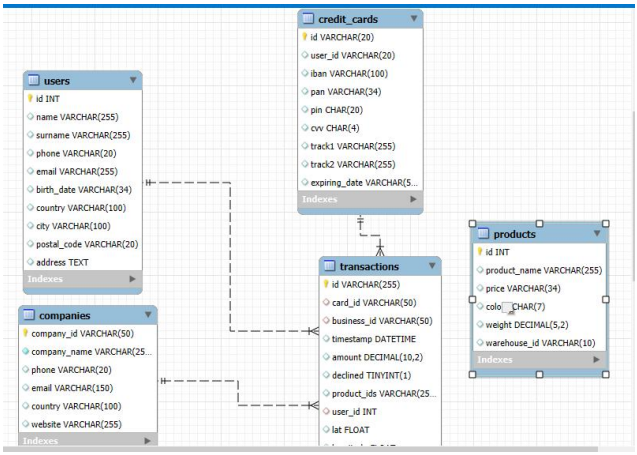
```
CREATE TABLE transactions (

    id VARCHAR(255) PRIMARY KEY,
```

```
    card_id VARCHAR(50),
    business_id VARCHAR(50),
    timestamp DATETIME,
    amount DECIMAL(10, 2),
    declined BOOLEAN,
    product_ids VARCHAR(255),
    user_id INT,
    lat FLOAT,
    longitude FLOAT,
    FOREIGN KEY (card_id) REFERENCES credit_cards(id),
    FOREIGN KEY (user_id) REFERENCES users(id),
    FOREIGN KEY (business_id) REFERENCES companies(company_id));
```

#CARGAR LOS DATOS DE LA TABLA TRANSACTIONS:

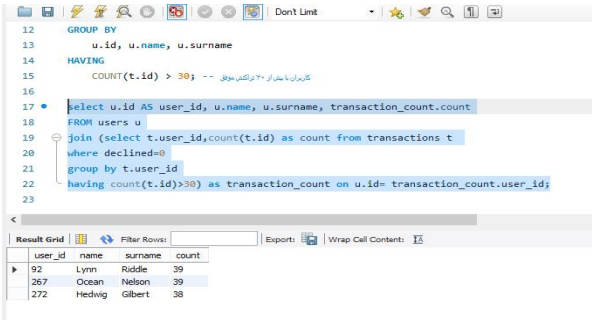
```
LOAD DATA INFILE  'C:/ProgramData/MySQL/MySQL Server
8.0/Uploads/transactions.csv'
INTO TABLE transactions
FIELDS TERMINATED BY ';'
ENCLOSED BY ""
LINES TERMINATED BY '\r\n'
IGNORE 1 ROWS;
```



- Exercise 1

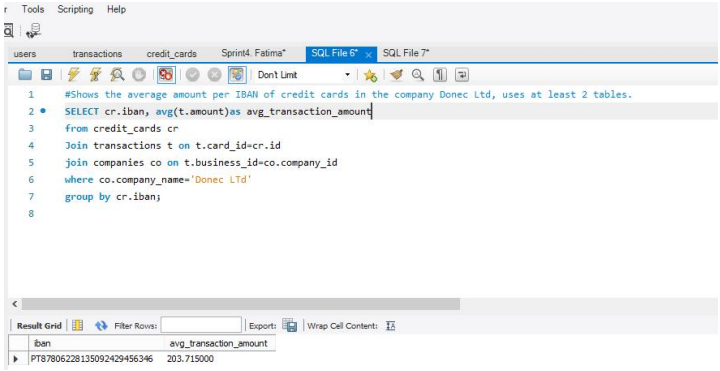
Perform a subquery that shows all users with more than 30 transactions using at least 2 tables.

```
SELECT u.id AS user_id, u.name, u.surname, transaction_count.count
FROM users u
join (select t.user_id,count(t.id) as count from transactions t
        where declined=0
        group by t.user_id
        having count(t.id)>30) as transaction_count
ON u.id= transaction_count.user_id;
```



- Exercise 2

Shows the average amount per IBAN of credit cards in the company Donec Ltd, uses at least 2 tables.

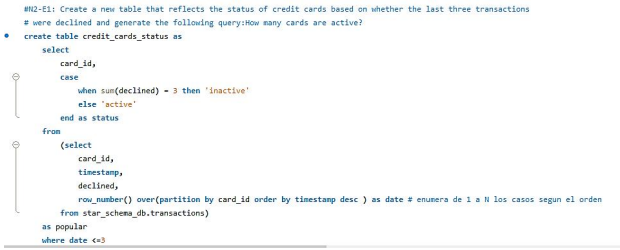


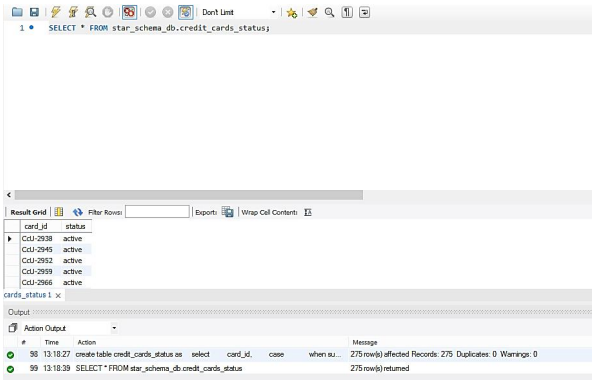
Level 2

Create a new table that reflects the status of credit cards based on whether the last three transactions were declined and generate the following query:

Exercise 1

How many cards are active?





Level 3

Create a table with which we can join the data from the new products.csv file with the created database, taking into account that from transaction you have product_ids. Generate the following query:

Exercise 1

We need to know the number of times each product has been sold.