José Messias Garcia da Silva Ferreira

SPRINT 4 - NIVEL 1

Totes les transformacions i importacions necessàries en aquesta tasca s'han de fer mitjançant codi SQL. NO ES PERMET utilitzar el Wizard. Cal descriure cada pas i fer una captura de pantalla.

Descàrrega els arxius CSV, estudia'ls i dissenya una base de dades amb un esquema d'estrella que contingui, almenys 4 taules de les quals puguis realitzar les següents consultes:

He comenzado analizando las tablas utilizando Google Sheets y Text Editor, y noté que muchos campos estaban en diferentes formatos, como *price* en la tabla products y *birth_date* en la tabla users. También revisé la presencia de valores nulos en las tablas. Otro inconveniente era la separación de registros, ya que en la tabla transactions se utilizaba “;”, mientras que en otras tablas se empleaba “,”.

Antes de trabajar con la base de datos, seleccioné las tablas que quería analizar: transactions, credit_cards, products, companies, european_users y american_users.

Posteriormente, comencé a trabajar en SQL, importando las tablas. Decidí trabajar con las seis tablas mencionadas, incluyendo american_users y european_users, que luego uniré mediante SELECT … UNION ALL.

Al crear la tabla transactions (tabla principal del modelo estrella), añadí seis *foreign keys* con la opción ON DELETE CASCADE, de manera que si se elimina una entidad, sus registros relacionados también se borren automáticamente.

Creé la base de datos usando CREATE DATABASE y la nombré **EuroCommerce**. Dado que no estaba permitido limpiar o modificar los datos, asigné el tipo VARCHAR a la mayoría de los campos, excepto:

- weight: valores decimales.
- lat y longitude: tipo FLOAT en la tabla transactions.

Además, apliqué la restricción UNIQUE en el campo *email* de las tablas companies, european_users y american_users. Tras crear cada tabla con CREATE TABLE, verifiqué las columnas con SHOW COLUMNS FROM.

Para cargar los datos, utilicé LOAD DATA LOCAL INFILE … INTO TABLE, considerando FIELDS TERMINATED BY ',' y ENCLOSED BY '"'. Después de cargar european_users y american_users, añadí una columna con el continente correspondiente y unifiqué ambas tablas en data_users usando UNION ALL.

En la tabla transactions, el campo *product_ids* contenía múltiples valores (hasta 5 en algunos casos). Para manejar esta relación muchos a muchos, creé una tabla puente (transactions_products) entre transactions y products, utilizando *foreign keys*. Esta tabla se utiliza en el último ejercicio del nivel 3 por eso decidí utilizar todas las tablas de la base de datos.

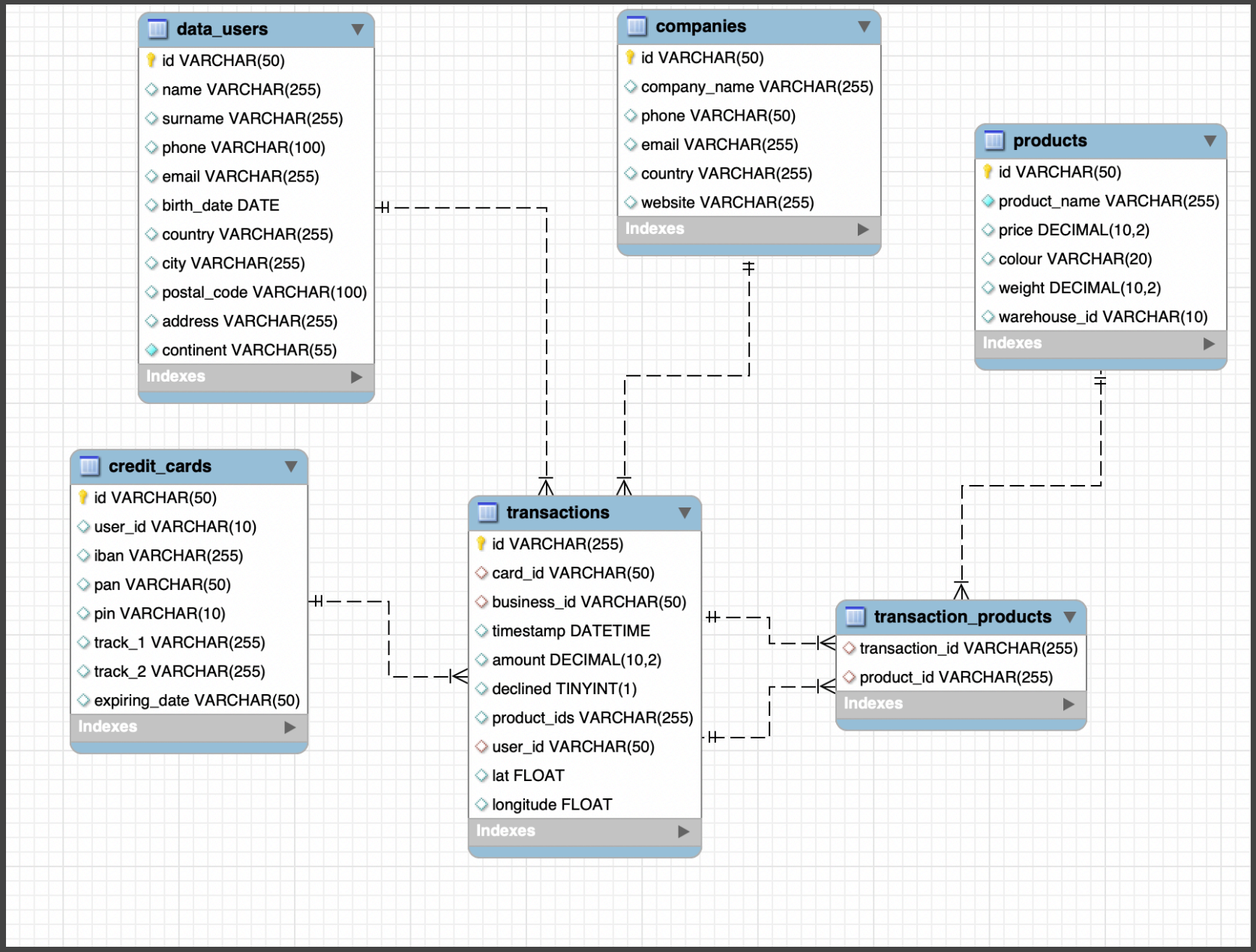
En la tabla data_users, añadí la *primary key* id y la *foreign key* user_id en transactions, y eliminé las tablas originales european_users y american_users.

Para procesar *product_ids*, utilicé CONCAT y REPLACE para eliminar espacios y añadir corchetes al inicio y final de los valores. Luego, con JSON, extraje los valores y los transferí a la tabla puente transactions_products.

Adicionalmente, realicé pequeñas modificaciones en las tablas:

- En products, eliminé el símbolo “$” de *price* y cambié su tipo a DECIMAL.
- Normalicé los nombres de productos usando UPPER, LOWER y SUBSTRING, asegurando que la primera letra fuera mayúscula.
- En data_users, convertí *birth_date* a tipo DATE y apliqué STR_TO_DATE para un formato más legible.

Todos los pasos anteriores están claramente comentados en el script SQL, facilitando la comprensión y seguimiento.


data_users
id VARCHAR(50)
name VARCHAR(255)
surname VARCHAR(255)
phone VARCHAR(100)
email VARCHAR(255)
birth_date DATE
country VARCHAR(255)
city VARCHAR(255)
postal_code VARCHAR(100)
address VARCHAR(255)
continent VARCHAR(55)
Indexes
companies
id VARCHAR(50)
company_name VARCHAR(255)
phone VARCHAR(50)
email VARCHAR(255)
country VARCHAR(255)
website VARCHAR(255)
Indexes
products
id VARCHAR(50)
product_name VARCHAR(255)
price DECIMAL(10,2)
colour VARCHAR(20)
weight DECIMAL(10,2)
warehouse_id VARCHAR(10)
Indexes
credit_cards
id VARCHAR(50)
user_id VARCHAR(10)
iban VARCHAR(255)
pan VARCHAR(50)
pin VARCHAR(10)
track_1 VARCHAR(255)
track_2 VARCHAR(255)
expiring_date VARCHAR(50)
Indexes
transactions
id VARCHAR(255)
card_id VARCHAR(50)
business_id VARCHAR(50)
timestamp DATETIME
amount DECIMAL(10,2)
declined TINYINT(1)
product_ids VARCHAR(255)
user_id VARCHAR(50)
lat FLOAT
longitude FLOAT
Indexes
transaction_products
transaction_id VARCHAR(255)
product_id VARCHAR(255)
Indexes

DATABASE CREATION

```sql

CREATE DATABASE EuroCommerce;
USE EuroCommerce;

-- TABLES CREATION

CREATE TABLE products (
    id VARCHAR(50) PRIMARY KEY,
    product_name VARCHAR(255) NOT NULL,
    price VARCHAR(50),
    colour VARCHAR(20),
    weight DECIMAL(10,2),
    warehouse_id VARCHAR(10)

);

CREATE TABLE credit_cards (
    id VARCHAR(50) PRIMARY KEY,
    user_id VARCHAR(10),
    iban VARCHAR(255),
    pan VARCHAR(50),
    pin VARCHAR(10),
    track_1 VARCHAR(255),
    track_2 VARCHAR(255),
    expiring_date VARCHAR(50)
);

CREATE TABLE companies (
    id VARCHAR(50) PRIMARY KEY NOT NULL,
    company_name VARCHAR(255),
    phone VARCHAR(50),
    email VARCHAR(255) UNIQUE,
    country VARCHAR(255)
```

100% 16:3

Action Output

	Time	Action	Response	Duration / Fetch Time
292	17:55:48	SELECT cc.id AS card_id, CASE WHEN SUM(t3.declined) = 3 AND COUNT(t3.declined) = 3 THEN 'inactive' ELSE 'active'...	5000 row(s) returned	0.604 sec / 0.115 sec
293	18:00:01	SELECT cc.id AS card_id, CASE WHEN SUM(t3.declined) = 3 AND COUNT(t3.declined) = 3 THEN 'inactive' ELSE 'active'...	5000 row(s) returned	0.594 sec / 0.116 sec
294	18:00:06	SELECT cc.id AS card_id, CASE WHEN SUM(t.declined) = 3 AND COUNT(t.declined) = 3 THEN 'inactive' ELSE 'active' E...	Error Code: 1054. Unknown column 't.declined' in 'field list'	0.00054 sec
295	18:00:20	SELECT cc.id AS card_id, CASE WHEN SUM(t3.declined) = 3 AND COUNT(t3.declined) = 3 THEN 'inactive' ELSE 'active'...	5000 row(s) returned	0.600 sec / 0.115 sec
296	18:09:15	SELECT * FROM TRANSACTIONS	100000 row(s) returned	0.0012 sec / 0.125 sec
297	18:21:07	SELECT * FROM data_users	5000 row(s) returned	0.0010 sec / 0.0096...
298	18:43:54	DROP DATABASE IF EXISTS EuroCommerce	7 row(s) affected	0.600 sec
299	18:44:05	CREATE DATABASE EuroCommerce	1 row(s) affected	0.0046 sec
300	18:44:06	USE EuroCommerce	0 row(s) affected	0.00052 sec

CREATING TABLES

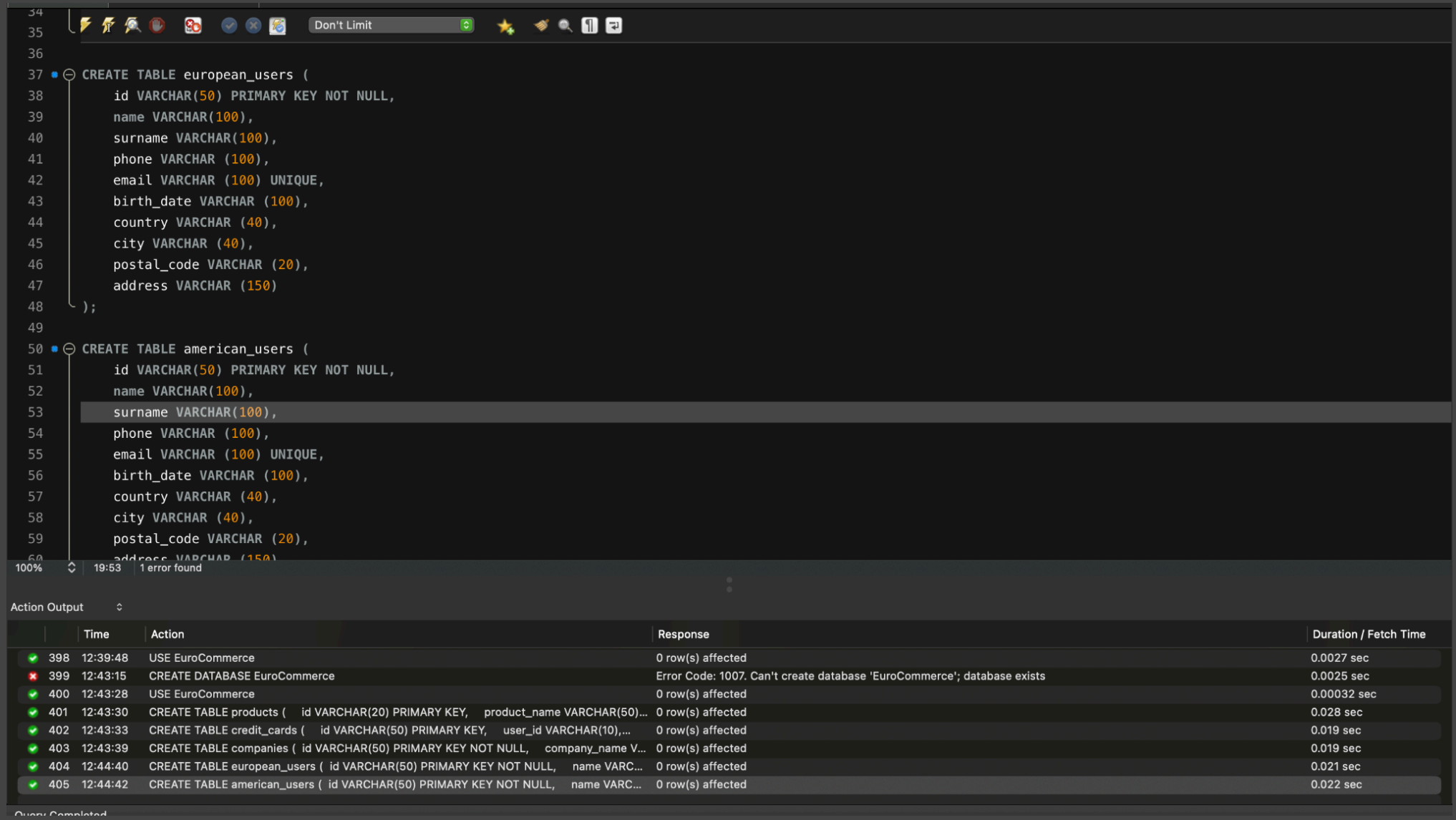
```sql
CREATE TABLE products (
    id VARCHAR(20) PRIMARY KEY,
    product_name VARCHAR(50) NOT NULL,
    price VARCHAR(10),
    colour VARCHAR(20),
    weight DECIMAL(10,2),
    warehouse_id VARCHAR(10)

);

CREATE TABLE credit_cards (
    id VARCHAR(50) PRIMARY KEY,
    user_id VARCHAR(10),
    iban VARCHAR(50),
    pan VARCHAR(50),
    pin VARCHAR(10),
    track_1 VARCHAR(50),
    track_2 VARCHAR(50),
    expiring_date VARCHAR(30)
);

CREATE TABLE companies (
    id VARCHAR(50) PRIMARY KEY NOT NULL,
    company_name VARCHAR(40),
    phone VARCHAR(20)
```

100% 1:16 1 error found

Action Output

	Time	Action	Response	Duration / Fetch Time
396	12:39:37	DROP DATABASE IF EXISTS euROCOMMERCE	7 row(s) affected	0.346 sec
397	12:39:42	CREATE DATABASE EuroCommerce	1 row(s) affected	0.0052 sec
398	12:39:48	USE EuroCommerce	0 row(s) affected	0.0027 sec
399	12:43:15	CREATE DATABASE EuroCommerce	Error Code: 1007. Can't create database 'EuroCommerce'; database exists	0.0025 sec
400	12:43:28	USE EuroCommerce	0 row(s) affected	0.00032 sec
401	12:43:30	CREATE TABLE products (id VARCHAR(20) PRIMARY KEY, product_name VARCHAR(50)...	0 row(s) affected	0.028 sec
402	12:43:33	CREATE TABLE credit_cards (id VARCHAR(50) PRIMARY KEY, user_id VARCHAR(10),...	0 row(s) affected	0.019 sec
403	12:43:39	CREATE TABLE companies (id VARCHAR(50) PRIMARY KEY NOT NULL, company_name V...	0 row(s) affected	0.019 sec

CREATING TABLES



CREATING TABLES

```
10  Don't Limit
11      colour VARCHAR(20),
12      weight DECIMAL(10,2),
13      warehouse_id VARCHAR(10)
14
15  );
16
17  CREATE TABLE credit_cards (
18      id VARCHAR(5[0]) PRIMARY KEY,
19      user_id VARCHAR(10),
20      iban VARCHAR(255),
21      pan VARCHAR(50),
22      pin VARCHAR(10),
23      track_1 VARCHAR(255),
24      track_2 VARCHAR(255),
25      expiring_date VARCHAR(50)
26  );
27
28  CREATE TABLE companies (
29      id VARCHAR(50) PRIMARY KEY NOT NULL,
30      company_name VARCHAR(255),
31      phone VARCHAR(50),
32      email VARCHAR(255) UNIQUE,
33      country VARCHAR(255),
34      website VARCHAR(255)
35  );
36
37  CREATE TABLE european_users (
38      id VARCHAR(50) PRIMARY KEY NOT NULL,
39      name VARCHAR(255),
40      surname VARCHAR(255),
41      phone VARCHAR (100),
42      email VARCHAR (255) UNIQUE,
43      birth_date VARCHAR (100)
```

100% 19:17

Action Output

	Time	Action	Response	Duration / Fetch Time
294	18:00:06	SELECT cc.id AS card_id, CASE WHEN SUM(t.declined) = 3 AND COUNT(t.declined) = 3 THEN 'inactive' ELSE 'active' E...	Error Code: 1054. Unknown column 't.declined' in 'field list'	0.00054 sec
295	18:00:20	SELECT cc.id AS card_id, CASE WHEN SUM(t3.declined) = 3 AND COUNT(t3.declined) = 3 THEN 'inactive' ELSE 'active'...	5000 row(s) returned	0.600 sec / 0.115 sec
296	18:09:15	SELECT * FROM TRANSACTIONS	100000 row(s) returned	0.0012 sec / 0.125 sec
297	18:21:07	SELECT * FROM data_users	5000 row(s) returned	0.0010 sec / 0.0096...
298	18:43:54	DROP DATABASE IF EXISTS EuroCommerce	7 row(s) affected	0.600 sec
299	18:44:05	CREATE DATABASE EuroCommerce	1 row(s) affected	0.0046 sec
300	18:44:06	USE EuroCommerce	0 row(s) affected	0.00052 sec
301	18:44:29	CREATE TABLE products (id VARCHAR(50) PRIMARY KEY, product_name VARCHAR(255) NOT NULL, price VARCHAR(50), colou...	0 row(s) affected	0.024 sec
302	18:44:43	CREATE TABLE credit_cards (id VARCHAR(50) PRIMARY KEY, user_id VARCHAR(10), iban VARCHAR(255), pan VARCHAR(50),...	0 row(s) affected	0.015 sec

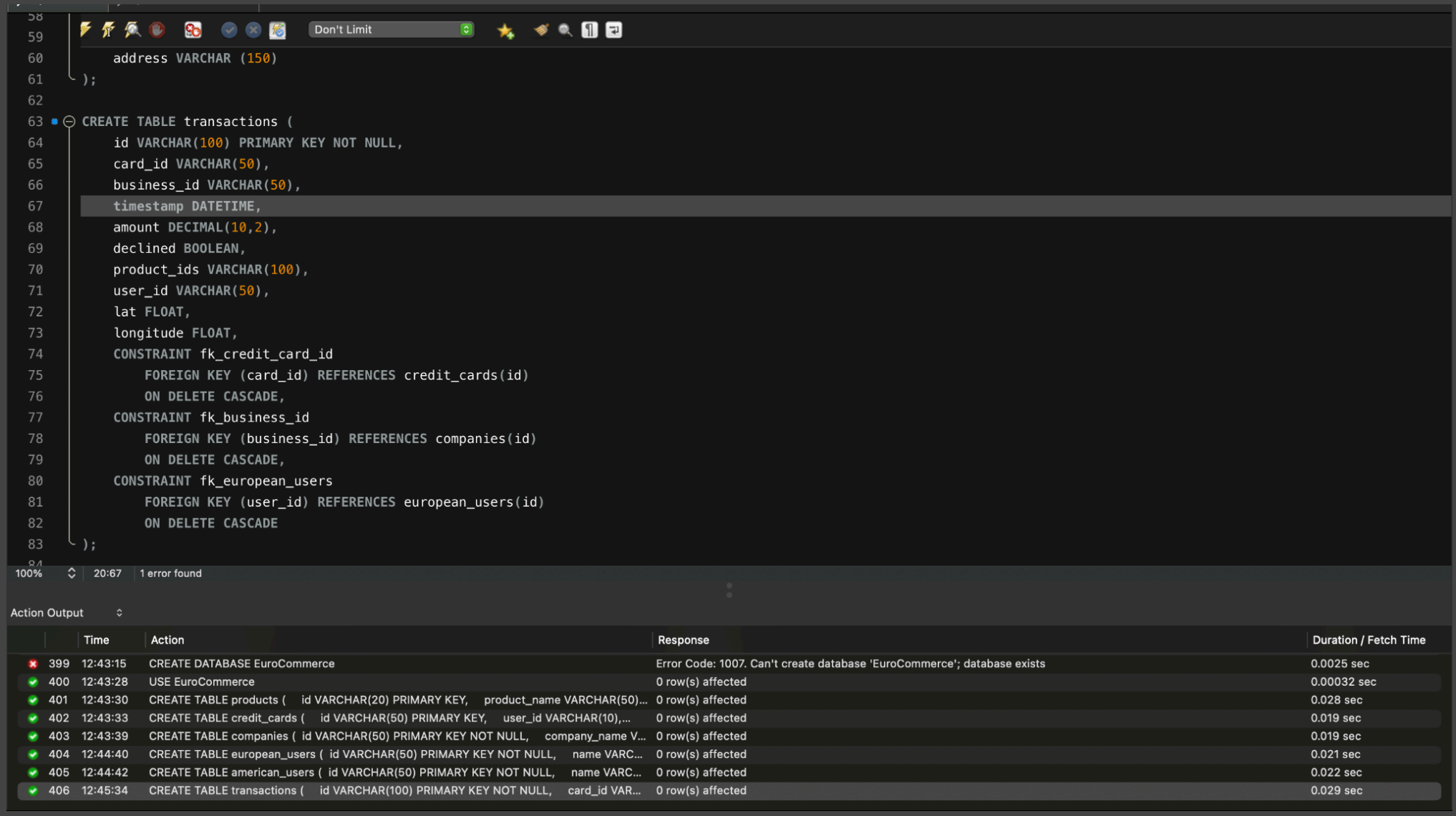
CREATING TABLES

```
20
21      pan VARCHAR(50),
22      pin VARCHAR(10),
23      track_1 VARCHAR(255),
24      track_2 VARCHAR(255),
25      expiring_date VARCHAR(50)
26  );
27
28  CREATE TABLE companies (
29      id VARCHAR(50) PRIMARY KEY NOT NULL,
30      company_name VARCHAR(255),
31      phone VARCHAR(50),
32      email VARCHAR(255) UNIQUE,
33      country VARCHAR(255),
34      website VARCHAR(255)
35  );
36
37  CREATE TABLE european_users (
38      id VARCHAR(50) PRIMARY KEY NOT NULL,
39      name VARCHAR(255),
40      surname VARCHAR(255),
41      phone VARCHAR (100),
42      email VARCHAR (255) UNIQUE,
43      birth_date VARCHAR (100),
44      country VARCHAR (255),
45      city VARCHAR (255),
46      postal_code VARCHAR (100),
47      address VARCHAR (255)
48  );
49
50  CREATE TABLE american_users (
51      id VARCHAR(50) PRIMARY KEY NOT NULL,
52      name VARCHAR(255),
```

Action Output

	Time	Action	Response	Duration / Fetch Time
295	18:00:20	SELECT cc.id AS card_id, CASE WHEN SUM(t3.declined) = 3 AND COUNT(t3.declined) = 3 THEN 'inactive' ELSE 'active'...	5000 row(s) returned	0.600 sec / 0.115 sec
296	18:09:15	SELECT * FROM TRANSACTIONS	100000 row(s) returned	0.0012 sec / 0.125 sec
297	18:21:07	SELECT * FROM data_users	5000 row(s) returned	0.0010 sec / 0.0096...
298	18:43:54	DROP DATABASE IF EXISTS EuroCommerce	7 row(s) affected	0.600 sec
299	18:44:05	CREATE DATABASE EuroCommerce	1 row(s) affected	0.0046 sec
300	18:44:06	USE EuroCommerce	0 row(s) affected	0.00052 sec
301	18:44:29	CREATE TABLE products (id VARCHAR(50) PRIMARY KEY, product_name VARCHAR(255) NOT NULL, price VARCHAR(50), colou...	0 row(s) affected	0.024 sec
302	18:44:43	CREATE TABLE credit_cards (id VARCHAR(50) PRIMARY KEY, user_id VARCHAR(10), iban VARCHAR(255), pan VARCHAR(50),...	0 row(s) affected	0.015 sec
303	18:45:02	CREATE TABLE companies (id VARCHAR(50) PRIMARY KEY NOT NULL, company_name VARCHAR(255), phone VARCHAR(50), em...	0 row(s) affected	0.018 sec

CREATING TABLES



LOADING DATA

```
95   -- TABLE PRODUCTS
96
97   LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/products.csv'
98   INTO TABLE products
99   FIELDS TERMINATED BY ','
100  ENCLOSED BY '"'
101  IGNORE 1 ROWS;
102
103  -- TABLE CREDIT_CARDS
104
105  LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/credit_cards.csv'
106  INTO TABLE credit_cards
107  FIELDS TERMINATED BY ','
108  ENCLOSED BY '"'
109  IGNORE 1 ROWS;
110
111  -- TABLE COMPANIES
112
113  LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/companies.csv'
114  INTO TABLE companies
115  FIELDS TERMINATED BY ','
116  ENCLOSED BY '"'
117  IGNORE 1 ROWS;
118
```

100% | 14:114 | 1 error found

Action Output

	Time	Action	Response	Duration / Fetch Time
402	12:43:33	CREATE TABLE credit_cards (id VARCHAR(50) PRIMARY KEY, user_id VARCHAR(10),...	0 row(s) affected	0.019 sec
403	12:43:39	CREATE TABLE companies (id VARCHAR(50) PRIMARY KEY NOT NULL, company_name V...	0 row(s) affected	0.019 sec
404	12:44:40	CREATE TABLE european_users (id VARCHAR(50) PRIMARY KEY NOT NULL, name VARC...	0 row(s) affected	0.021 sec
405	12:44:42	CREATE TABLE american_users (id VARCHAR(50) PRIMARY KEY NOT NULL, name VARC...	0 row(s) affected	0.022 sec
406	12:45:34	CREATE TABLE transactions (id VARCHAR(100) PRIMARY KEY NOT NULL, card_id VAR...	0 row(s) affected	0.029 sec
407	12:45:55	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/products.cs...	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.012 sec
408	12:45:57	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/credit_card...	5000 row(s) affected, 1024 warning(s): 1265 Data truncated for column 'expiring_date' at row 1 1262 Row 1 was truncat...	0.168 sec
409	12:45:58	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/companies....	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.012 sec

LOADING DATA

```
117     IGNORE 1 ROWS;
118
119
120     -- TABLE EUROPEAN_USERS
121
122     LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/european_users.csv'
123     INTO TABLE european_users
124     FIELDS TERMINATED BY ','
125     ENCLOSED BY '"'
126     IGNORE 1 ROWS;
127
128     -- ADD COLUMN WITH CONTINENT NAME
129
130     ALTER TABLE european_users
131     ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT 'Europe';
132
133
134     -- TABLE AMERICAN_USERS
135
136     LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/american_users.csv'
137     INTO TABLE american_users
138     FIELDS TERMINATED BY ','
139     ENCLOSED BY '"'
140     IGNORE 1 ROWS;
```

100% 19:123 1 error found

Action Output

	Time	Action	Response	Duration / Fetch Time
404	12:44:40	CREATE TABLE european_users (id VARCHAR(50) PRIMARY KEY NOT NULL, name VARC...	0 row(s) affected	0.021 sec
405	12:44:42	CREATE TABLE american_users (id VARCHAR(50) PRIMARY KEY NOT NULL, name VARC...	0 row(s) affected	0.022 sec
406	12:45:34	CREATE TABLE transactions (id VARCHAR(100) PRIMARY KEY NOT NULL, card_id VAR...	0 row(s) affected	0.029 sec
407	12:45:55	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/products.cs...	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.012 sec
408	12:45:57	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/credit_card...	5000 row(s) affected, 1024 warning(s): 1265 Data truncated for column 'expiring_date' at row 1 1262 Row 1 was truncat...	0.168 sec
409	12:45:58	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/companies....	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.012 sec
410	12:46:42	CREATE DATABASE EuroCommerce	Error Code: 1007. Can't create database 'EuroCommerce'; database exists	0.00060 sec
411	12:46:46	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/european_u...	3990 row(s) affected Records: 3990 Deleted: 0 Skipped: 0 Warnings: 0	0.134 sec

LOADING DATA

```
100   Don't Limit
101   IGNORE 1 ROWS;
102
103   -- TABLE CREDIT_CARDS
104
105   LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/credit_cards.csv'
106   INTO TABLE credit_cards
107   FIELDS TERMINATED BY ','
108   ENCLOSED BY '"'
109   IGNORE 1 ROWS;
110
111   -- TABLE COMPANIES
112
113   LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/companies.csv'
114   INTO TABLE companies
115   FIELDS TERMINATED BY ','
116   ENCLOSED BY '"'
117   IGNORE 1 ROWS;
118
119
120   -- TABLE EUROPEAN_USERS
121
122   LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/european_users.csv'
123   INTO TABLE european_users
124   FIELDS TERMINATED BY ','
125   ENCLOSED BY '"'
126   IGNORE 1 ROWS;
127
128   -- ADD COLUMN WITH CONTINENT NAME
129
130   ALTER TABLE european_users
131   ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT 'Europe';
132
100%   27:113
```

Action Output

	Time	Action	Response	Duration / Fetch Time
302	18:44:43	CREATE TABLE credit_cards (id VARCHAR(50) PRIMARY KEY, user_id VARCHAR(10), iban VARCHAR(255), pan VARCHAR(50),...	0 row(s) affected	0.015 sec
303	18:45:02	CREATE TABLE companies (id VARCHAR(50) PRIMARY KEY NOT NULL, company_name VARCHAR(255), phone VARCHAR(50), em...	0 row(s) affected	0.018 sec
304	18:45:14	CREATE TABLE european_users (id VARCHAR(50) PRIMARY KEY NOT NULL, name VARCHAR(255), surname VARCHAR(255), phone V...	0 row(s) affected	0.017 sec
305	18:45:29	CREATE TABLE american_users (id VARCHAR(50) PRIMARY KEY NOT NULL, name VARCHAR(255), surname VARCHAR(255), phone V...	0 row(s) affected	0.026 sec
306	18:45:42	CREATE TABLE transactions (id VARCHAR(255) PRIMARY KEY NOT NULL, card_id VARCHAR(50), business_id VARCHAR(50), ti...	0 row(s) affected	0.032 sec
307	18:46:19	SHOW COLUMNS FROM european_users	10 row(s) returned	0.0028 sec / 0.00002...
308	18:47:04	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/products.csv' INTO TABLE products FIELDS TERMINATED...	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.015 sec
309	18:47:24	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/credit_cards.csv' INTO TABLE credit_cards FIELDS TERM...	5000 row(s) affected, 1024 warning(s): 1262 Row 1 was truncated; it contained more data than there were input columns...	0.153 sec
310	18:47:39	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/companies.csv' INTO TABLE companies FIELDS TERMINA...	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.011 sec

ADDING NEW COLUMN NAMED CONTINENT TO AMERICAN_USERS AND EUROPEAN_USERS

```
126  Don't Limit
127
128  -- ADD COLUMN WITH CONTINENT NAME
129
130  ALTER TABLE european_users
131  ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT 'Europe';
132
133
134  -- TABLE AMERICAN_USERS
135
136  LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/american_users.csv'
137  INTO TABLE american_users
138  FIELDS TERMINATED BY ','
139  ENCLOSED BY '"'
140  IGNORE 1 ROWS;
141
142  -- ADD COLUMN WITH THE CONTINENT NAME
143
144  ALTER TABLE american_users
145  ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT 'America';
146
147  -- BRIDGE TABLE CREATION
148
149  CREATE TABLE transaction_products (
150      transaction_id VARCHAR(100),
151      product_id VARCHAR(10)
```

100% | 20:145 | 1 error found

Action Output

	Time	Action	Response	Duration / Fetch Time
407	12:45:55	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/products.cs...	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.012 sec
408	12:45:57	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/credit_card...	5000 row(s) affected, 1024 warning(s): 1265 Data truncated for column 'expiring_date' at row 1 1262 Row 1 was truncat...	0.168 sec
409	12:45:58	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/companies....	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.012 sec
410	12:46:42	CREATE DATABASE EuroCommerce	Error Code: 1007. Can't create database 'EuroCommerce'; database exists	0.00060 sec
411	12:46:46	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/european_u...	3990 row(s) affected Records: 3990 Deleted: 0 Skipped: 0 Warnings: 0	0.134 sec
412	12:48:10	ALTER TABLE european_users ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT '...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.046 sec
413	12:48:12	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/american_u...	1010 row(s) affected Records: 1010 Deleted: 0 Skipped: 0 Warnings: 0	0.040 sec
414	12:48:16	ALTER TABLE american_users ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT '...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.019 sec

CREATING BRIDGE TABLE
transactions_products

```sql
-- ADD COLUMN WITH THE CONTINENT NAME

ALTER TABLE american_users
ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT 'America';

-- BRIDGE TABLE CREATION

CREATE TABLE transaction_products (
    transaction_id VARCHAR(100),
    product_id VARCHAR(10),
    FOREIGN KEY (transaction_id) REFERENCES transactions(id) ON DELETE CASCADE
);

-- SWITCH TEMPORARY OFF FOREIGN KEY TO AVOID ERROR 1452: PARENT TABLES ARE MISSING FOR THE FOREIGN KEYS IN TRANSACTIONS

SET FOREIGN_KEY_CHECKS = 0; ***

-- LOAD DATA TRANSACTIONS TABLE
LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/transactions.csv'
INTO TABLE transactions
FIELDS TERMINATED BY ';'
ENCLOSED BY '"'
LINES TERMINATED BY '\n'
IGNORE 1 ROWS
(id, card_id, business_id, timestamp, amount, declined, product_ids, user_id, lat, longitude);
```

100% 27:151 1 error found

Action Output

	Time	Action	Response	Duration / Fetch Time
408	12:45:57	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/credit_card...	5000 row(s) affected, 1024 warning(s): 1265 Data truncated for column 'expiring_date' at row 1 1262 Row 1 was truncat...	0.168 sec
409	12:45:58	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/companies....	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.012 sec
410	12:46:42	CREATE DATABASE EuroCommerce	Error Code: 1007. Can't create database 'EuroCommerce'; database exists	0.00060 sec
411	12:46:46	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/european_u...	3990 row(s) affected Records: 3990 Deleted: 0 Skipped: 0 Warnings: 0	0.134 sec
412	12:48:10	ALTER TABLE european_users ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT '...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.046 sec
413	12:48:12	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/american_u...	1010 row(s) affected Records: 1010 Deleted: 0 Skipped: 0 Warnings: 0	0.040 sec
414	12:48:16	ALTER TABLE american_users ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT '...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.019 sec
415	12:49:02	CREATE TABLE transaction_products (transaction_id VARCHAR(100), product_id VARC...	0 row(s) affected	0.021 sec

Query Completed

UNION ALL EUROPEAN_USERS AND AMERICAN_USERS

```
ENCLOSED BY '"'
LINES TERMINATED BY '\n'
IGNORE 1 ROWS
(id, card_id, business_id, timestamp, amount, declined, product_ids, user_id, lat, longitude);

-- ON FOREIGN KEYS

SET FOREIGN_KEY_CHECKS = 1;

-- UNINION ALL EUROPEAN_USERS AND AMERICAN_USERS TABLES

CREATE TABLE data_users AS
SELECT * FROM european_users
UNION ALL
SELECT * FROM american_users;

-- ADD A PRIMARY KEY TO THE NEW TABLE DATA_USERS

ALTER TABLE data_users
ADD PRIMARY KEY (id);

-- ADD A FOREIGN KEY IN THE TABLE TRANSACTIONS

ALTER TABLE transactions
```

Action Output

	Time	Action	Response	Duration / Fetch Time
433	12:52:48	ALTER TABLE european_users ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT '...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.023 sec
434	12:52:49	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/american_u...	1010 row(s) affected Records: 1010 Deleted: 0 Skipped: 0 Warnings: 0	0.031 sec
435	12:52:52	ALTER TABLE american_users ADD COLUMN continent VARCHAR(55) NOT NULL DEFAULT '...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.016 sec
436	12:52:54	CREATE TABLE transaction_products (transaction_id VARCHAR(100), product_id VARC...	0 row(s) affected	0.016 sec
437	12:52:57	SET FOREIGN_KEY_CHECKS = 0	0 row(s) affected	0.00047 sec
438	12:52:59	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/transaction...	100000 row(s) affected Records: 100000 Deleted: 0 Skipped: 0 Warnings: 0	3.304 sec
439	12:53:09	SET FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.00046 sec
440	12:53:12	CREATE TABLE data_users AS SELECT * FROM european_users UNION ALL SELECT * FROM...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.099 sec

ADDING FOREIGN KEYS

```sql
-- UNINION ALL EUROPEAN_USERS AND AMERICAN_USERS TABLES

CREATE TABLE data_users AS
SELECT * FROM european_users
UNION ALL
SELECT * FROM american_users;

-- ADD A PRIMARY KEY TO THE NEW TABLE DATA_USERS

ALTER TABLE data_users
ADD PRIMARY KEY (id);

-- ADD A FOREIGN KEY IN THE TABLE TRANSACTIONS

ALTER TABLE transactions
ADD CONSTRAINT fk_user_id
FOREIGN KEY (user_id) REFERENCES data_users(id);

-- CHEKING NEW TABLE

SELECT * FROM data_users;

-- DELETE OLD TABLES BUT TO AVOID FK ERRORS, SWTICH TO OFF
```

100% 16:192

Result Grid | Filter Rows: Search | Edit: | Export/Import: | Fetch rows:

id	name	surname	phone	email	birth_date	country	city	postal_code	address	continent
100	Melodie	Mclean	1-677-221-7152	risus.varius@google.ca	Sep 15, 1989	United States	San Jose	95101	Ap #644-8492 Sagittis St.	America
1000	Amkjrv	Qbulrxbp	+48-258-9936	amkjrv.qbulrxbp@example.com	May 17, 1970	Germany	Stuttgart	70173	215 Qbulrxbp St	Europe
1001	Nfvrlb	Oydaiwbg	+94-121-2522	nfvrlb.oydaiwbg@example.com	Mar 4, 1994	Germany	Cologne	50667	121 Oydaiwbg St	Europe
1002	Ijbfmd	Jbddzhvp	+70-120-3668	ijbfmd.jbddzhvp@example.com	Sep 27, 2001	Germany	Munich	80331	412 Jbddzhvp St	Europe
1003	Uyciig	Sfbdymzj	+58-123-6968	uyciig.sfbdymzj@example.com	Jan 20, 1981	Germany	Stuttgart	70173	735 Sfbdymzj St	Europe

Result Grid | Form Editor

data_users 4 | Apply | Revert

Action Output

	Time	Action	Response	Duration / Fetch Time
⚠ 315	18:49:56	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/american_users.csv' INTO TABLE american_users FIELDS...	0 row(s) affected, 1024 warning(s): 1261 Row 1 doesn't contain data for all columns 1062 Duplicate entry '1' for key 'ame...	0.019 sec
✓ 316	18:50:12	CREATE TABLE transaction_products (transaction_id VARCHAR(255), product_id VARCHAR(255), FOREIGN KEY (transaction_id) R...	0 row(s) affected	0.030 sec
✓ 317	18:52:11	SET FOREIGN_KEY_CHECKS = 0	0 row(s) affected	0.0020 sec
✓ 318	18:52:13	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/transactions.csv' INTO TABLE transactions FIELDS TERMI...	100000 row(s) affected Records: 100000 Deleted: 0 Skipped: 0 Warnings: 0	5.038 sec
✓ 319	18:52:43	SET FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.00036 sec
✓ 320	18:52:46	CREATE TABLE data_users AS SELECT * FROM european_users UNION ALL SELECT * FROM american_users	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.124 sec
✓ 321	18:53:14	ALTER TABLE data_users ADD PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.120 sec
✓ 322	18:53:17	ALTER TABLE transactions ADD CONSTRAINT fk_user_id FOREIGN KEY (user_id) REFERENCES data_users(id)	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	2.792 sec
✓ 323	18:53:22	SELECT * FROM data_users	5000 row(s) returned	0.0021 sec / 0.0099...

DELETE AMERICAN_USERS AND EUROPEAN_USERS TABLE

```
187     ADD CONSTRAINT fk_user_id
188     FOREIGN KEY (user_id) REFERENCES data_users(id);
189
190     -- CHEKING NEW TABLE
191
192     SELECT * FROM data_users;
193
194     -- DELETE OLD TABLES BUT TO AVOID FK ERRORS, SWTICH TO OFF
195
196     SET FOREIGN_KEY_CHECKS = 0;
197
198     -- DELETE TABLES
199
200     DROP TABLE american_users;
201     DROP TABLE european_users;
202
203     -- SWITCH TO ON FK
204
205     SET FOREIGN_KEY_CHECKS = 1;
206
207     -- CHECK NEW TABLE
208
209     SELECT * FROM data_users;
210
211     -- ADD THE FOREIGN KEYS TO THE BRIDGE TABLE
212     -- ON A BRIDGE TABLE WE ALWAYS HAVE JUST FOREIGN KEYS BECAUSE IS A MANY TO MANY RELATION
213
214     ALTER TABLE transaction_products
215     ADD CONSTRAINT fk_tp_transactions
216     FOREIGN KEY (transaction_id) REFERENCES transactions(id)
217     ON DELETE CASCADE;
218
219     ALTER TABLE transaction_products
```

100% 18:201

Action Output

	Time	Action	Response	Duration / Fetch Time
318	18:52:13	LOAD DATA LOCAL INFILE '/Users/josemessiasferreira/Documents/sprint_4_data/transactions.csv' INTO TABLE transactions FIELDS TERMI...	100000 row(s) affected Records: 100000 Deleted: 0 Skipped: 0 Warnings: 0	5.038 sec
319	18:52:43	SET FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.00036 sec
320	18:52:46	CREATE TABLE data_users AS SELECT * FROM european_users UNION ALL SELECT * FROM american_users	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.124 sec
321	18:53:14	ALTER TABLE data_users ADD PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.120 sec
322	18:53:17	ALTER TABLE transactions ADD CONSTRAINT fk_user_id FOREIGN KEY (user_id) REFERENCES data_users(id)	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	2.792 sec
323	18:53:22	SELECT * FROM data_users	5000 row(s) returned	0.0021 sec / 0.0099...
324	18:53:55	SET FOREIGN_KEY_CHECKS = 0	0 row(s) affected	0.00037 sec
325	18:53:57	DROP TABLE american_users	0 row(s) affected	0.014 sec
326	18:54:00	DROP TABLE european_users	0 row(s) affected	0.016 sec

ADD FOREIGN KEYS TO THE BRIDGE TABLE

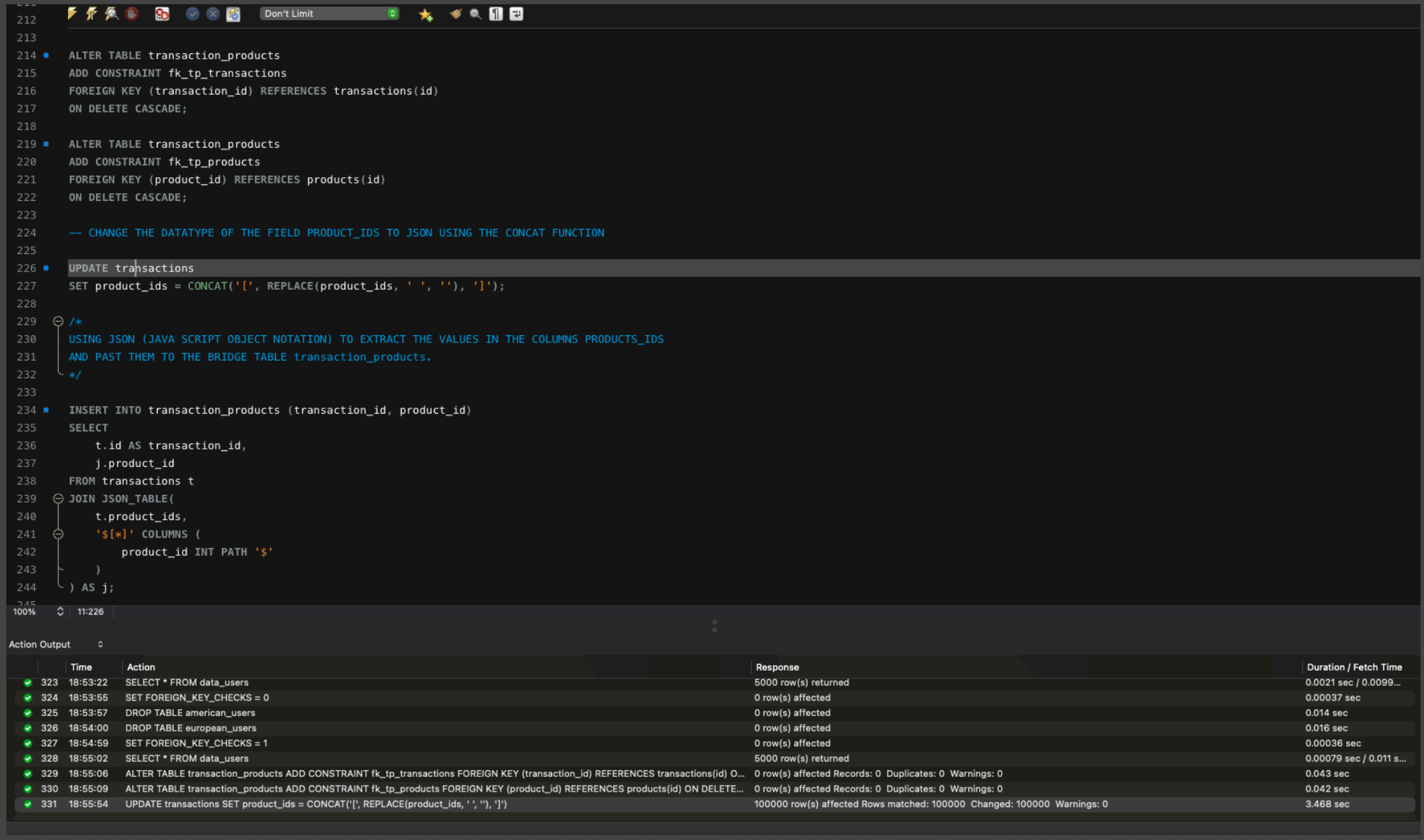
```
208    -- CHECK NEW TABLE
209
210    SELECT * FROM data_users;
211
212    -- ADD THE FOREIGN KEYS TO THE BRIDGE TABLE
213    -- ON A BRIDGE TABLE WE ALWAYS HAVE JUST FOREIGN KEYS BECAUSE IS A MANY TO MANY RELATION
214
215    ALTER TABLE transaction_products
216    ADD CONSTRAINT fk_tp_transactions
217    FOREIGN KEY (transaction_id) REFERENCES transactions(id)
218    ON DELETE CASCADE;
219
220    ALTER TABLE transaction_products
221    ADD CONSTRAINT fk_tp_products
222    FOREIGN KEY (product_id) REFERENCES products(id)
223    ON DELETE CA  E;
224
225    -- CHANGE THE DATATYPE OF THE FIELD PRODUCT_IDS TO JSON USING THE CONCAT FUNCTION
226
227    UPDATE transactions
228    SET product_ids = CONCAT('[', REPLACE(product_ids, ' ', ''), ']');
229
230    /*
231    USING JSON (JAVA SCRIPT OBJECT NOTATION) TO EXTRACT THE VALUES IN THE COLUMNS PRODUCTS_IDS
232    AND PAST THEM TO THE BRIDGE TABLE transaction_products
```

100% 15:222

ction Output

	Time	Action	Response	Duration / Fetch Time
443	12:53:41	SELECT * FROM data_users	5000 row(s) returned	0.0023 sec / 0.010 sec
444	12:54:08	SET FOREIGN_KEY_CHECKS = 0	0 row(s) affected	0.00030 sec
445	12:54:11	DROP TABLE american_users	0 row(s) affected	0.012 sec
446	12:54:13	DROP TABLE european_users	0 row(s) affected	0.014 sec
447	12:54:16	SET FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.00040 sec
448	12:54:18	SELECT * FROM data_users	5000 row(s) returned	0.00058 sec / 0.008...
449	12:54:22	ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_transactions FOREIGN KEY (tra...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.039 sec
450	12:54:25	ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_products FOREIGN KEY (produ...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.035 sec

Query Completed


Don't Limit
ALTER TABLE transaction_products
ADD CONSTRAINT fk_tp_transactions
FOREIGN KEY (transaction_id) REFERENCES transactions(id)
ON DELETE CASCADE;
ALTER TABLE transaction_products
ADD CONSTRAINT fk_tp_products
FOREIGN KEY (product_id) REFERENCES products(id)
ON DELETE CASCADE;
-- CHANGE THE DATATYPE OF THE FIELD PRODUCT_IDS TO JSON USING THE CONCAT FUNCTION
UPDATE transactions
SET product_ids = CONCAT('[', REPLACE(product_ids, ' ', ''), ']');
/*
USING JSON (JAVA SCRIPT OBJECT NOTATION) TO EXTRACT THE VALUES IN THE COLUMNS PRODUCTS_IDS
AND PAST THEM TO THE BRIDGE TABLE transaction_products.
*/
INSERT INTO transaction_products (transaction_id, product_id)
SELECT
t.id AS transaction_id,
j.product_id
FROM transactions t
JOIN JSON_TABLE(
t.product_ids,
'$[*]' COLUMNS (
product_id INT PATH '$'
)
) AS j;
100%
11:226
Action Output
Time
Action
Response
Duration / Fetch Time
323 18:53:22 SELECT * FROM data_users 5000 row(s) returned 0.0021 sec / 0.0099...
324 18:53:55 SET FOREIGN_KEY_CHECKS = 0 0 row(s) affected 0.00037 sec
325 18:53:57 DROP TABLE american_users 0 row(s) affected 0.014 sec
326 18:54:00 DROP TABLE european_users 0 row(s) affected 0.016 sec
327 18:54:59 SET FOREIGN_KEY_CHECKS = 1 0 row(s) affected 0.00036 sec
328 18:55:02 SELECT * FROM data_users 5000 row(s) returned 0.00079 sec / 0.011 s...
329 18:55:06 ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_transactions FOREIGN KEY (transaction_id) REFERENCES transactions(id) O... 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.043 sec
330 18:55:09 ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_products FOREIGN KEY (product_id) REFERENCES products(id) ON DELETE... 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.042 sec
331 18:55:54 UPDATE transactions SET product_ids = CONCAT('[', REPLACE(product_ids, ' ', ''), ']') 100000 row(s) affected Rows matched: 100000 Changed: 100000 Warnings: 0 3.468 sec

USING JSON TO EXTRACT DATA FROM PRODUCT_IDS

```sql
UPDATE transactions
SET product_ids = CONCAT('[', REPLACE(product_ids, ' ', ''), ']');

/*
USING JSON (JAVA SCRIPT OBJECT NOTATION) TO EXTRACT THE VALUES IN THE COLUMNS PRODUCTS_IDS
AND PAST THEM TO THE BRIDGE TABLE transaction_products.
*/

INSERT INTO transaction_products (transaction_id, product_id)
SELECT
    t.id AS transaction_id,
    j.product_id
FROM transactions t
JOIN JSON_TABLE(
    t.product_ids,
    '$[*]' COLUMNS (
        product_id INT PATH '$'
    )
) AS j;

-- CHECK TRANSACTION_PRODUCTS TABLE

SELECT * FROM transaction_products;

-- TABLE PRODUCTS TRANSFORMATIONS

DESCRIBE products;
SELECT *
FROM products;

-- FIELD PRICE TO DECIMAL (10,2)
```

Action Output

	Time	Action	Response	Duration / Fetch Time
324	18:53:55	SET FOREIGN_KEY_CHECKS = 0	0 row(s) affected	0.00037 sec
325	18:53:57	DROP TABLE american_users	0 row(s) affected	0.014 sec
326	18:54:00	DROP TABLE european_users	0 row(s) affected	0.016 sec
327	18:54:59	SET FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.00036 sec
328	18:55:02	SELECT * FROM data_users	5000 row(s) returned	0.00079 sec / 0.011 s...
329	18:55:06	ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_transactions FOREIGN KEY (transaction_id) REFERENCES transactions(id) O...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.043 sec
330	18:55:09	ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_products FOREIGN KEY (product_id) REFERENCES products(id) ON DELETE...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.042 sec
331	18:55:54	UPDATE transactions SET product_ids = CONCAT('[', REPLACE(product_ids, ' ', ''), ']')	100000 row(s) affected Rows matched: 100000 Changed: 100000 Warnings: 0	3.468 sec
332	18:56:23	INSERT INTO transaction_products (transaction_id, product_id) SELECT t.id AS transaction_id, j.product_id FROM transactions t JOI...	253391 row(s) affected Records: 253391 Duplicates: 0 Warnings: 0	5.989 sec

CHECKING TRANSACTION_PRODUCTS TABLE

```
237         j.product_id
238     FROM transactions t
239     JOIN JSON_TABLE(
240         t.product_ids,
241         '$[*]' COLUMNS (
242             product_id INT PATH '$'
243         )
244     ) AS j;
245
246     -- CHECK TRANSACTION_PRODUCTS TABLE
247
248     SELECT * FROM transaction_products;
249
250     -- TABLE PRODUCTS TRANSFORMATIONS
251
252     DESCRIBE products;
253     SELECT *
254     FROM products;
255
256     -- FIELD PRICE TO DECIMAL (10,2)
257
258     UPDATE products
259     SET price = REPLACE(price, '$', '');
260
```

100% 26:248

Result Grid | Filter Rows: Search | Export: | Fetch rows:

transaction_id	product_id
00043A49-2949-494B-A5DD-A5BAE3BB19DD	16
00043A49-2949-494B-A5DD-A5BAE3BB19DD	26
00043A49-2949-494B-A5DD-A5BAE3BB19DD	97
00043A49-2949-494B-A5DD-A5BAE3BB19DD	87
000447FE-B650-4DCF-85DE-C7ED0EE1CAAD	66

transaction_products 6 — Read Only

Action Output

	Time	Action	Response	Duration / Fetch Time
325	18:53:57	DROP TABLE american_users	0 row(s) affected	0.014 sec
326	18:54:00	DROP TABLE european_users	0 row(s) affected	0.016 sec
327	18:54:59	SET FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.00036 sec
328	18:55:02	SELECT * FROM data_users	5000 row(s) returned	0.00079 sec / 0.011 s...
329	18:55:06	ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_transactions FOREIGN KEY (transaction_id) REFERENCES transactions(id) O...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.043 sec
330	18:55:09	ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_products FOREIGN KEY (product_id) REFERENCES products(id) ON DELETE...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.042 sec
331	18:55:54	UPDATE transactions SET product_ids = CONCAT('[', REPLACE(product_ids, ' ', ''), ']')	100000 row(s) affected Rows matched: 100000 Changed: 100000 Warnings: 0	3.468 sec
332	18:56:23	INSERT INTO transaction_products (transaction_id, product_id) SELECT t.id AS transaction_id, j.product_id FROM transactions t JOI...	253391 row(s) affected Records: 253391 Duplicates: 0 Warnings: 0	5.989 sec
333	18:57:32	SELECT * FROM transaction_products	253391 row(s) returned	0.0010 sec / 0.261 sec

CHANGE FIELD PRICE TO DECIMAL

```sql
    )
) AS j;

-- CHECK TRANSACTION_PRODUCTS TABLE

SELECT * FROM transaction_products;

-- TABLE PRODUCTS TRANSFORMATIONS

DESCRIBE products;
SELECT *
FROM products;

-- FIELD PRICE TO DECIMAL (10,2)

UPDATE products
SET price = REPLACE(price, '$', '');

ALTER TABLE products
MODIFY price DECIMAL(10,2);

-- FIRST LETTER UPPER OF PRODUCT NAME

UPDATE products
SET product_name = CONCAT(
    UPPER(LEFT(product_name, 1)),
    LOWER(SUBSTRING(product_name, 2))
);

-- TABLE DATA_USERS TRANSFORMATIONS

SELECT * FROM data_users;
DESCRIBE data_users;
```

100% 6:258

Action Output

	Time	Action	Response	Duration / Fetch Time
327	18:54:59	SET FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.00036 sec
328	18:55:02	SELECT * FROM data_users	5000 row(s) returned	0.00079 sec / 0.011 s...
329	18:55:06	ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_transactions FOREIGN KEY (transaction_id) REFERENCES transactions(id) O...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.043 sec
330	18:55:09	ALTER TABLE transaction_products ADD CONSTRAINT fk_tp_products FOREIGN KEY (product_id) REFERENCES products(id) ON DELETE...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.042 sec
331	18:55:54	UPDATE transactions SET product_ids = CONCAT('[', REPLACE(product_ids, ' ', ''), ']')	100000 row(s) affected Rows matched: 100000 Changed: 100000 Warnings: 0	3.468 sec
332	18:56:23	INSERT INTO transaction_products (transaction_id, product_id) SELECT t.id AS transaction_id, j.product_id FROM transactions t JOI...	253391 row(s) affected Records: 253391 Duplicates: 0 Warnings: 0	5.989 sec
333	18:57:32	SELECT * FROM transaction_products	253391 row(s) returned	0.0010 sec / 0.261 sec
334	18:58:12	DESCRIBE products	6 row(s) returned	0.0059 sec / 0.00001...
335	18:58:17	UPDATE products SET price = REPLACE(price, '$', '')	100 row(s) affected Rows matched: 100 Changed: 100 Warnings: 0	0.0071 sec

FIRST LETTER CAPITALIZED ON PRODUCTS NAME

```sql
-- CHECK TRANSACTION_PRODUCTS TABLE

SELECT * FROM transaction_products;

-- TABLE PRODUCTS TRANSFORMATIONS

DESCRIBE products;
SELECT *
FROM products;

-- FIELD PRICE TO DECIMAL (10,2)

UPDATE products
SET price = REPLACE(price, '$', '');

ALTER TABLE products
MODIFY price DECIMAL(10,2);

-- FIRST LETTER UPPER OF PRODUCT NAME

UPDATE products
SET product_name = CONCAT(
    UPPER(LEFT(product_name, 1)),
    LOWER(SUBSTRING(product_name, 2))
);

SELECT * FROM products;

-- TABLE DATA_USERS TRANSFORMATIONS

SELECT * FROM data_users;
DESCRIBE data_users;
```

100% 1:273

Result Grid | Filter Rows: Search | Edit: | Export/Import:

id	product_name	price	colour	weight	warehouse_id
100	South duel	40.43	#6d6d6d	3.00	WH--95
11	Karstark dorne	49.70	#141414	2.70	WH--6
12	Duel direwolf	181.60	#a8a8a8	2.10	WH--7
13	Palpatine chewbacca	139.59	#2b2b2b	1.00	WH--8
14	Direwolf	147.53	#c4c4c4	2.00	WH--9
15	Stannis warden	194.29	#dbdbdb	1.50	WH--10
16	The duel warden	180.91	#666666	3.00	WH--11
17	Skywalker ewok sith	91.89	#7c7c7c	3.20	WH--12

Result Grid | Form Editor

products 12 | Apply | Revert

CHANGE DATATYPE OF BIRTH_DATE TO DATE

```sql

ALTER TABLE products
MODIFY price DECIMAL(10,2);

-- FIRST LETTER UPPER OF PRODUCT NAME

UPDATE products
SET product_name = CONCAT(
    UPPER(LEFT(product_name, 1)),
    LOWER(SUBSTRING(product_name, 2))
);

SELECT * FROM products;

-- TABLE DATA_USERS TRANSFORMATIONS

SELECT * FROM data_users;
DESCRIBE data_users;

-- CHANGE DATYPE FROM BIRTH_DATE FIELD TO DATE

UPDATE data_users
SET birth_date = STR_TO_DATE(birth_date, '%b %d, %Y');

ALTER TABLE data_users
MODIFY birth_date DATE;

SELECT * FROM data_users;


```

100% 16:282

Action Output

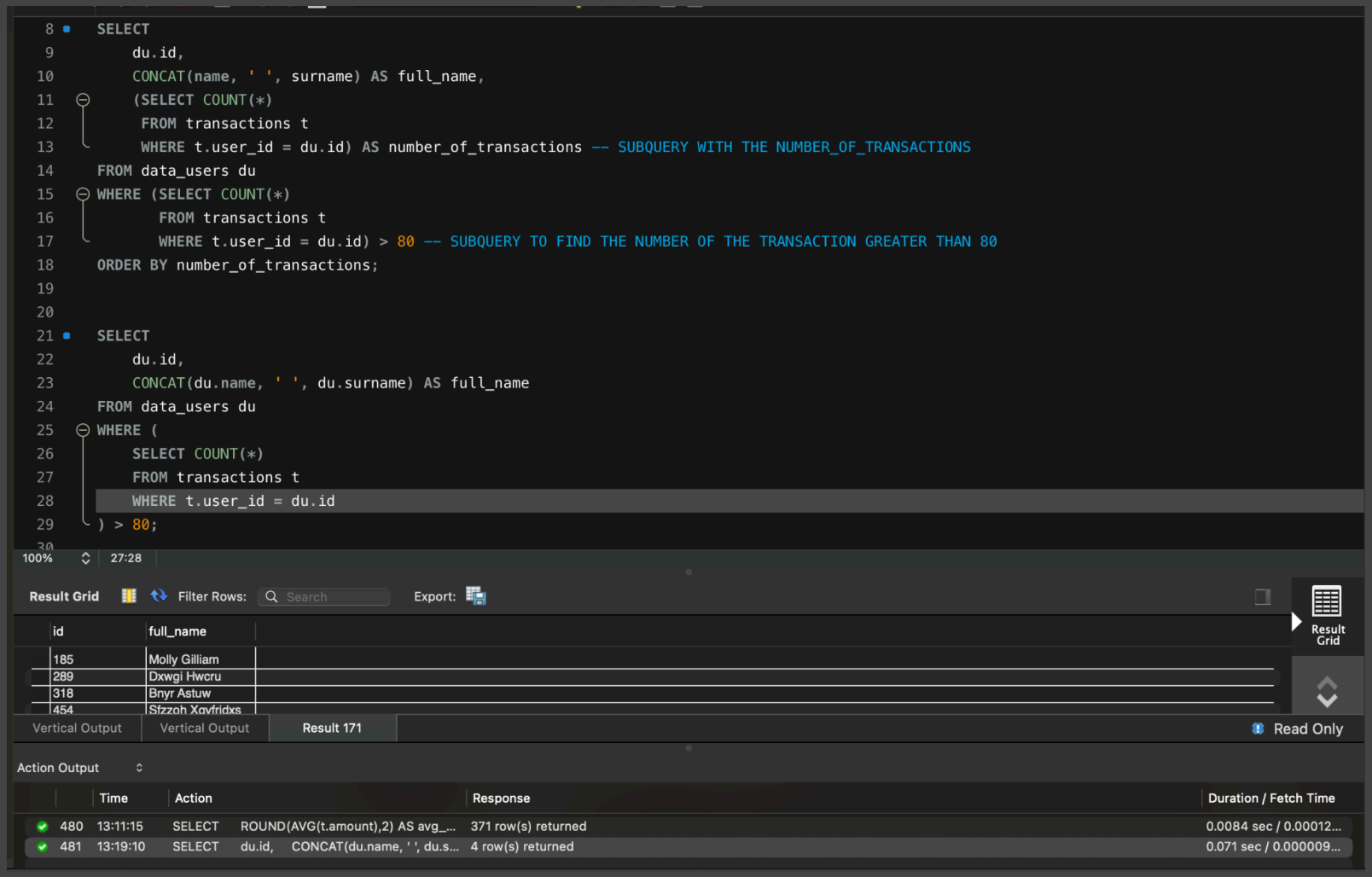
	Time	Action	Response	Duration / Fetch Time
334	18:58:12	DESCRIBE products	6 row(s) returned	0.0059 sec / 0.00001...
335	18:58:17	UPDATE products SET price = REPLACE(price, '$', '')	100 row(s) affected Rows matched: 100 Changed: 100 Warnings: 0	0.0071 sec
336	18:58:59	ALTER TABLE products MODIFY price DECIMAL(10,2)	100 row(s) affected Records: 100 Duplicates: 0 Warnings: 0	0.033 sec
337	18:59:02	UPDATE products SET product_name = CONCAT(UPPER(LEFT(product_name, 1)), LOWER(SUBSTRING(product_name, 2)))	77 row(s) affected Rows matched: 100 Changed: 77 Warnings: 0	0.0068 sec
338	18:59:07	SELECT * FROM data_users	5000 row(s) returned	0.00070 sec / 0.010 s...
339	18:59:10	DESCRIBE data_users	11 row(s) returned	0.0014 sec / 0.00006...
340	18:59:13	DESCRIBE data_users	11 row(s) returned	0.0018 sec / 0.00002...
341	18:59:25	UPDATE products SET product_name = CONCAT(UPPER(LEFT(product_name, 1)), LOWER(SUBSTRING(product_name, 2)))	0 row(s) affected Rows matched: 100 Changed: 0 Warnings: 0	0.00060 sec
342	18:59:31	SELECT * FROM data_users	5000 row(s) returned	0.00075 sec / 0.0087...
343	18:59:49	SELECT * FROM products	100 row(s) returned	0.00061 sec / 0.0000...
344	19:00:35	UPDATE data_users SET birth_date = STR_TO_DATE(birth_date, '%b %d, %Y')	5000 row(s) affected Rows matched: 5000 Changed: 5000 Warnings: 0	0.102 sec

José Messias Garcia da Silva Ferreira

SPRINT 4 - NIVEL 1

Exercici 1

Realitza una subconsulta que mostri tots els usuaris amb més de 80 transaccions utilitzant almenys 2 taules.



```sql
SELECT
    du.id,
    CONCAT(name, ' ', surname) AS full_name,
    (SELECT COUNT(*)
     FROM transactions t
     WHERE t.user_id = du.id) AS number_of_transactions -- SUBQUERY WITH THE NUMBER_OF_TRANSACTIONS
FROM data_users du
WHERE (SELECT COUNT(*)
       FROM transactions t
       WHERE t.user_id = du.id) > 80 -- SUBQUERY TO FIND THE NUMBER OF THE TRANSACTION GREATER THAN 80
ORDER BY number_of_transactions;


SELECT
    du.id,
    CONCAT(du.name, ' ', du.surname) AS full_name
FROM data_users du
WHERE (
    SELECT COUNT(*)
    FROM transactions t
    WHERE t.user_id = du.id
) > 80;
```

100% 27:28

Result Grid | Filter Rows: Search | Export:

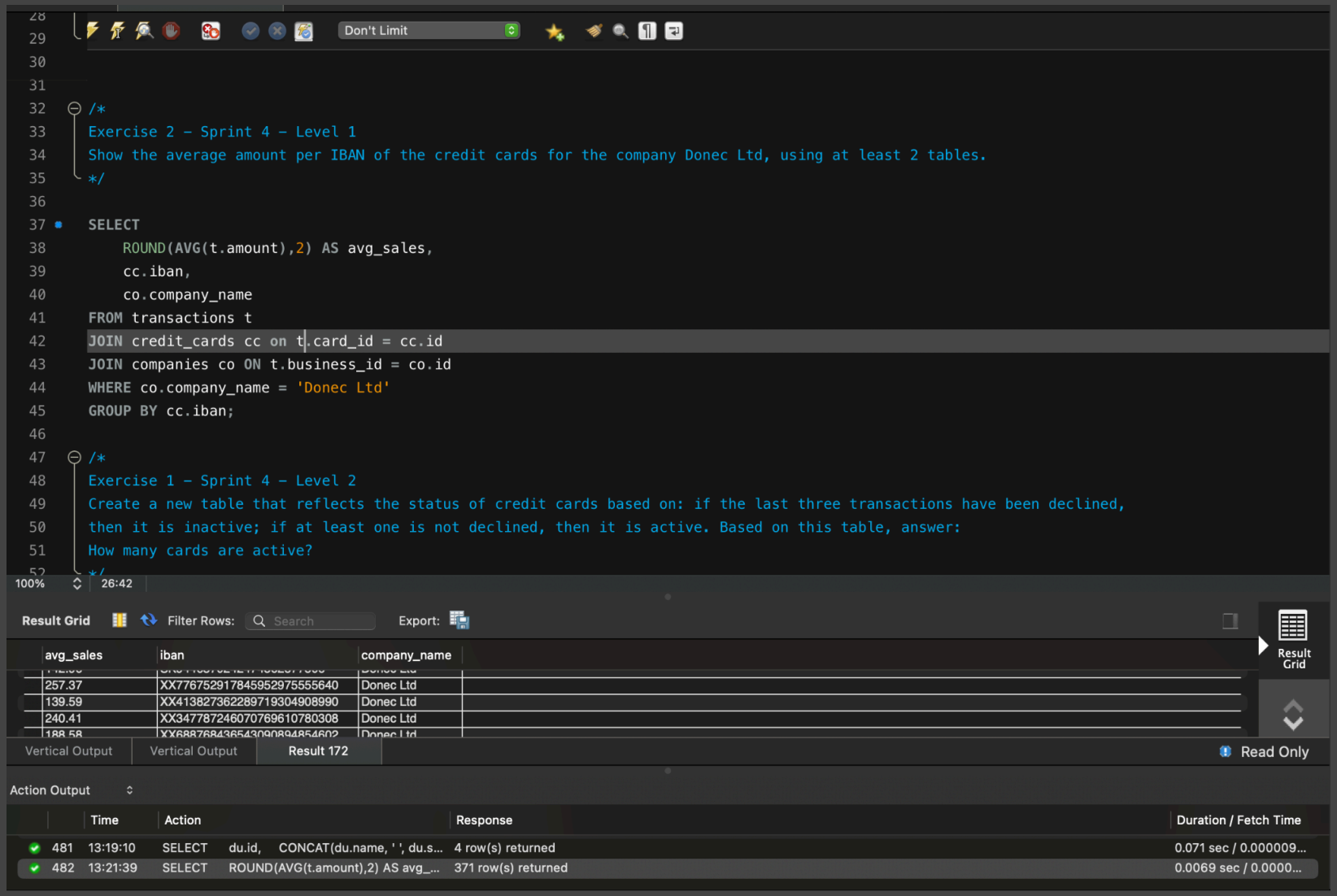
id	full_name
185	Molly Gilliam
289	Dxwgi Hwcru
318	Bnyr Astuw
454	Sfzzoh Xqvfridxs

Vertical Output | Vertical Output | Result 171 | Read Only

Action Output

	Time	Action	Response	Duration / Fetch Time
480	13:11:15	SELECT ROUND(AVG(t.amount),2) AS avg_...	371 row(s) returned	0.0084 sec / 0.00012...
481	13:19:10	SELECT du.id, CONCAT(du.name, ' ', du.s...	4 row(s) returned	0.071 sec / 0.000009...

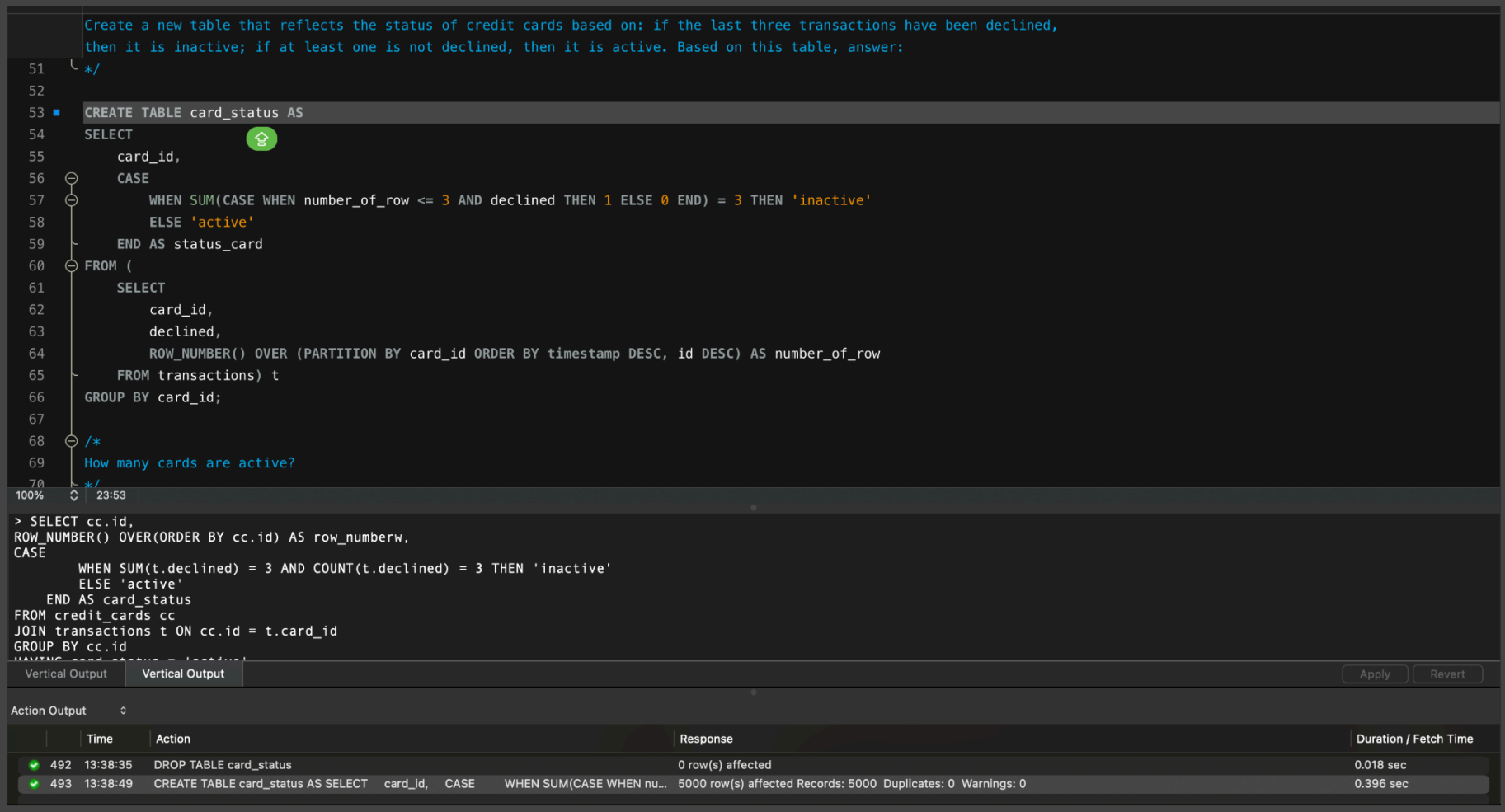
Mostra la mitjana d'amount per IBAN de les targetes de crèdit a la companyia Donec Ltd, utilitza almenys 2 taules.



José Messias Garcia da Silva Ferreira

SPRINT 4 - NIVEL 2

Crea una nova taula que reflecteixi l'estat de les targetes de crèdit basat en: si les tres últimes transaccions han estat declinades aleshores és inactiu, si almenys una no és rebutjada aleshores és actiu. Partint d'aquesta taula respon:



```
Create a new table that reflects the status of credit cards based on: if the last three transactions have been declined,
then it is inactive; if at least one is not declined, then it is active. Based on this table, answer:
*/

CREATE TABLE card_status AS
SELECT
    card_id,
    CASE
        WHEN SUM(CASE WHEN number_of_row <= 3 AND declined THEN 1 ELSE 0 END) = 3 THEN 'inactive'
        ELSE 'active'
    END AS status_card
FROM (
    SELECT
        card_id,
        declined,
        ROW_NUMBER() OVER (PARTITION BY card_id ORDER BY timestamp DESC, id DESC) AS number_of_row
    FROM transactions) t
GROUP BY card_id;

/*
How many cards are active?
*/
```

100% 23:53

```
> SELECT cc.id,
ROW_NUMBER() OVER(ORDER BY cc.id) AS row_numberw,
CASE
        WHEN SUM(t.declined) = 3 AND COUNT(t.declined) = 3 THEN 'inactive'
        ELSE 'active'
    END AS card_status
FROM credit_cards cc
JOIN transactions t ON cc.id = t.card_id
GROUP BY cc.id
```

Vertical Output | Vertical Output | Apply | Revert

Action Output

	Time	Action	Response	Duration / Fetch Time
492	13:38:35	DROP TABLE card_status	0 row(s) affected	0.018 sec
493	13:38:49	CREATE TABLE card_status AS SELECT card_id, CASE WHEN SUM(CASE WHEN nu...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.396 sec

Exercici 1
Quantes targetes estan actives?

```
61      SELECT
62          card_id,
63          declined,
64          ROW_NUMBER() OVER (PARTITION BY card_id ORDER BY timestamp DESC, id DESC) AS number_of_row
65      FROM transactions) t
66  GROUP BY card_id;
67
68  /*
69  How many cards are active?
70  */
71  SELECT * FROM card_status;
72
73  SELECT COUNT(*) AS active_cards
74  FROM card_status
75  WHERE status_card = 'Active';
76
77
78
79  /*
80  Exercise 1 - Sprint 4 - Level 3
81  Create a table that allows us to join the data from the new products.csv file with the database,
82  taking into account that transaction contains product ids. Generate the following query:
```

100% 31:73

Result Grid | Filter Rows: Search | Export:

active_cards
4995

Result Grid | Form Editor

Vertical Output | Vertical Output | Result 178 | Read Only

Action Output

	Time	Action	Response	Duration / Fetch Time
495	13:39:36	SELECT COUNT(*) AS active_cars FROM card_status WHERE status_card = 'Active'	1 row(s) returned	0.0045 sec / 0.00001...
496	13:39:49	SELECT COUNT(*) AS active_cards FROM card_status WHERE status_card = 'Active'	1 row(s) returned	0.0040 sec / 0.0000...

José Messias Garcia da Silva Ferreira

SPRINT 4 - NIVEL 3

Crea una taula amb la qual puguem unir les dades del nou arxiu products.csv amb la base de dades creada, tenint en compte que des de transaction tens product_ids. Genera la següent consulta:

Exercici 1

Necessitem conèixer el nombre de vegades que s'ha venut cada producte.

```
Exercise 1 - Sprint 4 - Level 3
Create a table that allows us to join the data from the new products.csv file with the database,
taking into account that transaction contains product_ids. Generate the following query:

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

SELECT
    p.id,
    p.product_name,
    COUNT(DISTINCT t.id) AS total_sales
FROM transaction_products tp
JOIN products p ON tp.product_id = p.id
JOIN transactions t ON tp.transaction_id = t.id
WHERE t.declined = 0
GROUP BY p.id, p.product_name
ORDER BY p.product_name;

/*
THE BRIDGE TABLE ALREADY ESTABLISHES THE RELATIONSHIP BETWEEN PRODUCTS AND TRANSACTIONS.
I JUST ADDED THE INFORMATION USING JOINS AND COUNT TO GET THE TOTAL SALES.
*/
```

100% 18:96

Result Grid | Filter Rows: Search | Export:

id	product_name	total_sales
85	Bastard of north	2534
22	Chewbacca mustafar	2437
28	Chewbacca mustafar	2572
64	Direwolf	2562

Vertical Output | Vertical Output | Result 173 | Read Only

Action Output

	Time	Action	Response	Duration / Fetch Time
483	13:23:50	SELECT COUNT(*) AS active_cars FROM card_status WHERE status_card = 'Active'	Error Code: 1146. Table 'eurocommerce.card_status' doesn't exist	0.0014 sec
484	13:27:34	SELECT p.id, p.product_name, COUNT(DISTINCT t.id) AS total_sales FROM transacti...	100 row(s) returned	1.691 sec / 0.000019...