

SPRINT 4



Nivell 1

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:

Exercici 1

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

Creación database y tablas:

-Primer paso:

Creo un nuevo database llamado TransferAnalytics donde crear la varias tablas que nececitamos.

-Segundo paso:

Creo las tablas donde tenemos que cargar nuestros archivos CSV, como buena práctica pongo formato de columnas Varchar y NO pongo claves primarias.

He resumido estos paso en el script “create_table”:

The screenshot shows the MySQL Workbench interface. The top pane displays the SQL editor with the following script:

```
1 • DROP DATABASE IF EXISTS TransferAnalytics;
2
3 • CREATE DATABASE TransferAnalytics;
4 • USE TransferAnalytics;
5
6
7 • DROP TABLE IF EXISTS american_users;
8
9 • CREATE TABLE american_users(
10     id VARCHAR(10),
11     name VARCHAR(50),
12     surname VARCHAR(50),
13     phone VARCHAR(50),
14     email VARCHAR(50),
15     birth_date VARCHAR(50),
16     country VARCHAR(50),
17     city VARCHAR(50)).
```

The bottom pane shows the execution log:

Action	Time	Action	Message	Duration / Fetch
611	17:54:44	CREATE DATABASE TransferAnalytics	1 row(s) affected	0.000 sec
612	17:54:44	USE TransferAnalytics	0 row(s) affected	0.000 sec
613	17:54:44	DROP TABLE IF EXISTS american_users	0 row(s) affected, 1 warning(s): 1051 Unknown table 'transferanalytics.american_users'	0.000 sec
614	17:54:44	CREATE TABLE american_users(... 0 row(s) affected	0.032 sec
615	17:54:44	id VARCHAR(10),	... 0 row(s) affected	0.000 sec
616	17:54:44	name VARCHAR(50),	... 0 row(s) affected	0.016 sec
617	17:54:44	surname VARCHAR(50),	... 0 row(s) affected, 1 warning(s): 1051 Unknown table 'transferanalytics.credit_cards'	0.015 sec
618	17:54:44	phone VARCHAR(50),	... 0 row(s) affected	0.016 sec
619	17:54:44	email VARCHAR(50),	... 0 row(s) affected, 1 warning(s): 1051 Unknown table 'transferanalytics.european_users'	0.000 sec
620	17:54:44	birth_date VARCHAR(50),	... 0 row(s) affected	0.047 sec
621	17:54:44	country VARCHAR(50),	... 0 row(s) affected, 1 warning(s): 1051 Unknown table 'transferanalytics.products'	0.000 sec
622	17:54:44	city VARCHAR(50)).	... 0 row(s) affected	0.031 sec
623	17:54:44	DROP TABLE IF EXISTS transactions	0 row(s) affected, 1 warning(s): 1051 Unknown table 'transferanalytics.transactions'	0.000 sec
624	17:54:44	CREATE TABLE transactions(... 0 row(s) affected	0.031 sec

-Tercero paso:

Importo las tablas desde los fichero CSV usando LOAD DATA INFILE, fue importante detectar los varios problemas por cada fila y cambiar las varias impostaciones (set, optionally).

He creado lo script “load_data infile”:

The screenshot shows the MySQL Workbench interface. In the top-left, the SQL editor contains the following script:

```
1  ### Importar tablas : LOAD DATA INFILE ###
2
3  -- hay un problema con el campo fecha , hay una coma adentro! PONER OPTIONALLY... --
4 • LOAD DATA
5  INFILE 'C:\\\\ProgramData\\\\MySQL\\\\MySQL Server 8.0\\\\Uploads\\\\american_users.csv'
6  INTO TABLE american_users
7  FIELDS TERMINATED BY ','
8  OPTIONALLY ENCLOSED BY '\"'
9  IGNORE 1 ROWS;
10
11 • SELECT * FROM american_users;
```

In the bottom-right corner of the editor, there is a note: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

The bottom half of the screen shows the "Result Grid" pane, which displays the data from the "american_users" table. The columns are: id, product_name, price, colour, weight, and warehouse_id. The data rows are:

	id	product_name	price	colour	weight	warehouse_id
▶	1	Direwolf Stannis	161.11	#7c7c7c	1	WH-4
2	2	Tarly Stark	9.24	#919191	2	WH-3
3	3	duel tourney Lannister	171.13	#d8d8d8	1.5	WH-2
4	4	warden south duel	71.89	#111111	3	WH-1
5	5	skywalker ewok	171.22	#dbdbdb	3.2	WH-0

Below the grid, the status bar shows: american_users 36 companies 37 credit_cards 38 european_users 39 products 40.

The bottom section is the "Output" pane, which lists the log entries for the operations:

#	Time	Action	Message	Duration / Fetch
625	18:10:39	LOAD DATA INFILE 'C:\\\\ProgramData\\\\MySQL\\\\MySQL Server 8.0\\\\Uploads\\\\american_users.csv' INTO TABLE american_users	1010 row(s) affected Records: 1010 Deleted: 0 Skipped: 0 Warnings: 0	0.063 sec
626	18:10:39	SELECT * FROM american_users	1010 row(s) returned	0.000 sec / 0.000 sec
627	18:10:39	LOAD DATA INFILE 'C:\\\\ProgramData\\\\MySQL\\\\MySQL Server 8.0\\\\Uploads\\\\companies.csv' INTO TABLE companies	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.000 sec
628	18:10:39	SELECT * FROM companies	100 row(s) returned	0.000 sec / 0.016 sec
629	18:10:39	LOAD DATA INFILE 'C:\\\\ProgramData\\\\MySQL\\\\MySQL Server 8.0\\\\Uploads\\\\credit_cards.csv' INTO TABLE credit_cards	5000 row(s) affected Records: 5000 Deleted: 0 Skipped: 0 Warnings: 0	0.125 sec
630	18:10:39	SELECT * FROM credit_cards	5000 row(s) returned	0.000 sec / 0.016 sec
631	18:10:39	LOAD DATA INFILE 'C:\\\\ProgramData\\\\MySQL\\\\MySQL Server 8.0\\\\Uploads\\\\european_users.csv' INTO TABLE european_users	3990 row(s) affected Records: 3990 Deleted: 0 Skipped: 0 Warnings: 0	0.109 sec
632	18:10:39	SELECT * FROM european_users	3990 row(s) returned	0.000 sec / 0.016 sec
633	18:10:39	LOAD DATA INFILE 'C:\\\\ProgramData\\\\MySQL\\\\MySQL Server 8.0\\\\Uploads\\\\products.csv' INTO TABLE products	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.015 sec
634	18:10:39	SELECT * FROM products	100 row(s) returned	0.000 sec / 0.000 sec
635	18:10:39	LOAD DATA INFILE 'C:\\\\ProgramData\\\\MySQL\\\\MySQL Server 8.0\\\\Uploads\\\\transactions.csv' INTO TABLE transactions	100000 row(s) affected Records: 100000 Deleted: 0 Skipped: 0 Warnings: 0	1.797 sec

-Cuarto paso:

Una vez importado los datos, he modificado los varios formatos de columnas, limpiado los valores que no había hecho en el paso de carga y añadido las varias claves primarias,foráneas y los índices.

También he creado una nueva tabla “User” con la función “Union All”, entre las dos tablas “european_users” y “american_users”(he añadido una columna “user_region”), para optimizar mi modelo a estrella en manera que sea el más funcional posible.

Para acabar he hecho un check general de todas las tablas.

He resumido todos estos pasaje en lo script “modify_table”:

1. companies, credit_cards, products

```

create_table load_data_infile modify_table NIVEL1 NIVEL2 NIVEL3
[File] [Edit] [View] [Tools] [Help] [Don't Limit] [?] [Jump to]
SQLAdditions ..... SQLAdditions ..... SQLAdditions .....
Automatic context help is disabled. Use the toolbar manually get help for the current caret position or toggle automatic help.

1   -- ----- COMPANIES : nombre columna mas PRIMARY -----
2   ● ALTER TABLE companies CHANGE company_id id VARCHAR(10);
3
4   ● ALTER TABLE companies
5     ADD CONSTRAINT pk_id_company PRIMARY KEY (id);
6
7   -- ----- CREDIT_CARDS : PRIMARY y cambio formato columna expiring_date -----
8   ● ALTER TABLE credit_cards
9     ADD CONSTRAINT pk_id_card PRIMARY KEY (id);
10
11  ● UPDATE credit_cards
12    SET expiring_date = STR_TO_DATE(expiring_date, '%m/%d/%y')
13    LIMIT 10000;
14
15  ● ALTER TABLE credit_cards MODIFY expiring_date DATE;
16
17  -- -----PRODUCTS : PRIMARY ,extra simbolo $ , cambio nombre columna y formato price , formato weight -----
18  ● ALTER TABLE products
19    ADD CONSTRAINT pk_id_prod PRIMARY KEY (id);
20
21  ● UPDATE products
22    SET price = REPLACE(price, '$', '')
23    LIMIT 1000 ;
24
25  ● ALTER TABLE products CHANGE price price_5 DECIMAL(10,2);
26
27  ● ALTER TABLE products MODIFY weight FLOAT;
28

```

Output

#	Time	Action	Message	Duration / Fetch
308	13:17:11	ALTER TABLE companies CHANGE company_id id VARCHAR(10)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.031 sec
309	13:17:11	ALTER TABLE companies ADD CONSTRAINT pk_id_company PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.047 sec
310	13:17:11	ALTER TABLE credit_cards ADD CONSTRAINT pk_id_card PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.172 sec
311	13:17:11	UPDATE credit_cards SET expiring_date = STR_TO_DATE(expiring_date, '%m/%d/%y') LIMIT 10000	5000 row(s) affected Rows matched: 5000 Changed: 5000 Warnings: 0	0.109 sec
312	13:17:12	ALTER TABLE credit_cards MODIFY expiring_date DATE	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.109 sec
313	13:17:12	ALTER TABLE products ADD CONSTRAINT pk_id_prod PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.063 sec
314	13:17:12	UPDATE products SET price = REPLACE(price, '\$', '') LIMIT 1000	0 row(s) affected Rows matched: 100 Changed: 0 Warnings: 0	0.000 sec
315	13:17:12	ALTER TABLE products CHANGE price price_5 DECIMAL(10,2)	100 row(s) affected Records: 100 Duplicates: 0 Warnings: 0	0.047 sec
316	13:17:12	ALTER TABLE products MODIFY weight FLOAT	100 row(s) affected Records: 100 Duplicates: 0 Warnings: 0	0.031 sec

2. users

```

create_table load_data_infile modify_table* NIVEL1 NIVEL2 NIVEL3
[File] [Edit] [View] [Tools] [Help] [Don't Limit] [?] [Jump to]
SQLAdditions ..... SQLAdditions ..... SQLAdditions .....
Automatic context help is disabled. Use the toolbar manually get help for the current caret position or toggle automatic help.

33  ● ALTER TABLE american_users ADD COLUMN user_region VARCHAR(20) DEFAULT "American";
34  ● ALTER TABLE european_users ADD COLUMN user_region VARCHAR(20) DEFAULT "European";
35
36  ● CREATE TABLE users AS
37    SELECT * FROM american_users;
38    UNION ALL
39    SELECT * FROM european_users;
40
41  -- ----- USERS, PRIMARY y formato columnas -----
42  ● ALTER TABLE users
43    ADD CONSTRAINT pk_user_id PRIMARY KEY (id);
44
45  ● UPDATE users
46    SET birth_date = STR_TO_DATE(birth_date, "%d-%m-%Y")
47    LIMIT 10000;
48
49  ● ALTER TABLE users MODIFY birth_date DATE;
50  ● ALTER TABLE users MODIFY name VARCHAR(20);
51  ● ALTER TABLE users MODIFY name VARCHAR(30);
52  ● ALTER TABLE users MODIFY country VARCHAR(30);
53  ● ALTER TABLE users MODIFY city VARCHAR(20);
54  ● ALTER TABLE users MODIFY postal_code VARCHAR(20);
55  ● ALTER TABLE users MODIFY name VARCHAR(30);

```

Output

#	Time	Action	Message	Duration / Fetch
62	13:23:08	ALTER TABLE american_users ADD COLUMN user_region VARCHAR(20) DEFAULT "American"	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.016 sec
63	13:23:08	ALTER TABLE european_users ADD COLUMN user_region VARCHAR(20) DEFAULT "European"	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.016 sec
64	13:23:08	CREATE TABLE users AS SELECT * FROM american_users UNION ALL ...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.140 sec
65	13:23:08	ALTER TABLE users ADD CONSTRAINT pk_user_id PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.141 sec
66	13:23:08	UPDATE users SET birth_date = STR_TO_DATE(birth_date, "%d-%m-%Y") LIMIT 10000	5000 row(s) affected Rows matched: 5000 Changed: 5000 Warnings: 0	0.078 sec
67	13:23:08	ALTER TABLE users MODIFY birth_date DATE	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.109 sec
68	13:23:08	ALTER TABLE users MODIFY name VARCHAR(20)	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.094 sec
69	13:23:08	ALTER TABLE users MODIFY name VARCHAR(30)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.015 sec
70	13:23:08	ALTER TABLE users MODIFY country VARCHAR(30)	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.094 sec
71	13:23:09	ALTER TABLE users MODIFY city VARCHAR(20)	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.094 sec
72	13:23:09	ALTER TABLE users MODIFY postal_code VARCHAR(20)	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.125 sec
73	13:23:09	ALTER TABLE users MODIFY name VARCHAR(30)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.015 sec

3. transactions

SQlAdditions

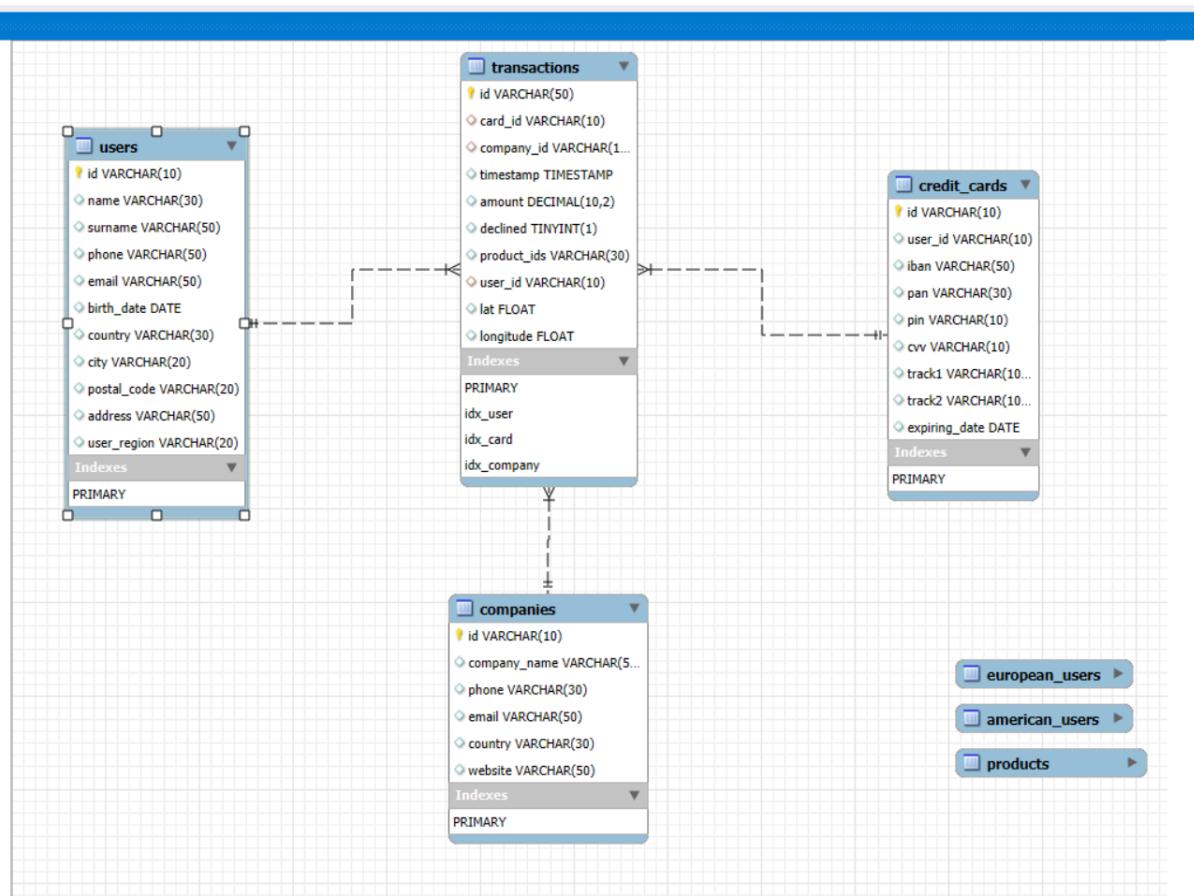
```

create_table load_data_infile modify_table NIVEL1 NIVEL2 NIVEL3
  Don't Limit
  SQL Additions
  Automatic context help disabled. Use the toolbar manually get help for t current caret position or toggle automatic help
  Context Help Snippets

Output
  Action Output
  # Time Action Message Duration / Fetch
  74 13:25:51 ALTER TABLE transactions ADD CONSTRAINT pk_id_transaction PRIMARY KEY (id) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 1.204 sec
  75 13:25:52 ALTER TABLE transactions CHANGE business_id company_id VARCHAR(10) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.031 sec
  76 13:25:52 ALTER TABLE transactions MODIFY lat FLOAT 100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0 0.922 sec
  77 13:25:53 ALTER TABLE transactions MODIFY longitude FLOAT 100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0 0.656 sec
  78 13:25:53 ALTER TABLE transactions MODIFY amount DECIMAL(10,2) 100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0 0.625 sec
  79 13:25:54 ALTER TABLE transactions MODIFY declined BOOLEAN 100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0 0.609 sec
  80 13:25:55 ALTER TABLE transactions MODIFY timestamp TIMESTAMP DEFAULT (CURRENT_TIMESTAMP) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.016 sec
  81 13:25:55 ALTER TABLE transactions ADD CONSTRAINT fk_companies FOREIGN KEY (company_id) REFERENCES companies(id) 100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0 1.000 sec
  82 13:25:56 ALTER TABLE transactions ADD CONSTRAINT fk_credit_cards FOREIGN KEY (card_id) REFERENCES credit_cards(id) 100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0 1.250 sec
  83 13:25:57 ALTER TABLE transactions ADD CONSTRAINT fk_user FOREIGN KEY (user_id) REFERENCES users(id) 100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0 1.500 sec
  84 13:25:58 CREATE INDEX idx_user ON transactions(user_id) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.469 sec
  85 13:25:59 CREATE INDEX idx_card ON transactions(card_id) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.593 sec
  86 13:25:59 CREATE INDEX idx_company ON transactions(company_id) 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 0.547 sec

```

AHORA HE CREADO EL MODELO ESTRELLA PARA CONTESTAR AL PRIMERO ENUNCIADO:



-SCRIPT PRIMERO EXERCICIO:

The screenshot shows the MySQL Workbench interface with the following details:

- Toolbar:** Create Table, Load Data Infile, Modify Table, NIVEL1, NIVEL2, NIVEL3, Don't Limit.
- Script Editor:** Displays the SQL code for Exercise 1, which selects user names and transaction counts from the users and transactions tables.
- Result Grid:** Shows the output of the query, listing users with their full names and transaction counts.

user_id	full_name	count_transactions
185	Molly Gilliam	110
289	Dixie Hirsch	94
318	Briy Astoria	91
454	Stzoh Xgvfridxs	81

- Output:** Action Output panel showing the execution log with two entries: 'USE transferanalytics' and the query execution.

Exercici 2

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

-SCRIPT SEGUNDO EXERCICIO:

The screenshot shows the MySQL Workbench interface with the following details:

- Toolbar:** Create Table, Load Data Infile, Modify Table, NIVEL1, NIVEL2, NIVEL3, Don't Limit.
- Script Editor:** Displays the SQL code for Exercise 2, which joins credit_cards and transactions tables to find the average amount for cards belonging to 'Donec Ltd'.
- Result Grid:** Shows the output of the query, listing IBAN numbers and their average amounts.

iban	avg_amount
XX383017813919620199366352	680.69
XX637706357397570394973913	680.01
XX9713939714652920231225	645.46
XX17184711692892375969307	628.89
XX22542463881854240623575	608.68
XX748890729057195711766071	607.29
TH9614563570667381893122	605.41

- Output:** Action Output panel showing the execution log with two entries: 'SELECT user_id, ...' and 'SELECT cc.iban, ...'.



Nivell 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:

Exercici 1

Quantes targetes estan actives?

COMMENTARIO:

Para poder resolver este ejercicio he utilizado la función de ventana: ROW_NUMBER

The screenshot shows the Oracle SQL Developer interface. The code editor displays a SQL script named 'NIVEL2' containing the following code:

```
create_table load_data_jinfile modify_table* NIVEL1 NIVEL2 x NIVEL3
8 • CREATE TABLE analysis_cards AS
9     SELECT t.card_id,
10        CASE
11            WHEN SUM(t.declined) > 3
12            THEN 'INACTIVE'
13            ELSE 'ACTIVE'
14        END AS status_cards
15    FROM (
16        SELECT card_id,
17               id,
18               declined,
19               timestamp,
20               ROW_NUMBER()OVER(PARTITION BY card_id ORDER BY timestamp DESC) AS orden_transactions
21        FROM transactions) AS t
22    WHERE t.orden_transactions BETWEEN 1 AND 3
23    GROUP BY t.card_id;
24
25 •     SELECT * FROM analysis_cards;
26      -- Exercici 1
27      -- Quantes targetes estan actives?
28
29 •     SELECT count(card_id) AS count_active_cards
30     FROM analysis_cards
31     WHERE status_cards = 'ACTIVE';
32
33
```

The results grid below the code editor shows the output of the query:

count_active_cards
4995

The output pane at the bottom shows the execution details:

Action Output	#	Time	Action	Message	Duration / Fetch
	93	13:33:38	SELECT * FROM analysis_cards	5000 row(s) returned	0.000 sec / 0.000 sec
	94	13:33:38	SELECT count(card_id) AS count_active_cards FROM analysis_cards WHERE status_cards = 'ACTIVE'	1 row(s) returned	0.000 sec / 0.000 sec



Nivell 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.

CREACIÓN NUEVA TABLA PARA CONECTAR TRANSACTIONS CON PRODUCTS:

-Primer paso:

The screenshot shows the MySQL Workbench interface. In the top-left pane, there is a code editor with the following SQL script:

```
create_table load_data infile modify_table* NIVEL1 NIVEL2 NIVEL3
9 • DROP TABLE IF EXISTS detalles_transactions;
10
11 • CREATE TABLE detalles_transactions(
12     product_id varchar(10),
13     transaction_id VARCHAR(50),
14     PRIMARY KEY (transaction_id,product_id),
15     FOREIGN KEY (transaction_id) REFERENCES transactions(id),
16     FOREIGN KEY (product_id) REFERENCES products(id));
17
18
19 • INSERT INTO detalles_transactions(transaction_id , product_id)
20     SELECT t.id AS transaction_id,
21             p.id AS product_id
22     FROM transactions AS t
23     JOIN products AS p
24     ON FIND_IN_SET(p.id,REPLACE(t.product_ids," ","")) > 0;
25
26 • SELECT * FROM detalles_transactions;
27
```

In the bottom-left pane, the 'Result Grid' shows the data inserted into the 'detalles_transactions' table:

product_id	transaction_id
1	001A60EA-DC9C-4E5A-9460-6628B100E7E1
1	0032F0BB-BB66-4AAB-B3EE-EAD533C0C48
1	00342381-5030-422D-85AB-F2D4FFAAD4C7
1	004CA080-E537-46D8-BE44-343D2176DF15
1	004D1D85-B2CB-4460-9886-31C42CA96E5F

In the bottom-right pane, the 'Output' tab displays the execution log:

#	Time	Action	Message	Duration / Fetch
96	13:35:36	CREATE TABLE detalles_transactions(product_id varchar(10), transaction_id VARCHAR(50))	0 rows affected	0.016 sec
97	13:35:36	INSERT INTO detalles_transactions(transaction_id , product_id) SELECT t.id AS transaction_id, p.id AS product_id FROM transactions AS t JOIN products AS p ON FIND_IN_SET(p.id,REPLACE(t.product_ids," ","")) > 0;	253391 row(s) affected Records: 253391 Duplicates: 0 Warnings: 0	6.094 sec
98	13:35:42	SELECT * FROM detalles_transactions	253391 row(s) returned	0.000 sec / 0.094 sec

COMMENTARIO:

Para poder resolver este ejercicio he utilizado la función string FIND_IN_SET y he debido limpiar los espacios en blancos para que funcionara correctamente con la función REPLACE.

-Segundo paso:

Una vez creada la tabla ponte, puedo borrar la columna “products_ids” desde “Transactions” porque queda redundante , para acabar ejecuto la consulta.

The screenshot shows the MySQL Workbench interface. The SQL editor tab is active, displaying the following code:

```
create_table    load_data_infile    modify_table*    NIVEL1    NIVEL2    NIVEL3    X
27
28     ### PASAJE FINAL BORRO CAMPO PRODUCT_IDS PARA LIMPIAR #
29 • ALTER TABLE transactions DROP COLUMN product_ids;
30
31 -- Exercici 1
32 -- Necesitem conèixer el nombre de vegades que s'ha venut cada producte.
33
34 • SELECT d.product_id,p.product_name,count(d.product_id) AS count_sales_product
35 FROM detalles_transactions AS d
36 JOIN products AS p
37 ON d.product_id = p.id
38 GROUP BY d.product_id,p.product_name
39 ORDER BY count_sales_product DESC;
40
41 ## PASO FINAL PARA MODELO ##
```

The results grid shows the following data:

product_id	product_name	count_sales_product
52	riverlands the duel	2654
29	Tully maester Tarly	2635
21	duel Dreywolf	2609
16	the duel warden	2608
66	mustafar jinn	2601
87	sith Jade	2598
48	rock Renly in	2597
...

The output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
98	13:35:42	SELECT * FROM detalles_transactions	253391 row(s) returned	0.000 sec / 0.094 sec
99	13:37:26	ALTER TABLE transactions DROP COLUMN product_ids	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.079 sec
100	13:37:26	SELECT d.product_id,p.product_name,count(d.product_id) AS count_sales_product FROM detalles_transactions...	100 row(s) returned	0.265 sec / 0.000 sec

PASO FINAL:

Antes hemos creado la tabla “analysis_cards” para resolver la consulta del nivel 2, pero pienso que se podría haber creado una VIEW en nuestro caso, así que voy a cambiarlo.

Es un paso más que quiero hacer para optimizar todo lo que hemos creado en manera que sea lo más funcional posible, se hubiera tenido más campo “útiles” se podría haber conectado a la tabla “credit_card” para ampliar el nuestro diagrama pero en este caso lo veo redundante.

DESPUÉS HABER CREADO LA VIEW CREAMOS EL MODELO TABLAS FINAL:

Podemos definir el nuestro diagrama un MODELO ESTRELLA “no puro”, porque hemos debido conectar la tabla de hechos “transactions” con “products” creando la tabla ponte : “detalles_transactions”.

Hemos creado esta tabla porque una transacción puede incluir varios productos y un producto puede estar en varias transacciones que seria una relacion de muchos a muchos, la tabla puente convierte esta relación en dos relaciones 1 a N:

De products (1) a detalles_transactions (N)

De transactions (1) a detalles_transactions (N)

-Script view

The screenshot shows the MySQL Workbench interface with the following components:

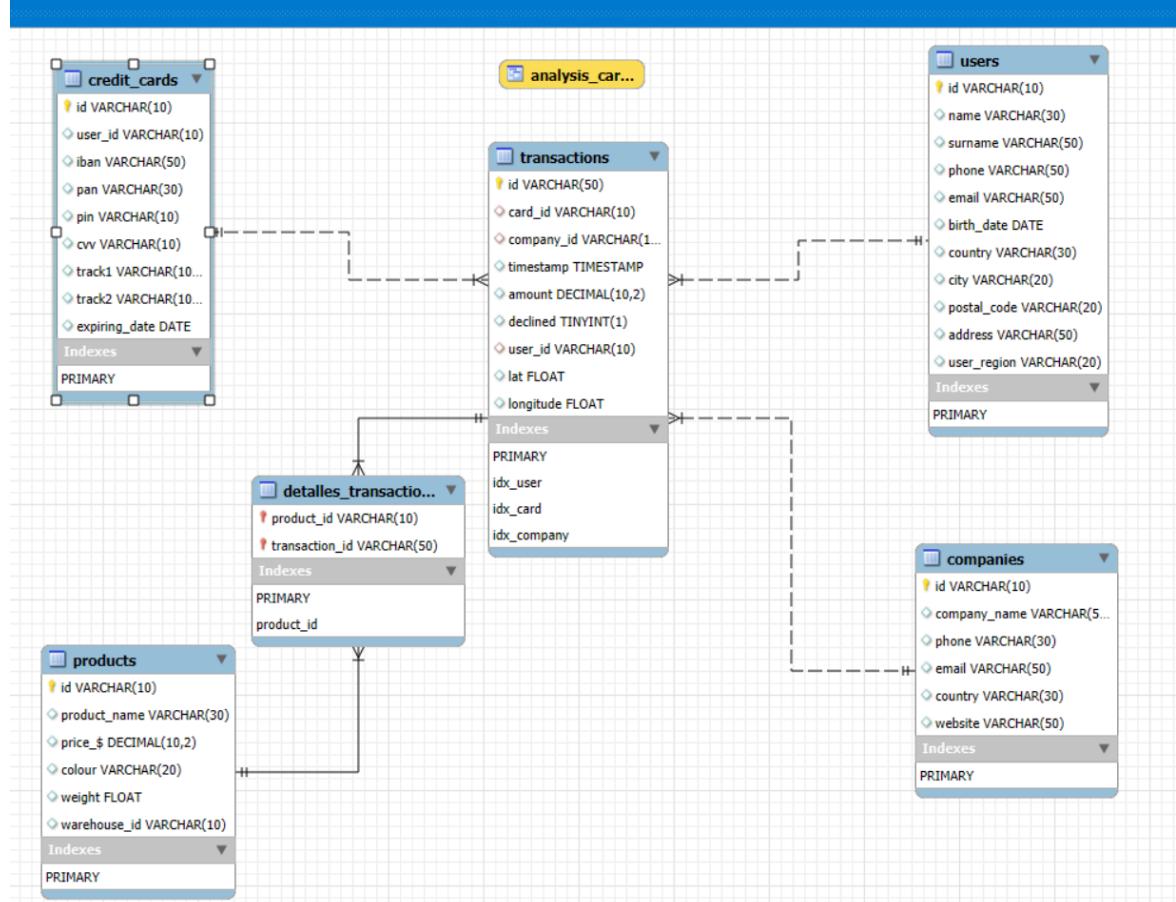
- SQL Editor:** Displays a SQL script for creating a view named `analysis_cards`. The script includes logic to calculate the status of cards based on declined transactions.
- Result Grid:** Shows the output of the `SELECT * FROM analysis_cards;` query, displaying card IDs and their status.
- Log:** Shows the execution history with three entries: dropping the view, creating it, and running the select query.

```

42 • DROP TABLE IF EXISTS analysis_cards;
43 • DROP VIEW IF EXISTS analysis_cards;
44
45 • CREATE VIEW analysis_cards AS
46     SELECT t.card_id,
47             CASE
48                 WHEN SUM(t.declined) = 3
49                 THEN "INACTIVE"
50                 ELSE "ACTIVE"
51             END AS status_cards
52     FROM (
53         SELECT card_id,
54                 id,
55                 declined,
56                 timestamp,
57                 ROW_NUMBER()OVER(PARTITION BY card_id ORDER BY timestamp DESC) AS orden_transactions
58             FROM transactions
59             WHERE t.orden_transactions BETWEEN 1 AND 3
60         GROUP BY t.card_id;
61
62 • SELECT * FROM analysis_cards;

```

-Nuevo Diagrama



EXPLICACIÓN MODELO ESTRELLA (NO PURO):

-LA TABLA DE HECHOS EN EL MEDIO :

TRANSACTIONS: con Primary Key: "id".

con Foreign Key: "User_id", "Company_id", "Card_id".

con Index: "User_id", "Company_id", "Card_id".

-LAS TABLAS DE DIMENSIONES :

USERS : con Primary Key "id"

CREDIT_CARDS: con Primary Key "id"

COMPANIES: con Primary Key "id"

PRODUCTS : con Primary Key "id"

-LA TABLA PUENTE :

DETALLES_TRANSACTION: con Primary Key : "(transaction_id,product_id)".

con Foreign Key: "product_id", "transaction_id"

RELACIONES:

Las tablas están conectadas gracias a las relaciones 1 a N:

Donde 1 es en Users (primary key "ID")

y N es en Transactions (foreign key "user_id")

donde 1 es en Credit_Card (primary key "ID")

y N es en Transactions (foreign key "card_id")

donde 1 es en Companies(primary key "ID")

y N es en Transactions (foreign key "company_id")

donde 1 es en Transactions (primary Key "ID")

y N es en Detalles_Transactions (foreign key "transaction_id")

donde 1 es en Companies (primary Key "ID")

y N es en Detalles_Transactions (foreign key "product_id")

COMENTARIO:

PODEMOS VER LA VISTA "ANALYSIS_CARDS" EN AMARILLO Y

HE DEJADO ABAJO, PARA QUE NO SE VIERAN EN EL MODELOS, LAS TABLA NO

CONECTADAS: "american_users" y "european_users"

