

Roser Blasco  
Sprint 4  
17 Desembre 2024  
Corregit per Vanessa Marina Detto

## Base de dades

### Nivell 1

- Exercici 1: 30 transaccions
- Exercici 2: mitjana per iban

### Nivell 2

- Exercici 1: targetes actives

### Nivell 3

- Reemplaçar espais
- Carregar taula productes
- Llista de productes

Exercici 1: vendes per producte

## Base de dades

Partint d'alguns arxius CSV dissenyaràs i crearàs la teva base de dades.

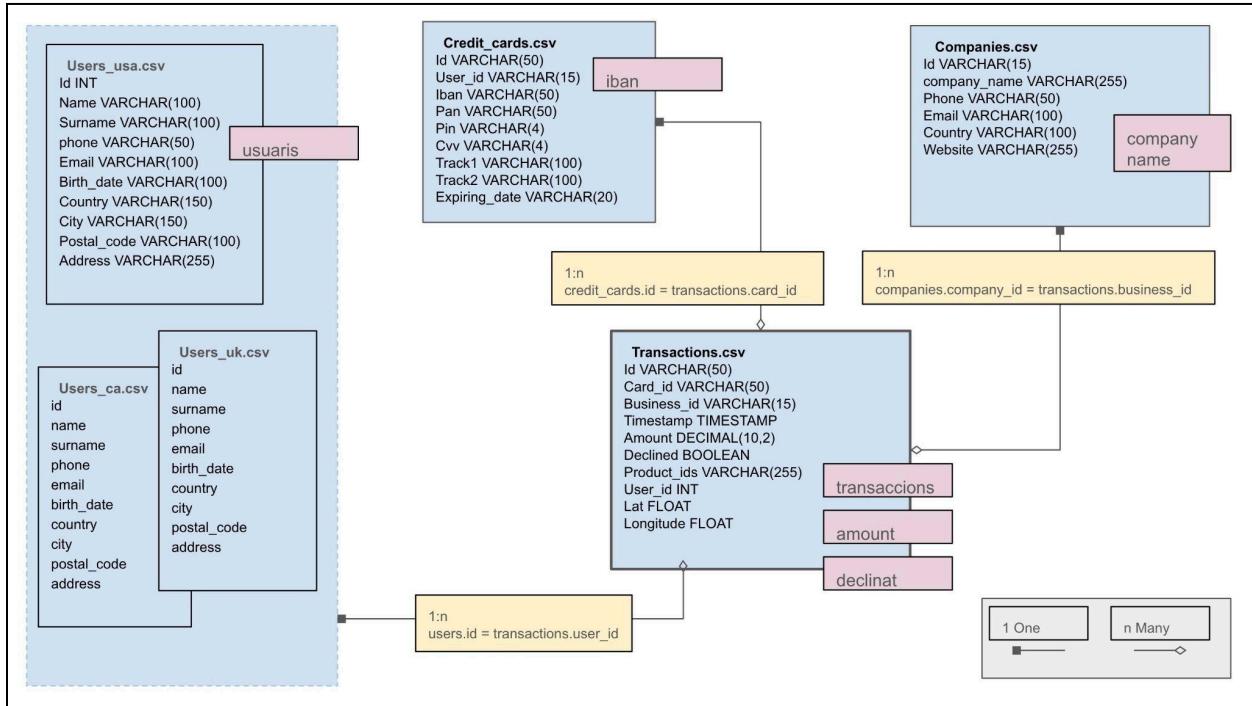
## Nivell 1

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

De moment montarem la següent base de dades amb 4 taules amb un esquema d'estrella, on la taula de transaccions serà la taula de fets. Juntarem les taules de users per a simplificar la relació amb credit card i que a més a més, quan es crein nous usuaris, evitar duplicats en el id d'usuari. El usuari de la credit card de moment no el relacionarem perquè no ens interessa de qui és el usuari que fa la compra.

Deixarem de banda la taula de producte perquè és una relació molts a molts i ho solucionarem en el nivell 3.

Afegim en rosa les dades que ens demanaran després en els exercicis i en groc la relació entre taules. Hem fet el grafic en power point, per això hem hagut d'inventar els símbols per a 1 i n. Un usuari pot tenir moltes compres, una targeta de crèdit es pot fer servir multiples vegades i les empreses poden tenir moltes vendes. Per això les relacions amb la taula transactions són de 1 a molts.



Començarem per crear la base de dades i la taula companies

Local instance 3306 - Warning - not supported MySQL Model\* EER Diagram

Schemas Administration Schemas

FUNCTIONS modelat\_sql\_roser2

Tables

Companies

Columns

id company\_name phone email country website

Indexes

Foreign Keys

Triggers

Object Info Session

Connection Details

- Name: Local instance 3306
- Host: localhost
- Port: 3306
- Login: root
- User: root
- Current User: root@localhost
- SSL: TLS\_AES\_128\_GCM\_S
- Cipher: HA256

Server

- Product: Homebrew
- Version: 9.0.1

Connector

- Version: C++ 9.0.0

SQL File 48\* SQL File 49\* SQL File 50\* SQL File 51\* Sprint4-2\* SQL File 53\* SQL File 54

Don't Limit

```

1  ### NIVELL 1 ####
2  ### PREPARACIÓ BBDD ####
3
4  --- Creem una base de dades
5 • CREATE DATABASE IF NOT EXISTS modelat_sql_roser2;
6 • USE modelat_sql_roser2;
7
8 • CREATE TABLE IF NOT EXISTS companies (
9    id VARCHAR(15) PRIMARY KEY,
10   company_name VARCHAR(255),
11   phone VARCHAR(50),
12   email VARCHAR(100),
13   country VARCHAR(100),
14   website VARCHAR(255)
15 );

```

Action Output

	Time	Action	Response	Duration / Fetch Time
278	15:28:52	CREATE TABLE IF NOT EXISTS companies ( id VARCHAR(15) PRIMARY KEY, company_name VARCHAR(255), phone VARCHAR(50), email VARCHAR(100), country VARCHAR(100), website VARCHAR(255) );	0 row(s) affected	0.027 sec

Query Completed

## La taula credit\_cards

The screenshot shows the MySQL Workbench interface with the 'Schemas' tab selected. Under the 'modelat\_sql\_roser2' schema, the 'Tables' section contains 'companies' and 'credit\_cards'. The 'credit\_cards' table is currently selected. The SQL editor at the bottom displays the following SQL code:

```

1  ## NIVELL 1 ##
2  ### PREPARACIÓ BBDD ##
3
4  -- Creem una base de dades i les taules
5 • CREATE DATABASE IF NOT EXISTS modelat_sql_roser2;
6 • USE modelat_sql_roser2;
7
8 • CREATE TABLE IF NOT EXISTS companies (
9    id VARCHAR(15) PRIMARY KEY,
10   company_name VARCHAR(255),
11   phone VARCHAR(50),
12   email VARCHAR(100),
13   country VARCHAR(100),
14   website VARCHAR(255)
15 );
16
17 • CREATE TABLE IF NOT EXISTS credit_cards (
18    id VARCHAR(50) PRIMARY KEY,
19    user_id VARCHAR(15),
20    iban VARCHAR(50),
21    pan VARCHAR(50),
22    pin VARCHAR(4),
23    cvv VARCHAR(4),
24    track1 VARCHAR(100),
25    track2 VARCHAR(100),
26    expiring_date VARCHAR(20)
27 );

```

The 'Object Info' and 'Session' tabs are visible on the left. The 'Connection Details' panel shows the connection is to 'Local instance 3306' on 'localhost' with 'root' as the user. The 'Server' and 'Connector' panels show 'Homebrew' and 'C++ 9.0.0' respectively. The 'Action Output' and 'Response' panels at the bottom show the execution details.

## La taula users

The screenshot shows the MySQL Workbench interface with the 'Schemas' tab selected. Under the 'modelat\_sql\_roser2' schema, the 'Tables' section contains 'companies' and 'users'. The 'users' table is currently selected. The SQL editor at the bottom displays the following SQL code:

```

12   email VARCHAR(100),
13   country VARCHAR(100),
14   website VARCHAR(255)
15 );
16
17 • CREATE TABLE IF NOT EXISTS credit_cards (
18    id VARCHAR(50) PRIMARY KEY,
19    user_id VARCHAR(15),
20    iban VARCHAR(50),
21    pan VARCHAR(50),
22    pin VARCHAR(4),
23    cvv VARCHAR(4),
24    track1 VARCHAR(100),
25    track2 VARCHAR(100),
26    expiring_date VARCHAR(20)
27 );
28
29 • CREATE TABLE IF NOT EXISTS users (
30    id INT PRIMARY KEY,
31    name VARCHAR(100),
32    surname VARCHAR(100),
33    phone VARCHAR(50),
34    email VARCHAR(100),
35    birth_date VARCHAR(100),
36    country VARCHAR(150),
37    city VARCHAR(150),
38    postal_code VARCHAR(100),
39    address VARCHAR(255)
40 );

```

The 'Object Info' and 'Session' tabs are visible on the left. The 'Connection Details' panel shows the connection is to 'Local instance 3306' on 'localhost' with 'root' as the user. The 'Server' and 'Connector' panels show 'Homebrew' and 'C++ 9.0.0' respectively. The 'Action Output' and 'Response' panels at the bottom show the execution details.

## La taula transactions

The screenshot shows the MySQL Workbench interface. On the left, the 'Schemas' tree view shows the 'transactions' schema selected. Under 'Columns', the following fields are listed:

- id
- card\_id
- business\_id
- timestamp
- amount
- declined
- product\_ids
- user\_id
- lat
- longitude

The main SQL editor area contains the following code:

```
36
37
38
39
40
41
42 • CREATE TABLE IF NOT EXISTS transactions (
43     id VARCHAR(50) PRIMARY KEY,
44     card_id VARCHAR(50),
45     business_id VARCHAR(15),
46     timestamp TIMESTAMP,
47     amount DECIMAL(10,2),
48     declined BOOLEAN,
49     product_ids VARCHAR(255),
50     user_id INT,
51     lat FLOAT,
52     longitude FLOAT
53 );
54
55 -- Afegir dades a les taules
56 • LOAD DATA INFILE 'companies.csv' INTO TABLE companies
57     FIELDS TERMINATED BY ',' OPTIONALLY ENCLOSED BY '"'
58     LINES TERMINATED BY '\r\n'
59     IGNORE 1 LINES;
```

The 'Object Info' tab at the bottom shows the connection details:

Connection Details	
Name:	Local instance 3306
Host:	localhost
Port:	3306

Afegim les dades a la taula companies

Local instance 3306 - Warning - not supported MySQL Model\* EER Diagram

**Administration Schemas**

**SCHEMAS**

Filter objects

**modelat\_sql\_oser**

- Tables
- Views
- Stored Procedures
- Functions

**modelat\_sql\_oser2**

- Tables
  - companies
  - credit\_cards
  - transactions
- Columns
  - id
  - card\_id
  - business\_id

**Object Info Session**

**Connection Details**

Name: Local instance 3306  
Host: localhost  
Port: 3306  
Login User: root  
Current User: root@localhost  
SSL cipher: TLS\_AES\_128\_GCM\_SHA256

**Server**

Product: Homebrew  
Version: 9.0.1

**Connector**

Version: C++ 9.0.0

```

34     email VARCHAR(100),
35     birth_date VARCHAR(100),
36     country VARCHAR(150),
37     city VARCHAR(150),
38     postal_code VARCHAR(100),
39     address VARCHAR(255)
40   );
41
42 • CREATE TABLE IF NOT EXISTS transactions (
43   id VARCHAR(15) PRIMARY KEY,
44   card_id VARCHAR(50),
45   business_id VARCHAR(15),
46   timestamp TIMESTAMP,
47   amount DECIMAL(10,2),
48   declined BOOLEAN,
49   product_id VARCHAR(255),
50   user_id INT,
51   lat FLOAT,
52   longitude FLOAT,
53   FOREIGN KEY (user_id) REFERENCES users (id),
54   FOREIGN KEY (card_id) REFERENCES credit_cards (id),
55   FOREIGN KEY (business_id) REFERENCES companies (id)
56 );
57
58 • LOAD DATA INFILE 'companies.csv' INTO TABLE companies
59   FIELDS TERMINATED BY ',' OPTIONALLY ENCLOSED BY '"'
60   LINES TERMINATED BY '\r\n'
61   IGNORE 1 LINES;
62

```

Action Output

Time	Action	Response	Duration / Fetch Time
320 15:55:27	LOAD	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.010 sec

Query Completed

## I mirem que estigu bé

Local instance 3306 - Warning - not supported MySQL Model\* EER Diagram

**Administration Schemas**

**SCHEMAS**

Filter objects

**modelat\_sql\_oser**

- Tables
- Views
- Stored Procedures
- Functions

**modelat\_sql\_oser2**

- Tables
  - companies
  - credit\_cards
  - transactions
- Columns
  - id
  - card\_id
  - business\_id

**Object Info Session**

**Connection Details**

Name: Local instance 3306  
Host: localhost  
Port: 3306  
Login User: root  
Current User: root@localhost  
SSL cipher: TLS\_AES\_128\_GCM\_SHA256

**Server**

Product: Homebrew  
Version: 9.0.1

**Connector**

Version: C++ 9.0.0

```

1 • SELECT *
2   FROM companies;

```

**Result Grid**

id	company_name	phone	email	country	website
b-2222	Ac Fermentum Incorporated	06 85 56 52 33	donec.portitor.tellus@yahoo.net	Germany	https://instagram.com/site
b-2226	Magna A Neque Industries	04 14 44 64 62	rius.donec.nibh@icloud.org	Australia	https://whatsapp.com/group/9
b-2230	Fusce Corp.	08 14 97 58 85	rius@protonmail.edu	United States	https://pinterest.com/sub/cars
b-2234	Convallis In Incorporated	06 66 57 29 50	mauris.ut@aol.co.uk	Germany	https://cnm.com/user/110
b-2238	Ante laculis Nec Foundation	08 23 04 99 53	sed.dictum.proin@outlook.ca	New Zealand	https://netflix.com/settings
b-2242	Donec Ltd	01 25 51 37 37	at.aculus@hotmail.co.uk	Norway	https://nytimes.com/user/110
b-2246	Sed Nunc Ltd	02 62 64 73 48	nibh@yahoo.org	United Kingdom	https://cnm.com/one
b-2250	Amet Nulla Donec Corporation	07 15 25 14 74	mattis.integer.eu@protonmail.net	Italy	https://netflix.com/sub/cars
b-2254	Nascetur Ridiculus Mus Inc.	06 26 87 61 84	suspendisse.dui@cloud.net	United States	https://ebay.com/sub
b-2258	Vestibulum Lorem PC	02 02 87 33 40	aenean.massa.integer@aol.net	Belgium	https://pinterest.com/sub/cars
b-2262	Gravida Sagittis LLP	03 81 28 33 97	turpis.vita@google.ca	Sweden	https://naver.com/site
b-2266	Mus Aenean Eget Foundation	06 25 15 52 43	mi.duis@hotmail.net	Sweden	https://instagram.com/group/9
b-2270	Diu Parturient Institute	05 36 29 78 74	pros@protonmail.org	Ireland	https://google.com/one
b-2274	Sed LLC	01 63 16 26 52	at@outlook.com	Belgium	https://reddit.com/fr
b-2278	Arcu LLP	06 46 04 41 45	dui@aol.ca	Norway	https://yahoo.com/sub
b-2282	Pretium Neque Corp.	07 77 48 55 28	eleifend.nec.malesuada@proto...	Australia	https://netflix.com/sub
b-2286	Fringilla LLC	08 29 15 93 57	gravida@protonmail.co.uk	New Zealand	https://reddit.com/user/110
b-2290	Quisque Libero LLC	01 45 48 71 11	sapien.molestie.orci@hotmail.c...	China	https://baidu.com/group/9
b-2294	Auctor Mauris Vel LLP	08 09 28 74 14	nec.tempus@icloud.co.uk	United States	https://instagram.com/fr
b-2298	Eti Etiam Laoreet Associates	07 69 74 17 45	ultrices@google.co.uk	Canada	https://yahoo.com/fr
b-2302	Nunc Intendum Incorporated	05 18 15 48 13	non@outlook.com	Germany	https://wikipedia.org/en-us
b-2306	Augue Foundation	06 88 43 15 63	mauris@yahoo.com	Germany	https://baidu.com/sub/cars
b-2310	Non Magna LLC	06 71 73 13 17	nisl.quisque.fringilla@hotmail.ca	United Kingdom	https://whatsapp.com/sites
b-2314	A Institute	03 34 91 68 65	metus.aliquam@google.edu	Belgium	https://reddit.com/fr
b-2318	Quam A Felis Industries	04 08 10 27 16	proin.velit@icloud.edu	Italy	https://ebay.com/settings
b-2322	Integer Mellis Corp.	03 12 20 45 24	eu.eros@protonmail.ca	Italy	https://netflix.com/group/9
b-2326	Enim Condimentum Ltd	09 05 51 66 25	imperdiet.non.vestibulum@yah...	United Kingdom	https://cnm.com/group/9
b-2330	Donec Fringilla PC	01 51 58 14 44	ut.lincident@hotmail.ca	France	https://google.com/fr

Action Output

Time	Action	Response	Duration
330 15:59:05	SELECT * FROM companies	100 row(s) returned	0.001

Query Completed

A la taula credit cards, en aquest cas només es carrega sense la r

The screenshot shows the MySQL Workbench interface. The left sidebar displays the database schema with two databases: 'modelat\_sql\_rosier' and 'modelat\_sql\_rosser2'. The 'Tables' section under 'modelat\_sql\_rosser2' lists 'companies', 'credit\_cards', and 'transactions'. The 'Columns' section for 'transactions' lists 'id', 'card\_id', and 'business\_id'. The main pane shows a SQL editor with the following query:

```
1 • LOAD DATA INFILE 'credit_cards.csv' INTO TABLE credit_cards
2   FIELDS TERMINATED BY ',' OPTIONALLY ENCLOSED BY '\"'
3   LINES TERMINATED BY '\n'
4   IGNORE 1 LINES;
5
```

The status bar at the bottom indicates the operation was completed successfully with 275 row(s) affected, 0 deleted, 0 skipped, and 0 warnings, in a duration of 0.011 sec.

I mirem que estan bé els resultats

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

- Connection:** Local Instance 3306 - Warning - not supported
- Schemas:** modelat\_sql\_rosser, modelat\_sql\_rosser2
- Tables:** companies, credit\_cards, transactions
- Functions:** None
- Stored Procedures:** None
- Columns:** id, user\_id, iban, pan, pin, cvv, track1, track2, expiring\_date
- Object Info:** Session
- Connection Details:**
  - Name: Local Instance 3306
  - Host: localhost
  - Port: 3306
  - Login User: root
  - Current User: root@localhost
  - User: root@localhost
  - SSL cipher: TLS\_AES\_128\_GCM\_SHA256
- Server:**
  - Product: Homebrew
  - Version: 9.0.1
- Connector:**
  - Version: C++ 9.0.0
- Query:** SELECT \* FROM credit\_cards;
- Result Grid:** Shows data from the credit\_cards table.
- Action Output:** Shows the execution details of the query.
- Statistics:** Duration: 0.0017 sec / 0.00015 ms, Fetch Time: 0.00015 ms.

Carreguem la taula transactions. Amb compte que aquí els valors no estan separats per una coma sinò per punt i coma

The screenshot shows the MySQL Workbench interface. The top menu bar includes 'Local instance 3306 - Warning - not supported', 'MySQL Model\*', and 'EER Diagram'. The main window has tabs for 'Administration' and 'Schemas'. Under 'Schemas', there is a tree view for the 'transactions' table, showing columns: id, card\_id, business\_id, timestamp, amount, declined, product\_ids, user\_id, lat, and longitude. Below the schema tree is a SQL editor pane containing the following code:

```
1 • LOAD DATA INFILE 'transactions.csv' INTO TABLE transactions
2   FIELDS TERMINATED BY ';' OPTIONALLY ENCLOSED BY '"'
3   LINES TERMINATED BY '\r\n'
4   IGNORE 1 LINES;
```

Below the code, the 'Object Info' tab is selected, showing 'Connection Details' and 'Server' information. The 'Connection Details' section includes fields like Name: Local Instance 3306, Host: localhost, Port: 3306, Login User: root, Current User: root@localhost, and SSL cipher: TLS\_AES\_128\_GCM\_SHA256. The 'Server' section includes Product: Homebrew, Version: 9.0.1, and Connector: C++ 9.0.0. At the bottom of the interface, a status bar indicates 'Query Completed'.

## Mirem que estigué bé

Local instance 3306 - Warning - not supported MySQL Model\* EER Diagram

Administration Schemas Sprint 4 SQL File 48\* Sprint4-2\* SQL File 57\* SQL File 53\* SQL File 56\*

Filter objects

SCHEMAS transactions

Columns id card\_id business\_id timestamp amount declined product\_ids user\_id lat longitude

Indexes

Foreign Keys

Object Info Session

Connection Details

Name: Local instance 3306  
Host: localhost  
Port: 3306  
Login User: root  
Current User: root@localhost  
SSL cipher: TLS\_AES\_128\_GCM\_SHA256

Server Product: Homebrew Version: 9.0.1  
Connector Version: C++ 9.0.0

Result Grid Filter Rows: Search Edit Export/Import:

id	card_id	business_id	timestamp	amount	declined	product_ids	user_id	lat	longitude
0466A42E-47CF-8D24-FD01-C0B689713128	CcU-4219	b-2302	2021-07-26 07:29:18	49.53	0	47, 97, 43	170	-43.9695	-117.525
063FB479-99EC-66FB-29F7-25726D17645	CcU-2987	b-2250	2022-01-06 21:25:27	92.61	0	47, 67, 31, 5	275	-81.2227	-129.05
066829C8-CD9B-A883-76BC-2E4CAF8C80AE	CcU-3743	b-2618	2022-01-26 02:07:14	394.18	0	89, 83, 79	265	-34.3593	100.556
06CD9A5A-9842-D684-DDDD-A5E394FEB9A	CcU-2959	b-2346	2021-10-26 23:00:01	279.93	0	43, 31	92	33.7381	158.298
07A46D48-31A3-7E87-6589-0DA902A109F	CcU-3225	b-2386	2021-06-28 21:11:42	340.87	1	47, 23	272	38.8342	92.1905
09DE92CE-6F27-2B87-1385-9365B2B3BE2	CcU-3071	b-2298	2021-05-11 20:40:45	303.05	1	67, 7	275	71.1706	10.5757
0A47ED9D-0C13-1962-F87B-3D6392A5B59	CcU-4359	b-2302	2022-02-26 20:33:54	430.49	0	29, 41, 11	221	-56.4901	114.801
0BEB8B07-9D66-1707-CE4B-9D7C7E1914B5	CcU-3141	b-2338	2022-03-04 14:54:35	288.81	1	19, 41, 29, 3	272	23.3264	-13.6037
0C7C3A33-9947-3BC1-846D-7BE3D0071598	CcU-3306	b-2434	2021-04-10 20:58:41	103.44	1	89, 31	272	63.3615	-68.6667
0CE957A6-CCA-287A-6839-8AB1B324853	CcU-3435	b-2506	2022-02-02 07:29:36	428.69	1	83, 43, 73, ...	269	-69.3537	-10.26
0DD2E608-5C9E-D1B3-4999-B99FA5A8035A	CcU-2953	b-2234	2021-04-17 05:17:17	282.47	1	7, 47, 17	275	9.66811	130.282
1029A4A4-8929-31F1-140C-07BA805013D2	CcU-3701	b-2414	2021-05-02 02:00:28	460.0	0	37, 13	267	-4.22046	-101.154
1029A4A4-8929-31F1-140C-07BA805013D2	CcU-2939	b-2346	2021-12-07 09:20:38	460.0	0	89, 11, 97, 97	275	32.0546	-140.147
1089101D-5020-A76C-55EF-C568C49A05D	CcU-2988	b-2222	2021-07-07 17:45:16	293.57	0	58, 29	275	83.7839	-178.86
1089107A-810C-76EB-AD15-1208CC128037	CcU-1155	b-2346	2021-05-16 21:00:28	293.85	1	43, 83	272	-32.0556	-76.7281
11A8ED97-EA12-189A-96F0-A93A CC172179	CcU-3981	b-2362	2021-07-14 20:55:48	157.20	0	29	68	-78.8402	8.76182
122DC33-E19F-D629-DCD8-9C54CF1EB9A	CcU-4361	b-2302	2021-06-09 06:04:14	172.01	0	1, 67, 19	221	29.6372	-166.173
133B82CC-DE52-8604-2D11-3DC5449E0A5F	CcU-3407	b-2490	2021-04-02 05:17:47	348.88	1	29	271	62.3246	101.017
135267BA-2E7D-957C-C42C-6450A2B3ED54	CcU-4520	b-2302	2021-12-29 20:38:23	17.97	0	11, 71	210	20.6724	14.9732
13DC69F-FA07-E32B-8309-D474C6281E0	CcU-3197	b-2370	2021-06-02 04:10:57	50.09	1	97, 29, 23	272	32.3746	165.016
13FB3B312-B283-7976-DA47-14DE5986218A	CcU-3365	b-2466	2021-10-30 13:42:44	80.58	1	11, 29, 43, 79	272	20.2369	-117.885
147983D2-B7BA-C7B8-4CE3-8D7C2DE65AB	CcU-2994	b-2326	2021-08-09 00:58:07	309.45	0	89, 41, 59	133	66.2672	172.399
14CAE5B5-8FB1-3E4A-4C85-0E4A167534F4	CcU-4849	b-2302	2021-12-31 00:29:42	388.04	0	2, 13, 53, 31	189	-53.6202	93.0533
1517E8A8-B844-A7C9-6691-692C27D0DC2C	CcU-3501	b-2546	2021-03-23 01:58:34	295.51	1	83, 43	267	-70.0484	-44.5029
152598C2-029D-D684-4B66-91EFD393EBFF	CcU-2994	b-2326	2021-07-05 03:10:28	395.43	0	23, 97	126	-67.0189	-141.672
156F3F80-7E7D-65CF-727D-6AE03CEB7520	CcU-2953	b-2346	2021-04-29 07:06:10	404.16	0	5	92	-59.9778	172.731
1575F87A-E37B-DADD-554C-A99D8E71624A	CcU-4163	b-2494	2022-01-14 00:43:18	37.55	0	61, 83, 37	238	64.5745	-79.63
158A3AC-54C-DEC5-669D-6373CC678E1C	CcU-1480	b-2302	2022-03-08 05:02:10	240.29	0	13, 41, 89	183	42.5424	-170.347

Action Output

Time	Action	Response	Duration / Fetch Time
378 16:25:17	Select * FROM transactions	587 row(s) returned	0.0022 sec / 0.0017 s...

Query Completed

## I les dades de la taula users. Primer els de USA

Local instance 3306 - Warning - not supported MySQL Model\* EER Diagram

Administration Schemas Sprint 4 SQL File 48\* Sprint4-2\* SQL File 57\* SQL File 53\* SQL File 56\*

Filter objects

SCHEMAS transactions

Columns id card\_id business\_id timestamp amount declined product\_ids user\_id lat longitude

Indexes

Foreign Keys

Object Info Session

Connection Details

Name: Local instance 3306  
Host: localhost  
Port: 3306  
Login User: root  
Current User: root@localhost  
SSL cipher: TLS\_AES\_128\_GCM\_SHA256

Server Product: Homebrew Version: 9.0.1  
Connector Version: C++ 9.0.0

Action Output

Time	Action	Response	Duration / Fetch Time
379 16:26:34	LOAD DATA INFILE 'users_usa.csv' INTO TABLE users FIELDS TE...	150 row(s) affected Records: 150 Deleted: 0 Skipped: 0 Warnings: 0	0.0081 sec

Query Completed

## Mirem que estan bé

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

- Toolbar:** Local instance 3306 - Warning - not supported, MySQL Model\*, EER Diagram.
- Schemas:** Administration, Schemas, Filter objects: transactions.
- Query Editor:** Sprint 4, SQL File 48\*, Sprint4-2\*, SQL File 57\*, SQL File 53\*, SQL File 56\*. The query is:
 

```
1 • Select *
2   FROM users;
```
- Result Grid:** Shows the 'users' table with 27 rows of data. The columns are: id, name, surname, phone, email, birth\_date, country, city, postal\_code, address.
- Session Details:**
  - Connection Details:** Name: Local instance 3306, Host: localhost, Port: 3306, Login User: root, User: root@localhost, SSL cipher: TLS\_AES\_128\_GCM\_SHA256.
  - Server:** Product: Homebrew, Version: 9.0.1.
  - Connector:** Version: C++ 9.0.0.
- Action Output:** Shows the execution of the query: 381 rows returned in 0.0014 sec / 0.00006...

## Li afegim les dades de UK

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

- Toolbar:** Local instance 3306 - Warning - not supported, MySQL Model\*, EER Diagram.
- Schemas:** Administration, Schemas, Filter objects: transactions.
- Query Editor:** Sprint 4, SQL File 48\*, Sprint4-2\*, SQL File 57\*, SQL File 53\*, SQL File 56\*. The query is:
 

```
1 • LOAD DATA INFILE 'users_uk.csv' INTO TABLE users
2   FIELDS TERMINATED BY ',' OPTIONALLY ENCLOSED BY '"'
3   LINES TERMINATED BY '\r\n'
4   IGNORE 1 LINES;
```
- Action Output:** Shows the execution of the command: 382 rows affected in 0.0062 sec.

## I mirem que estan bé

The screenshot shows the MySQL Workbench interface with a query results grid. The query executed is:

```

1 • Select *
2   FROM users;
  
```

The results grid displays 200 rows of user data from the 'users' table. The columns include: id, name, surname, phone, email, birth\_date, country, city, and postal\_code. The address column is derived from the postal\_code. The results show various users from around the world, such as Brent Bates (id 175), Lucas Stevenson (id 176), and many others.

## Els de Canadà

The screenshot shows the MySQL Workbench interface with a query results grid. The query executed is:

```

1 • LOAD DATA INFILE 'users_ca.csv' INTO TABLE users
2   FIELDS TERMINATED BY ',' OPTIONALLY ENCLOSED BY '"'
3   LINES TERMINATED BY '\r\n'
4   IGNORE 1 LINES;
  
```

The results grid displays 200 rows of user data from the 'users' table. The columns include: id, name, surname, phone, email, birth\_date, country, city, and postal\_code. The address column is derived from the postal\_code. The results show users from Canada, such as David Vangelis (id 187) and many others.

## I mirem que està bé

Screenshot of MySQL Workbench showing the results of a query:

```

1
2 • Select *
3 FROM users;

```

**Result Grid**

id	name	surname	phone	email	birth_date	country	city	postal_code	address
249	Rhea	Harvey	052-289-6564	rheaharvey@protonmail.org	Jul 2, 1991	Canada	Weyburn	7L 2S9	910-7903 Sabian Avenue
250	Hilda	Levy	052-289-2367	hilida.levy@yahoo.com	Dec 15, 1994	Canada	Bethelwood	JH+ 2G5	P.O. Box 496, 1835 At Street
251	Dore	Miller	098-545-1455	ld aliquet lobortis@icloud.com	Aug 25, 1989	Canada	Bethelwood	H4Y 6V2	P.O. Box 309, 103 Neque Str..
252	Zephia	Collins	021-817-1549	urna.vivamus@icloud.ca	Jun 29, 1994	Canada	Anviat	YX8 0E8	237-5522 Donec St.
253	Keara	Parks	048-303-4775	consectetur.adipiscing@google.edu	Oct 2, 1986	Canada	Town of Y...	T2R 4Z7	793-2778 Ornare St.
254	John	Cottos	085-253-4901	iam@yahoo.org	Sep 26, 1983	Canada	Colwood	53K 8S9	Ap #234-6329 Ipsum Road
255	Blaze	Daniel	087-870-8309	feliis@protonmail.org	Oct 11, 1998	Canada	Swan Hills	Y1N 5X1	811-6644 Id, Road
256	Lane	Paul	044-254-6877	necl@protonmail.ca	Aug 10, 1983	Canada	Saskatoon	TJ3 3X3	P.O. Box 850, 1002 Purus, Av.
257	Heather	Paul	044-254-6877	prentiss@protonmail.com	Oct 1, 1991	Canada	Dundas	9P9 6S6	Ap #141-5522 Etiam Street
258	Stacy	Robbins	076-226-5788	tempus.eu.ligula@google.edu	Jun 26, 1980	Canada	Calderon	R4H 8V3	416-2524 Quam Street
259	Slade	Downs	034-228-4880	nunc@protonmail.net	May 28, 1994	Canada	Miniflora	T2Y 5Z1	Ap #213-2963 Tristique Road
260	Grace	Rowe	071-756-4297	convallis.convallis@hotmail.edu	Mar 25, 1987	Canada	Abbotsford	Y7S 3W8	Ap #417-5793 Triculum Rd.
261	Violet	Weber	019-661-3744	aliquet.metus@hotmail.co.uk	Sep 23, 1984	Canada	Ucluelet	W4C 3H8	102-5355 Aliquet Av.
262	Brett	Kirby	076-166-2169	auctor.nunc.nula@outlook.org	Dec 12, 1988	Canada	Barf	56V 7V5	Ap #431-3047 Adipiscing Rd.
263	Ima	Hendrick	044-254-6877	necl@protonmail.ca	Nov 6, 1991	Canada	Whitehorse	7V9 0B5	Ap #750-483 Lacinia, Rd.
264	Keiko	Guerre	034-254-6877	plam@outlook.ca	Dec 12, 1995	Canada	Bethurst	T7C 9N8	Ap #141-5522 Etiam Street
265	Elaine	Greene	026-178-1548	tempus.eu.ligula@protonmail.org	Jan 16, 1990	Canada	Oshawa	5P7 1M9	P.O. Box 369, 1103 Cursetta St.
266	Aiko	Chaney	026-660-1876	ante.ipsum.primes@protonmail.ca	Oct 16, 1986	Canada	Vancouver	R8S 1E1	821-3499 Sapien Ave.
267	Ocean	Nelson	079-481-2745	enean@yahoo.com	Dec 26, 1991	Canada	Charlottet...	8SX 3P4	Ap #732-8357 Pepe, Rd.
268	Clark	Olson	029-086-1867	nunc@cloud.net	Mar 15, 1987	Canada	Montague	SSY 1W6	1315 Est Rd.
269	Haley	Fitzpatrick	055-871-6684	in.aliquet@outlook.org	Jan 10, 1996	Canada	Pangnirtung	ROY 1E3	P.O. Box 914, 451 Nam Rd.
270	Elton	Robertson	098-166-2169	transfusio.nec@outlook.google.net	Oct 20, 1990	Canada	McClure	2P9 1M9	200-5355 Aliquet Av.
271	Leandra	Wright	026-265-7010	morbi.sunt@icloud.ca	Sep 2, 1982	Canada	Gander	H8S 6A9	854-8583 Sallituludin Av.
272	Hedwig	Gilbert	064-204-8788	sem.eget@icloud.edu	Apr 18, 1991	Canada	Tuktoyaktuk	C4C 3G7	P.O. Box 696, 5145 Sapien R...
273	Hilary	Ferguson	090-710-1604	sapien.molestie.orci@google.edu	Jan 29, 1982	Canada	Pangnirtung	12T 5G4	Ap #736-4628 Cras Sapien R...
274	Jame...	Hunt	024-732-2321	fringilla@protonmail.com	Aug 3, 1982	Canada	Township...	B6V 6N4	224-4927 Praesent Ave
275	Kenyon	Hartman	082-871-7248	convallis.ante.lectus@yahoo.com			Richmond	RBH 2K2	8564 Facilisi, St.

Action Output

Time	Action	Response	Duration / Fetch Time
275 row(s) returned			0.0017 sec / 0.00019...

Query Completed

## Ara afegim les relacions

Screenshot of MySQL Workbench showing the results of an ALTER TABLE command:

```

1
2
3 • ALTER TABLE transactions ADD CONSTRAINT fk_user_id foreign key (user_id)
4 REFERENCES users (id);
5
6 • ALTER TABLE transactions ADD CONSTRAINT fk_card_id foreign key (card_id)
7 REFERENCES credit_cards (id);
8
9 • ALTER TABLE transactions ADD CONSTRAINT fk_business_id foreign key (business_id)
10 REFERENCES companies (id);

```

Action Output

Time	Action	Response	Duration / Fetch Time
		587 row(s) affected Records: 587 Duplicates: 0 Warnings: 0	0.027 sec

Query Completed

Li demanem que ens monti un grafic per a comprovar-ho



## - Exercici 1: 30 transaccions

Realitza una subconsulta que mostri tots els usuaris amb més de 30 transaccions utilitzant almenys 2 taules.

```
1  -- Usuaris amb més de 30 transaccions
2 •  SELECT users.id, users.name AS nom, users.surname AS cognom, COUNT(transactions.id) as numero_transaccions
3   FROM users
4   JOIN transactions ON users.id = transactions.user_id
5   GROUP BY user_id
6   HAVING numero_transaccions > 30
7   ORDER BY numero_transaccions DESC;
```

Result Grid | Filter Rows: Q Search Export:

id	nom	cognom	numero_transaccions
272	Hedwig	Gilbert	76
287	Ocean	Nelson	52
275	Kenyon	Hartman	48
92	Lynn	Riddle	39

## - Exercici 2: mitjana per iban

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

Busquem el id de la companyia Donec, i és b-2242

Local instance 3306 - Warning - not supported

Administration Schemas Sprint 4 SQL File 9\* SQL File 10\*

SCHEMAS Filter objects modelat\_sql\_roser Tables companies Columns id company\_name phone email country website

Foreign Keys Triggers credit\_cards Transactions Columns

Object Info Session Table: companies

Columns:

id	company_name	phone	email	country	website
b-2242	Donec Ltd	01 25 00 37 37	ut.aculus@hotmail.ca	Norway	https://rymnes.com/user/110
b-2254	Cras Consulting	07 50 10 85 63	sed.consequat@google.ca	Belgium	https://baidu.com/en-us
b-2554	Cras Vehicula Aliquet Industries	03 37 86 87 75	arci@hotmail.org	Netherlands	https://google.com/sub
b-2562	Dictum Eu Corp.	03 04 73 67 31	donec.vitae@icloud.ca	Canada	https://netflix.com/en-ca
b-2270	Dis Parturient Institute	05 36 29 78 74	purus@protonmail.org	Ireland	https://google.com/one
b-2502	Dolor Vitae Limited	06 53 60 43 60	purus.maecenas@yahoo.edu	France	https://whatsapp.com/user/110
b-2330	Donec Fringilla PC	01 51 56 04 94	ut.incidunt@hotmail.ca	France	https://google.com/fr
b-2242	Donec Ltd	01 25 00 37 37	ut.aculus@hotmail.ca	Norway	https://rymnes.com/user/110
b-2258	Dui Quis Institute	06 95 26 72 81	luctus.sit.amet@yahoo.co.uk	New Zealand	https://yahoo.com/en-us
b-2610	Egestas Nunc Sed Limited	06 01 02 70 47	vitae@hotmail.edu	Italy	https://walmart.com/one
b-2398	Eget Ipsum Ltd	03 67 44 56 72	lacinia.at.laculis@hotmail.net	United States	https://whatsapp.com/settings
b-2458	Eget Tincidunt Duis Institute	05 35 93 32 44	eget.laoreet@hotmail.org	Netherlands	https://wikipedia.org/user/110
b-2298	Elit Etiam Laoreet Associate	07 69 74 17 45	ultrices@google.co.uk	Canada	https://yahoo.com/fr
b-2326	Enim Condimentum Ltd	09 55 51 66 25	imperdiet.non.vestibulum@yahoo.com	United Kingdom	https://cmi.com/group
b-2594	Et Magnis Ltd	03 18 88 77 79	non.vestibulum@protonmail.net	Netherlands	https://ebay.com/fr
b-2478	Etiam Bibendum Fermentum...	07 46 69 45 02	sem.magna@icloud.ca	France	https://youtube.com/one
b-2590	Euismod Mauris Institute	02 13 69 54 85	vivamus.molestie@icloud.ca	Belgium	https://ebay.com/en-ca

Action Output: Time Action Response Duration / Fetch Time  
57 13:36:14 SELECT \* FROM companies 100 row(s) returned 0.0026 sec / 0.00004...

Query Completed

## I filtrarem els resultats

The screenshot shows the MySQL Workbench interface. On the left, the schema browser displays tables like 'credit\_cards' and 'transactions'. The central pane shows a query editor with the following SQL code:

```

1 • SELECT card_id, AVG(amount)
2   FROM transactions
3  WHERE business_id = 'b-2242'
4  GROUP BY card_id
5 ORDER BY AVG(amount) DESC;
    
```

The results grid shows one row:

card_id	Avg(amount)
CcU-2973	203.715000

At the bottom, the action output shows the query was executed successfully in 0.0042 sec.

Ara reemplacem el ID per una subquery. M'ha agradat més fer-ho així que amb una join, em sembla que queda més clar.

The screenshot shows the MySQL Workbench interface. The schema browser and object info are similar to the previous screenshot. The query editor contains the following SQL code:

```

1 • SELECT card_id, AVG(amount)
2   FROM transactions
3  WHERE business_id = (SELECT id
4    FROM companies
5   WHERE company_name='Donec Ltd')
6  GROUP BY card_id
7 ORDER BY AVG(amount) DESC;
    
```

The results grid shows one row:

card_id	Avg(amount)
CcU-2973	203.715000

At the bottom, the action output shows the query was executed successfully in 0.0036 sec.

## Li afegim els ibans

The screenshot shows the MySQL Workbench interface with a query editor and results grid.

**Query Editor:**

```
1 •  SELECT credit_cards.iban, AVG(amount) AS mitjana_transaccio_donec
2   FROM transactions
3   JOIN credit_cards ON credit_cards.id = transactions.card_id
4   WHERE business_id = (SELECT id
5     FROM companies
6     WHERE company_name='Donec Ltd')
7   GROUP BY credit_cards.iban
8   ORDER BY AVG(amount) DESC;
9
```

**Result Grid:**

iban	mitjana_transaccio_donec
PT87806228135092429456346	203.715000

**Object Info:**

Table: companies

Columns:

- id** varchar(15) PK
- company\_name** varchar(255)
- phone** varchar(50)
- email** varchar(100)
- country** varchar(100)
- website** varchar(255)

**Action Output:**

Time	Action	Response	Duration / Fetch Time
65 13:51:15	SELECT credit_cards.iban, AVG(amount) AS mitjana_transaccio...	1 row(s) returned	0.0016 sec / 0.00000...

Query Completed

I ho posem bonic

```
1 -- Mitjana d'amount per IBAN de targetes a Donec Ltd
2 SELECT credit_cards.iban, ROUND(AVG(amount)) AS mitjana_transaccio_donec
3 FROM transactions
4 JOIN credit_cards ON credit_cards.id = transactions.card_id
5 WHERE business_id = (SELECT id
6   FROM companies
7   WHERE company_name='Donec Ltd')
8 GROUP BY credit_cards.iban
9 ORDER BY mitjana_transaccio_donec DESC;
```

100% 40:9

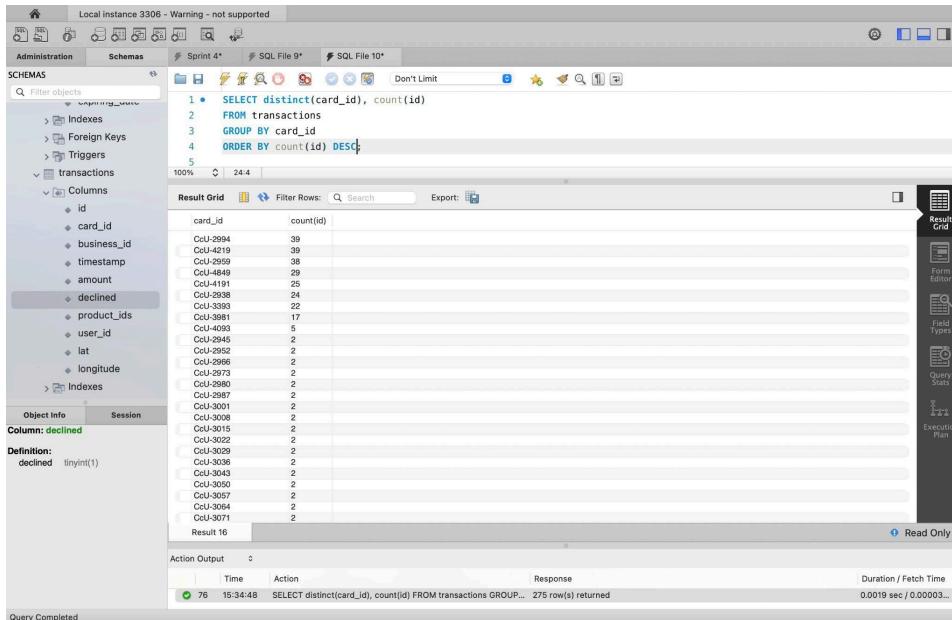
**Result Grid** Filter Rows:  Search Export:

iban	mitjana_transaccio_donec
PT87806228135092429456346	204

## Nivell 2

Crea una nova taula que reflecteixi l'estat de les targetes de crèdit basat en si les últimes tres transaccions van ser declinades i genera la següent consulta:

Entenem que les targetes que han segut declinades les últimes tres transaccions són tgt inactives i que la resta són actives. Comencem mirant quantes transaccions ha tingut cada targeta.



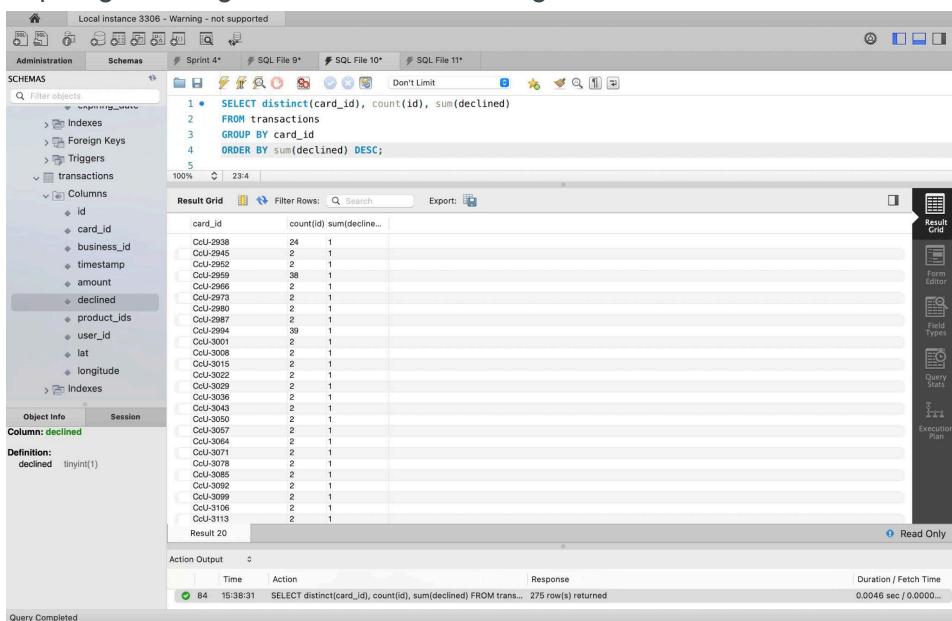
The screenshot shows the SQL Server Management Studio interface with a query window open. The query is:`1 • SELECT distinct(card_id), count(id)
2 FROM transactions
3 GROUP BY card_id
4 ORDER BY count(id) DESC;`

The result grid shows the following data:

card_id	count(id)
CcU-2994	39
CcU-4219	39
CcU-2959	38
CcU-4249	29
CcU-4191	25
CcU-2938	24
CcU-3393	22
CcU-3881	17
CcU-3035	5
CcU-3945	2
CcU-2952	2
CcU-2966	2
CcU-2973	2
CcU-3030	2
CcU-3987	2
CcU-3001	2
CcU-3008	2
CcU-3015	2
CcU-3022	2
CcU-3028	2
CcU-3036	2
CcU-3043	2
CcU-3050	2
CcU-3057	2
CcU-3064	2
CcU-3071	2

At the bottom, the status bar shows "Query Completed".

I quantes vegades en total s'ha declinat cada targeta, que no semblen moltes. Cap targeta s'hagi declinat més d'una vegada.



The screenshot shows the SQL Server Management Studio interface with a query window open. The query is:`1 • SELECT distinct(card_id), count(id), sum(declined)
2 FROM transactions
3 GROUP BY card_id
4 ORDER BY sum(declined) DESC;`

The result grid shows the following data:

card_id	count(id)	sum(declined)
CcU-2938	24	1
CcU-2945	2	1
CcU-2952	2	1
CcU-2959	38	1
CcU-2966	2	1
CcU-2973	2	1
CcU-3000	2	1
CcU-3087	2	1
CcU-3094	39	1
CcU-3001	2	1
CcU-3008	2	1
CcU-3015	2	1
CcU-3022	2	1
CcU-3028	2	1
CcU-3036	2	1
CcU-3043	2	1
CcU-3050	2	1
CcU-3057	2	1
CcU-3064	2	1
CcU-3071	2	1
CcU-3078	2	1
CcU-3085	2	1
CcU-3092	2	1
CcU-3099	2	1
CcU-3106	2	1
CcU-3113	2	1

At the bottom, the status bar shows "Query Completed".

En qualsevol cas, seguim. Ordenem les transaccions de més recents a més antigues

The screenshot shows the Oracle SQL Developer interface with the following details:

- Toolbar:** Local instance 3306 - Warning - not supported, Administration, Schemas, Sprint 4\*, SQL File 10\*, SQL File 11\*, SQL File 12\*, SQL File 13\*, SQL File 14\*.
- Object Navigator:** SCHEMAS, Filter objects, Indexes, Foreign Keys, Triggers, transactions (selected), Columns (id, card\_id, business\_id, timestamp, amount, declined, product\_ids, user\_id, lat, longitude).
- SQL Editor:**

```

1 •  SELECT *
2   FROM transactions
3   ORDER BY timestamp DESC;
    
```
- Result Grid:** Shows a table with columns: id, card\_id, business\_id, timestamp, amount, declined, product\_ids, user\_id, lat, longitude. The data includes rows such as CcU-2959, CcU-3960, CcU-4709, etc., with timestamps ranging from 2022-03-16 14:01:36 to 2022-03-14 09:23:10.
- Toolbars:** Result Grid, Form Editor, Field Types, Query Stats, Execution Plan.
- Status Bar:** Action Output, Time: 11:18:55-36, Response: 587 row(s) returned, Duration / Fetch Time: 0.0019 sec / 0.00054...
- Message Bar:** Query Completed.

Però ens cal partir açò per targeta.

Experimentem una mica amb ROW\_NUMBER i amb el partition by.

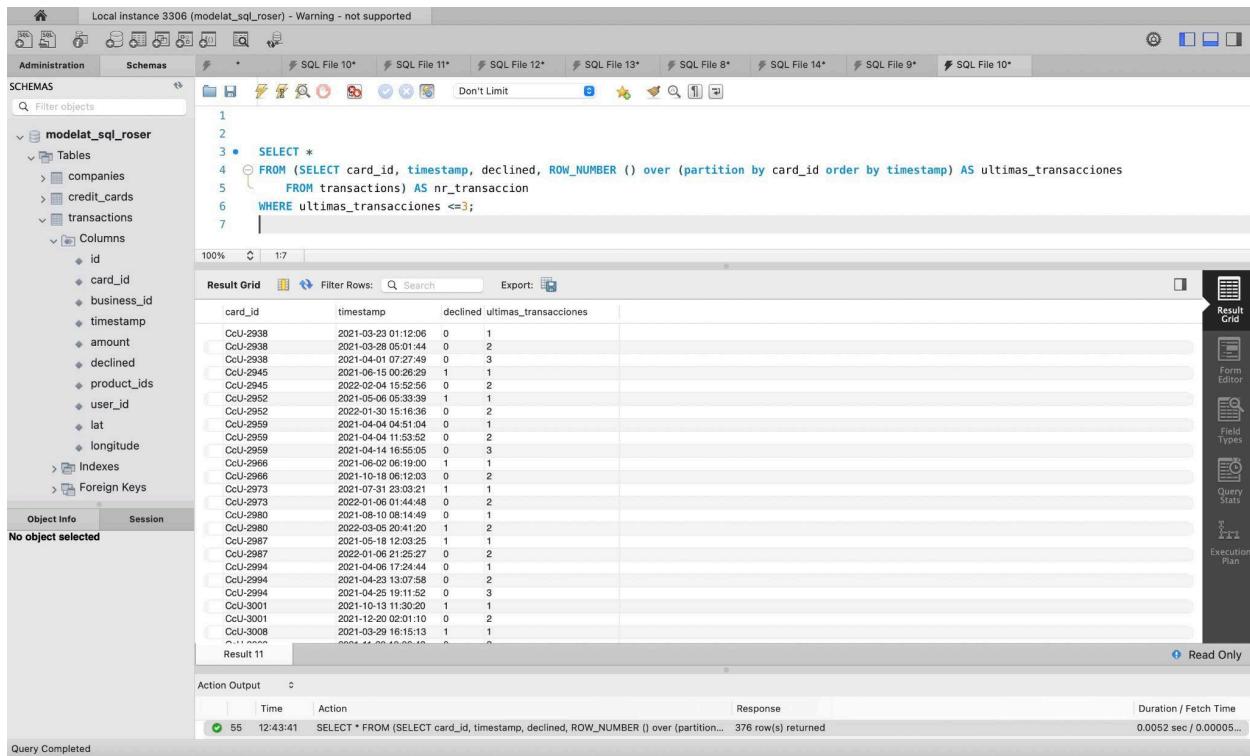
The screenshot shows the Oracle SQL Developer interface with the following details:

- Toolbar:** Local instance 3306 - Warning - not supported, Administration, Schemas, SQL File 10\*, SQL File 11\*, SQL File 12\*, SQL File 13\*, SQL File 14\*.
- Object Navigator:** SCHEMAS, Filter objects, Tables, modelat\_sql\_roser (selected), Transactions (selected), Columns (id, card\_id, business\_id, timestamp, amount, declined, product\_ids, user\_id, lat, longitude).
- SQL Editor:**

```

1
2 •  SELECT card_id, timestamp, ROW_NUMBER () over (partition by card_id order by timestamp)
3   FROM transactions;
    
```
- Result Grid:** Shows a table with columns: card\_id, timestamp, ROW\_NUMBER () over (partition by card\_id order by timestamp). The data includes rows such as CcU-4866, CcU-4849, CcU-4849, etc., with timestamps ranging from 2021-08-11 02:02:29 to 2021-09-24 18:55:25.
- Toolbars:** Result Grid, Form Editor, Field Types, Query Stats, Execution Plan.
- Status Bar:** Read Only.
- Message Bar:** Query Completed.

De la llista anterior, només ens interessen les tres últimes transaccions. Això vols dir que tenen un ROW NUMBER 3 o menor.



The screenshot shows the MySQL Workbench interface with a query editor and results grid. The query retrieves the last three transactions for each card\_id:

```

1
2
3 • SELECT *
4   FROM (SELECT card_id, timestamp, declined, ROW_NUMBER () over (partition by card_id order by timestamp) AS ultimas_transacciones
5     FROM transactions) AS nr_transaccion
6   WHERE ultimas_transacciones <=3;
7

```

The results grid displays the following data:

card_id	timestamp	declined ultimas_transacciones
CcU-2938	2021-03-23 01:12:06	0 1
CcU-2938	2021-03-28 05:01:44	0 2
CcU-2938	2021-04-01 07:27:49	0 3
CcU-2945	2021-06-15 00:26:29	1 1
CcU-2945	2022-02-09 05:38:52	0 2
CcU-2952	2021-05-09 05:38:39	1 1
CcU-2952	2021-05-20 15:10:33	0 2
CcU-2959	2021-04-04 04:51:04	0 1
CcU-2959	2021-04-04 11:53:52	0 2
CcU-2959	2021-04-14 16:55:05	0 3
CcU-2966	2021-06-02 06:19:00	1 1
CcU-2966	2021-10-18 06:12:03	0 2
CcU-2973	2021-07-31 23:03:21	1 1
CcU-2973	2022-01-06 01:44:48	0 2
CcU-2980	2021-08-10 08:14:49	0 1
CcU-2986	2022-03-05 20:41:20	1 2
CcU-2987	2021-05-18 12:34:25	1 1
CcU-2987	2021-05-18 12:34:27	0 2
CcU-2994	2021-04-09 17:24:44	0 1
CcU-2994	2021-04-23 13:07:58	0 2
CcU-2994	2021-04-25 19:11:52	0 3
CcU-3001	2021-10-13 11:30:20	1 1
CcU-3001	2021-12-20 02:01:10	0 2
CcU-3008	2021-03-29 16:15:13	1 1
CcU-3008	2021-11-22 10:00:18	0 2

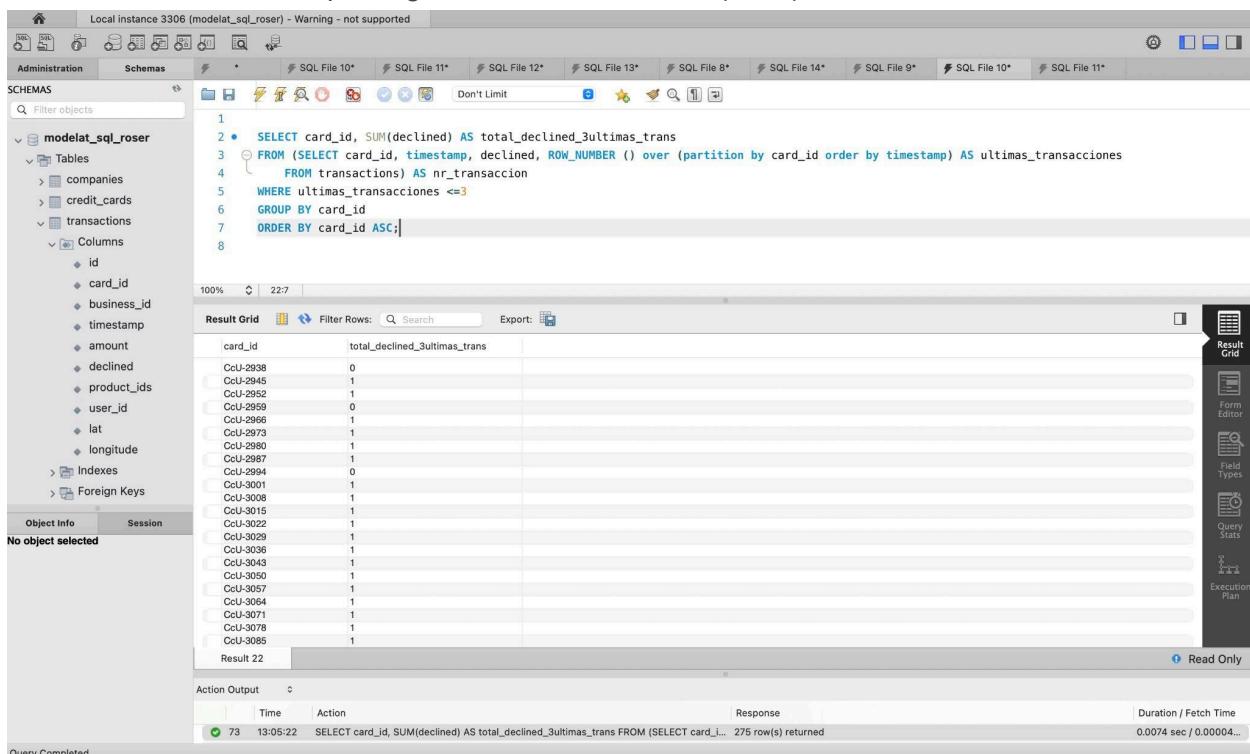
Result 11

Action Output

Time	Action	Response	Duration / Fetch Time
55 12:43:41	SELECT * FROM (SELECT card_id, timestamp, declined, ROW_NUMBER () over (partition by card_id order by timestamp) AS ultimas_transacciones) AS nr_transaccion WHERE ultimas_transacciones <=3;	376 row(s) returned	0.0052 sec / 0.00005...

Query Completed

D'aquesta llista, sumarem total dels resultats de declined per a cada targeta. Les que tinguin un 3 estaran Inactives i les que tinguin un nombre menor (totes) estan Actives.



The screenshot shows the MySQL Workbench interface with a query editor and results grid. The query calculates the total declined amount for the last three transactions for each card\_id:

```

1
2 • SELECT card_id, SUM(declined) AS total_declined_3ultimas_trans
3   FROM (SELECT card_id, timestamp, declined, ROW_NUMBER () over (partition by card_id order by timestamp) AS ultimas_transacciones
4     FROM transactions) AS nr_transaccion
5   WHERE ultimas_transacciones <=3;
6   GROUP BY card_id
7   ORDER BY card_id ASC;
8

```

The results grid displays the following data:

card_id	total_declined_3ultimas_trans
CcU-2938	0
CcU-2945	1
CcU-2952	1
CcU-2959	0
CcU-2966	1
CcU-2973	1
CcU-2980	1
CcU-2987	1
CcU-2994	0
CcU-3001	1
CcU-3008	1
CcU-3015	1
CcU-3022	1
CcU-3029	1
CcU-3036	1
CcU-3043	1
CcU-3050	1
CcU-3057	1
CcU-3064	1
CcU-3071	1
CcU-3078	1
CcU-3085	1

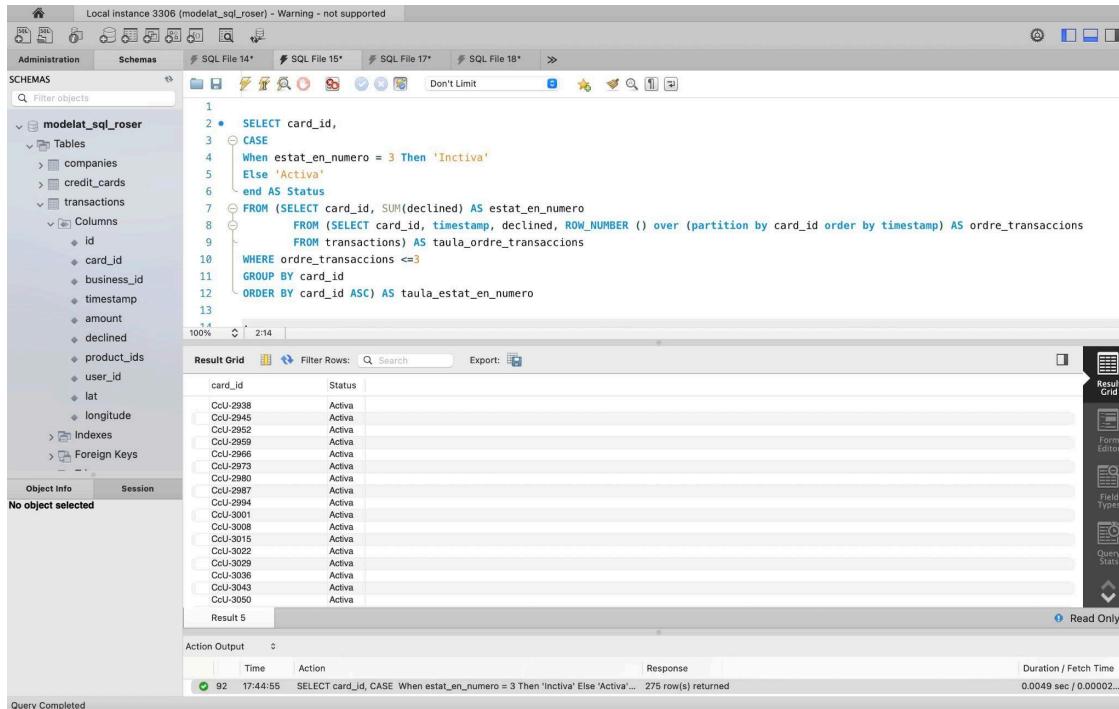
Result 22

Action Output

Time	Action	Response	Duration / Fetch Time
73 13:05:22	SELECT card_id, SUM(declined) AS total_declined_3ultimas_trans FROM (SELECT card_id, timestamp, declined, ROW_NUMBER () over (partition by card_id order by timestamp) AS ultimas_transacciones) AS nr_transaccion WHERE ultimas_transacciones <=3;	275 row(s) returned	0.0074 sec / 0.00004...

Query Completed

Ara reemplacem la columna amb l'estat en número per una columna amb l'estat com a paraula, utilitzant el case.



```

1
2 •  SELECT card_id,
3   CASE
4     WHEN estat_en_numero = 3 THEN 'Inactiv'
5     ELSE 'Activa'
6   END AS Status
7
8   FROM (SELECT card_id, SUM(declined) AS estat_en_numero
9         FROM (SELECT card_id, timestamp, declined, ROW_NUMBER () over (partition by card_id order by timestamp) AS ordre_transaccions
10           FROM transactions) AS taula_ordre_transaccions
11         WHERE ordre_transaccions <=3
12       GROUP BY card_id
13     ORDER BY card_id ASC) AS taula_estat_en_numero
14
15

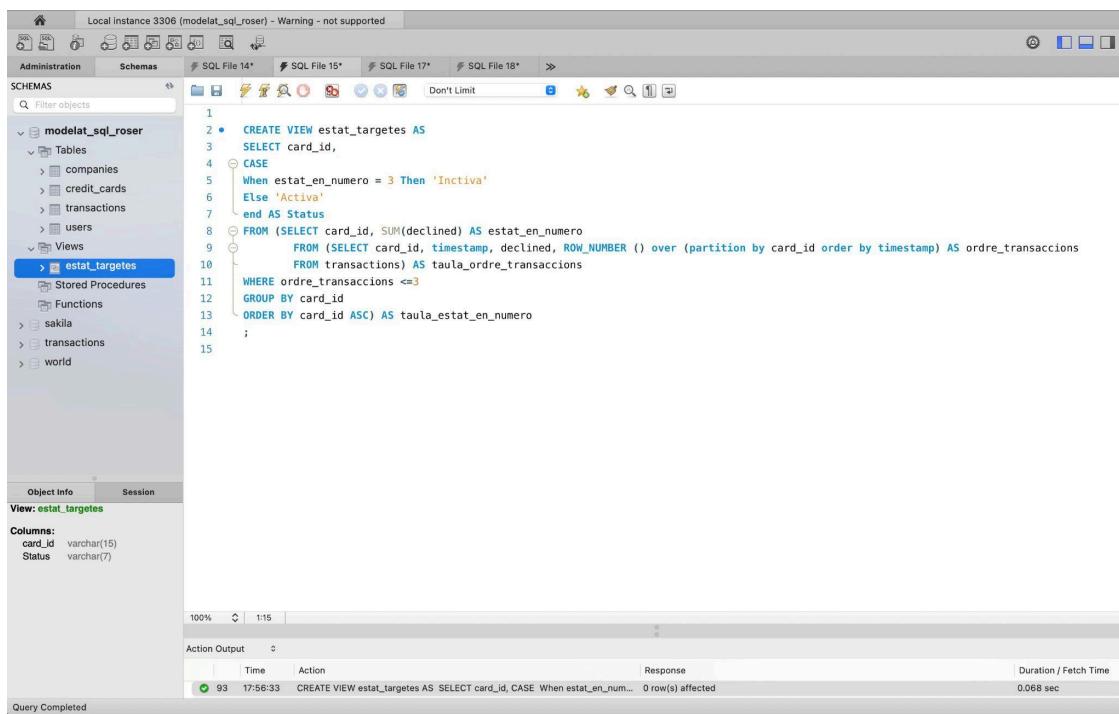
```

The screenshot shows the MySQL Workbench interface with a query editor containing a complex SQL SELECT statement. The statement uses a CASE expression to map the value of the 'estat\_en\_numero' column to either 'Inactiv' or 'Activa'. It also includes a subquery to calculate the total declined amount for each card and rank the transactions by timestamp. The results are displayed in a grid:

card_id	Status
CcU-2938	Activa
CcU-2945	Activa
CcU-2952	Activa
CcU-2959	Activa
CcU-2966	Activa
CcU-2973	Activa
CcU-2980	Activa
CcU-2987	Activa
CcU-2994	Activa
CcU-3001	Activa
CcU-3008	Activa
CcU-3015	Activa
CcU-3022	Activa
CcU-3029	Activa
CcU-3036	Activa
CcU-3043	Activa
CcU-3050	Activa

At the bottom of the interface, the status bar indicates "Query Completed".

Finalment, ho convertirem en una vista en comptes de taula.  
Així, si s'afegeixen transaccions s'actualitzaran els estatus automàticament



```

1
2 •  CREATE VIEW estat_targetes AS
3   SELECT card_id,
4   CASE
5     WHEN estat_en_numero = 3 THEN 'Inactiv'
6     ELSE 'Activa'
7   END AS Status
8
9   FROM (SELECT card_id, SUM(declined) AS estat_en_numero
10        FROM (SELECT card_id, timestamp, declined, ROW_NUMBER () over (partition by card_id order by timestamp) AS ordre_transaccions
11          FROM transactions) AS taula_ordre_transaccions
12        WHERE ordre_transaccions <=3
13      GROUP BY card_id
14    ORDER BY card_id ASC) AS taula_estat_en_numero
15

```

The screenshot shows the MySQL Workbench interface with a query editor containing a CREATE VIEW statement. The view is named 'estat\_targetes' and selects the 'card\_id' and 'Status' columns from the previously defined 'taula\_estat\_en\_numero' temporary table. The status is determined by the CASE expression based on the value of 'estat\_en\_numero'. The status column is defined with a data type of 'varchar(7)'. The results of the query are shown in the 'Action Output' pane:

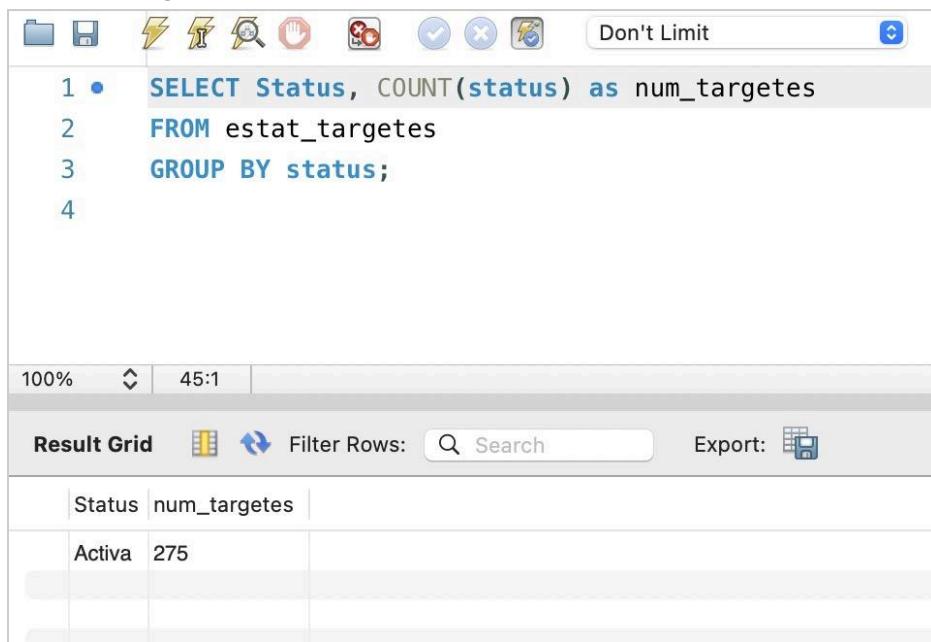
Time	Action	Response	Duration / Fetch Time
93	CREATE VIEW estat_targetes AS SELECT card_id, CASE When estat_en_num... 0 row(s) affected		0.068 sec

At the bottom of the interface, the status bar indicates "Query Completed".

## - Exercici 1: targetes actives

Quantes targetes estan actives?

Totes les targetes estan actives, 275.



The screenshot shows a MySQL Workbench interface. At the top, there are several icons: a folder, a save, a lightning bolt, a person, a magnifying glass, a refresh, and a help. To the right of these is a dropdown menu set to "Don't Limit". Below the toolbar is a code editor window containing the following SQL query:

```
1 • SELECT Status, COUNT(status) as num_targetes
2 FROM estat_targetes
3 GROUP BY status;
4
```

Below the code editor is a progress bar showing "100%" completion and a timer at "45:1". At the bottom of the interface is a "Result Grid" section. It includes buttons for "Result Grid" (selected), "Filter Rows", "Search" (with a magnifying glass icon), and "Export" (with a disk icon). The result grid itself has two columns: "Status" and "num\_targetes". A single row is displayed, showing "Activa" in the "Status" column and "275" in the "num\_targetes" column.

Status	num_targetes
Activa	275

# 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:

Com que cada transacció té molts productes, si carreguem directament la taula de products tindrem una relació de molts a molts que ens complicarà el model. La solució per a poder unir el nou arxiu, és una taula pont que llisti les relacions de cada transacció amb cada producte.

## Reemplaçar espais

Començarem preparant la taula de transaccions, treient els espais en blanc de la columna de productes. Així, després podrem buscar cada número que hi ha entre les comes.

The screenshot shows the MySQL Workbench interface. In the top navigation bar, it says "Local Instance 3306 - Warning - not supported". Below the bar, there are tabs for "Administration", "Schemas", "Sprint 4\*", "Sprint 4\_antic\*", and "SQL File 62\*". The "Schemas" tab is selected, showing the "modelat\_sql\_roser4" database. Under "Tables", the "transactions" table is selected, showing its columns: id, card\_id, business\_id, timestamp, amount, declined, product\_ids. The "Object Info" and "Session" panes are also visible. The main area contains an SQL editor with the following code:

```
1 -- Eliminar espais en blanc producte_id
2 • SET SQL_SAFE_UPDATES = 0;
3
4 • UPDATE transactions
5   SET product_ids = REPLACE (product_ids, ' ', '');
6
7 • SET SQL_SAFE_UPDATES = 1;
8
9 • Select *
10 From transactions;
```

Below the SQL editor is a "Result Grid" pane showing the data from the transactions table. The columns are: id, card\_id, business\_id, timestamp, amount, declined, product\_ids, user\_id, lat, longitude. The data includes rows like:

id	card_id	business_id	timestamp	amount	declined	product_ids	user_id	lat	longitude
02C6201E-D90A-1859-B4EE-88D2086D3B02	CcU-2939 b-2362	2021-08-28 23:42:24	466.92	0	71,1,9	92	81.9185	-12.5276	
0466A42E-47CF-BD24-FD01-C06689713128	CcU-4219 b-2302	2021-07-26 07:29:18	49.53	0	47,97,43	170	-43.9695	-117.525	
063FB479-99EC-66FB-29F7-25726D176A5	CcU-2987 b-2250	2022-01-06 21:25:27	92.61	0	47,67,31,5	275	-81.2227	-129.05	
066B298C-CD9B-A883-76BC-2E4C44FB8AE	CcU-3743 b-2618	2022-01-26 02:07:14	394.18	0	89.83,79	265	-34.3593	-100.556	
06CC9DA5-9942-D684-DDD0-A5E394FEBAA9	CcU-2959 b-2346	2021-10-26 23:00:01	279.93	0	43,31	92	33.7381	158.298	
07A46048-31A3-7E37-65B9-0DA902AD109F	CcU-3225 b-2386	2021-06-28 21:11:42	340.87	1	47,23	272	38.8342	92.1905	
09DE9E2C-6F27-2B87-13B5-9385B283B8E2	CcU-3071 b-2298	2021-05-11 20:40:06	303.05	1	67,7	275	71.1706	10.5757	
0A476ED9-0C13-1962-F87B-D3563924B539	CcU-4359 b-2302	2022-02-26 20:33:54	430.49	0	29,41,11	221	-56.4901	114.801	
0BEBB007-9066-1707-CE4B-9D7C7E191484	CcU-3141 b-2338	2022-03-04 14:54:35	288.81	1	19,41,29,3	272	23.3264	-13.6037	
0C7CTC3A33-9947-3B1C-846D-7BE300D17598	CcU-3309 b-2434	2021-04-10 20:58:41	103.44	1	89,31	272	63.3615	-68.6667	
0DD2E608-5C9E-D1B3-4999-B99F43AD735A	CcU-3439 b-2506	2022-02-02 07:29:36	128.69	1	83,43,73,61	268	-69.3537	-10.26	
0ECE957A6-CCAA-B27A-6839-8A4B1B324853	CcU-2959 b-2234	2021-04-17 09:30:17	252.47	1	7,47,17	275	9.6881	130.282	
0F02D454-8029-4A80-8524-079AB00C1B02	CcU-3701 b-2334	2021-11-01 01:02:41	447.11	0	37,13	267	4.2045	-101.144	
10881B1D-5923-A70C-55EF-C568E40A55D	CcU-2938 b-2246	2021-07-07 17:43:08	465.0	0	89,11,97,79	275	32.0546	-140.147	
10A9807A-810C-76EB-4D15-12C86CC128037	CcU-3155 b-2346	2021-05-16 21:00:28	27.85	1	43.83	272	-32.0566	-76.7281	
11ABED97-EA12-1B9A-96F0-A93ACC172179	CcU-3981 b-2362	2021-07-14 20:55:48	157.20	0	29	68	-78.8402	8.76162	

At the bottom of the results grid, there is a summary table:

Action Output	Time	Action	Response	Duration / Fetch Time
407	17:26:30	Select * From transactions	587 row(s) returned	0.00086 sec / 0.000...
400	17:27:20	Drop DATABASE modelat_sql		0.0005 sec

Below the results grid, it says "Query interrupted".

## Carregar taula products

Creem la taula products i les seves columnes

The screenshot shows the MySQL Workbench interface with the 'Administration' tab selected. In the left sidebar, under 'SCHEMAS', the 'modelat\_sql\_roser4' schema is selected. Under 'Tables', the 'products' table is selected. In the main pane, the SQL editor contains the following code:

```
1 -- Carregar la taula products
2 CREATE TABLE IF NOT EXISTS products (
3     id VARCHAR(15) PRIMARY KEY,
4     product_name VARCHAR(15),
5     price VARCHAR(15),
6     colour VARCHAR(15),
7     weight FLOAT,
8     warehouse_id VARCHAR(15)
9 );
```

The status bar at the bottom indicates 'Query Completed'.

I insertem les dades

The screenshot shows the MySQL Workbench interface with the 'Administration' tab selected. In the left sidebar, under 'SCHEMAS', the 'modelat\_sql\_roser4' schema is selected. Under 'Tables', the 'products' table is selected. In the main pane, the SQL editor contains the following code:

```
1 • LOAD DATA INFILE 'products.csv' INTO TABLE products
2   FIELDS TERMINATED BY ',' OPTIONALLY ENCLOSED BY '\"'
3   LINES TERMINATED BY '\r\n'
4   IGNORE 1 LINES;
```

The status bar at the bottom indicates 'Query Completed'.

\* Ens ha donat un problema i hem insertat de forma manual però només hi ha 59 de 100

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

- Schema:** modelat\_sql\_roser
- Table:** products
- Query:**

```

1 • SELECT *
2   FROM modelat_sql_roser.products;
    
```

- Result Grid:** Displays 59 rows of product data. The columns are: id, product\_name, price, colour, weight, and warehouse\_id.
- Session Details:**
  - Name: Local instance 3306
  - Host: localhost
  - Port: 3306
  - Login: root
  - Current User: root@localhost
  - SSL: TLS\_AES\_128\_GCM\_SH
  - Server: A250
  - Product: Homebrew
  - Version: 9.0.1
  - Connector: C++ 9.0.0
- Action Output:** Shows two actions:
  - Time: 209, Action: SELECT \* FROM modelat\_sql\_roser.products, Response: 59 row(s) returned
  - Time: 209, Action: SELECT \* FROM modelat\_sql\_roser.products, Response: 59 row(s) returned

## Llista de productes

Treiem la llista de productes, hi ha 59 i no estan repetits

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

- Schema:** modelat\_sql\_roser
- Table:** products
- Query:**

```

1 • SELECT id
2   FROM products
3   ORDER BY id ASC;
    
```

- Result Grid:** Displays 59 rows of product data. The columns are: id.
- Session Details:**
  - Name: Local instance 3306
  - Host: localhost
  - Port: 3306
  - Login: root
  - Current User: root@localhost
  - SSL: TLS\_AES\_128\_GCM\_SH
  - Server: A250
  - Product: Homebrew
  - Version: 9.0.1
  - Connector: C++ 9.0.0
- Action Output:** Shows two actions:
  - Time: 223, Action: SELECT distinct id FROM products ORDER BY id ASC, Response: 59 row(s) returned, Duration / Fetch Time: 0.0014 sec / 0.00001...
  - Time: 224, Action: SELECT id FROM products ORDER BY id ASC, Response: 59 row(s) returned, Duration / Fetch Time: 0.00087 sec / 0.0000...

Ara buscarem aquests IDs en la taula de transactions. Utilitzem FIND IN SET Joining Tables Based on Comma-Separated Values <https://five.co/blog/mysql-find-in-set/>

```

1
2 •  SELECT transactions.id, products.id
3   FROM products
4   JOIN transactions ON FIND_IN_SET(products.id, transactions.product_ids)
5 ;

```

The screenshot shows the MySQL Workbench interface. On the left, the 'Schemas' tree shows a schema named 'modelat\_sq\_oser' containing tables like 'id', 'card\_id', 'business\_id', 'timestamp', 'amount', 'declined', 'product\_ids', 'user\_id', 'lat', and 'longitude'. The 'Object Info' tab displays connection details for 'Local instance 3306' and server information for 'Homebrew'.

The main area shows the execution plan for the query:

```

Result Grid
Action Output
Time Action Response Duration / Fetch Time
242 12:21:08 SELECT transactions.id, products.id FROM products JOIN transactions ON FIND_IN... 723 row(s) returned 0.034 sec / 0.0044 sec

```

The 'Execution Plan' panel on the right indicates the query uses a 'Join' operation.

I creem una taula del resultat

```

1
2 •  CREATE TABLE pont_trans_prod AS
3   SELECT transactions.id AS transaccio, products.id AS produc
4   FROM products
5   JOIN transactions ON FIND_IN_SET(products.id, transactions.product_ids)
6 ;

```

The screenshot shows the MySQL Workbench interface. The 'Schemas' tree now includes a new table 'pont\_trans\_prod' under the 'modelat\_sq\_oser' schema. The 'Object Info' tab shows the same connection details as before.

The main area shows the execution plan for the table creation:

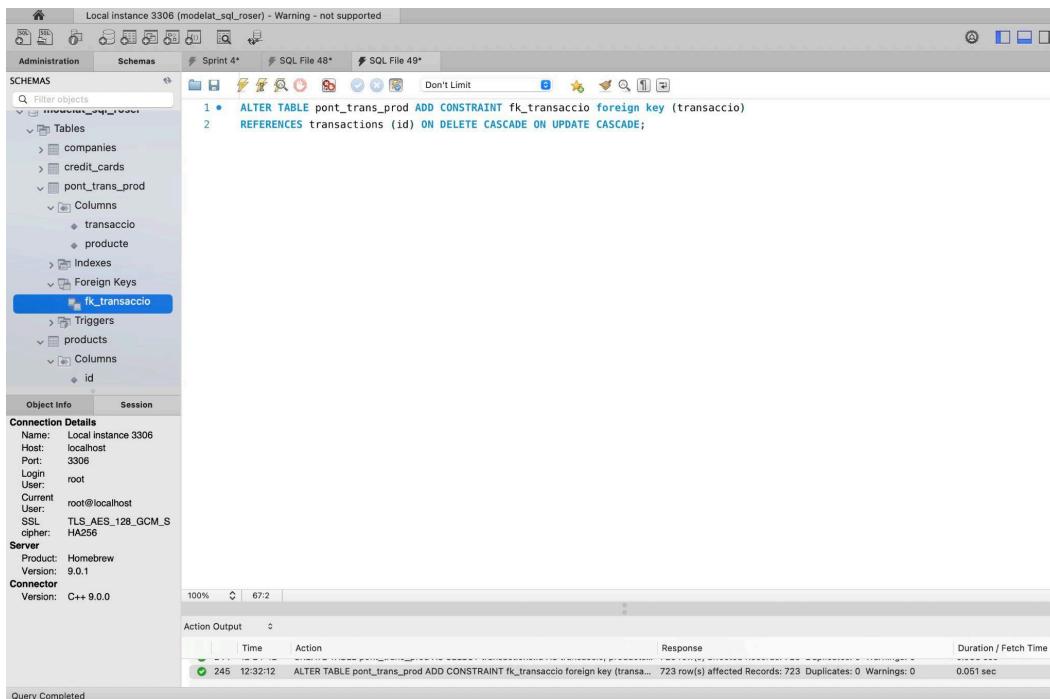
```

Action Output
Time Action Response Duration / Fetch Time
244 12:24:42 CREATE TABLE pont_trans_prod AS SELECT transactions.id AS transaccio, products... 723 row(s) affected Records: 723 Duplicates: 0 Warnings: 0 0.088 sec

```

The 'Execution Plan' panel on the right indicates the query uses a 'Create Table' operation.

## Afegim les relacions a les altres taules

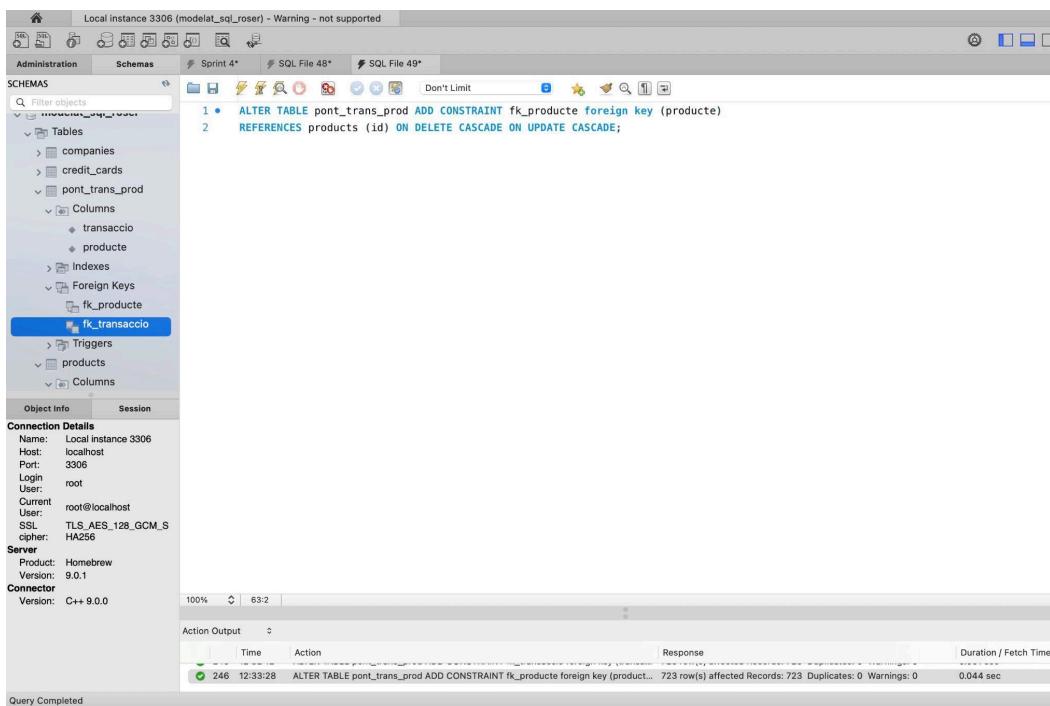


The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** Local instance 3306 (modelat\_sql\_rosen) - Warning - not supported
- Tables:** companies, credit\_cards, pont\_trans\_prod
- Columns:** transaccio, producte
- Foreign Keys:** fk\_transaccio (selected)
- Action Output:** A log table showing the execution of the SQL command:

```
1 • ALTER TABLE pont_trans_prod ADD CONSTRAINT fk_transaccio foreign key (transaccio)
2 REFERENCES transactions (id) ON DELETE CASCADE ON UPDATE CASCADE;
```

Time: 245, Action: ALTER TABLE pont\_trans\_prod ADD CONSTRAINT fk\_transaccio foreign key (transaccio), Response: 723 row(s) affected Records: 723 Duplicates: 0 Warnings: 0, Duration / Fetch Time: 0.051 sec.



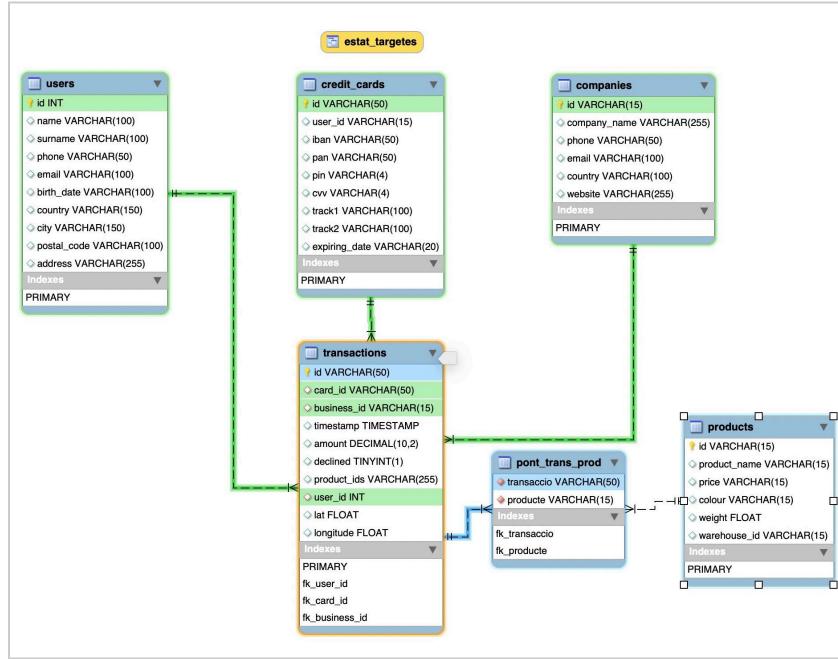
The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** Local instance 3306 (modelat\_sql\_rosen) - Warning - not supported
- Tables:** companies, credit\_cards, pont\_trans\_prod
- Columns:** transaccio, producte
- Foreign Keys:** fk\_producte (selected)
- Action Output:** A log table showing the execution of the SQL command:

```
1 • ALTER TABLE pont_trans_prod ADD CONSTRAINT fk_producte foreign key (producte)
2 REFERENCES products (id) ON DELETE CASCADE ON UPDATE CASCADE;
```

Time: 246, Action: ALTER TABLE pont\_trans\_prod ADD CONSTRAINT fk\_producte foreign key (producte), Response: 723 row(s) affected Records: 723 Duplicates: 0 Warnings: 0, Duration / Fetch Time: 0.044 sec.

I comprovem que les relacions estan ok



## - Exercici 1: vendes per producte

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

Aquí només hem de tenir en compte que la transacció no hagi sigut denegada

```

    Local Instance 3306 - Warning - not supported
    Administration Schemas Filter Rows: Search Export: 
    Sprint 4 Sprint 4_antic SQL File 65* SQL File 66* SQL File 67*
    1 -- Ventes per producte
    2 • SELECT products.product_name, COUNT(transaccio) AS numero_vendes
    3 FROM pont_trans_prod
    4 JOIN products ON products.id = pont_trans_prod.produc
    5 JOIN transactions ON transactions.id = pont_trans_prod.transaccio
    6 WHERE transactions.declined = 0
    7 GROUP BY products.product_name;
    8
  
```

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

- Object Info**: Shows the connection details: Name: Local Instance 3306, Host: localhost, Port: 3306, User: root, SSL cipher: TLS\_AES\_128\_GCM\_SHA256.
- Result Grid**: Displays the results of the query:
 

product_name	numero_vendes
Tully Dome	44
dooku solo	44
Jinn Winterfell	53
Tully	50
dual	54
Winterfell	59
skywalker ewok	88
Lannister	40
duel tourney	46
Karstark Dome	40
Tary Stark	56
Dome bastard	39
- Action Output**: Shows the query execution details: Time: 445, Action: SELECT products.product\_name, COUNT(transaccio) AS numero\_vendes FRO..., Response: 12 row(s) returned, Duration / Fetch Time: 0.0092 sec / 0.000000...