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Sprint 3  
Data  
Corregit per XXX

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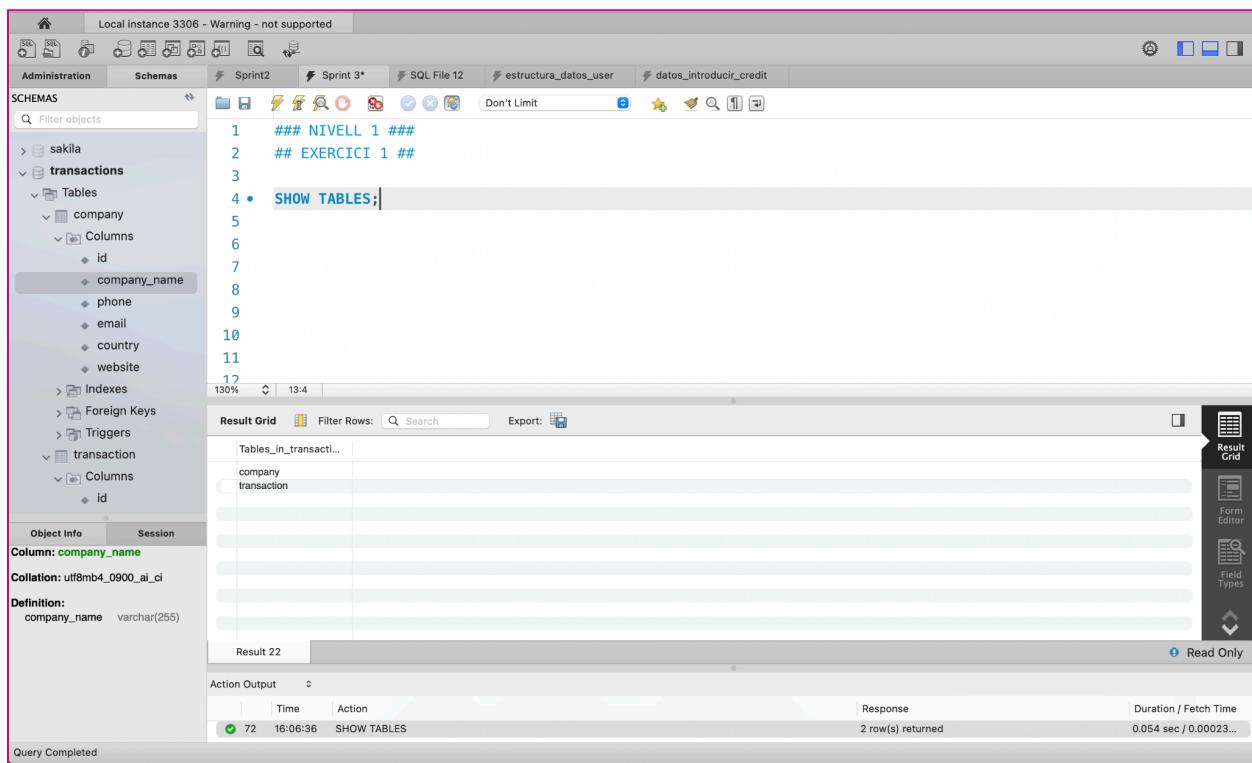
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# Nivell 1

## - Exercici 1: taula credit\_card

La teva tasca és dissenyar i crear una taula anomenada "credit\_card" que emmagatzemi detalls crucials sobre les targetes de crèdit. La nova taula ha de ser capaç d'identificar de manera única cada targeta i establir una relació adequada amb les altres dues taules ("transaction" i "company"). Després de crear la taula serà necessari que ingressis la informació del document denominat "dades\_introduir\_credit". Recorda mostrar el diagrama i realitzar una breu descripció d'aquest.

Comencem verificant que només tenim dues taules



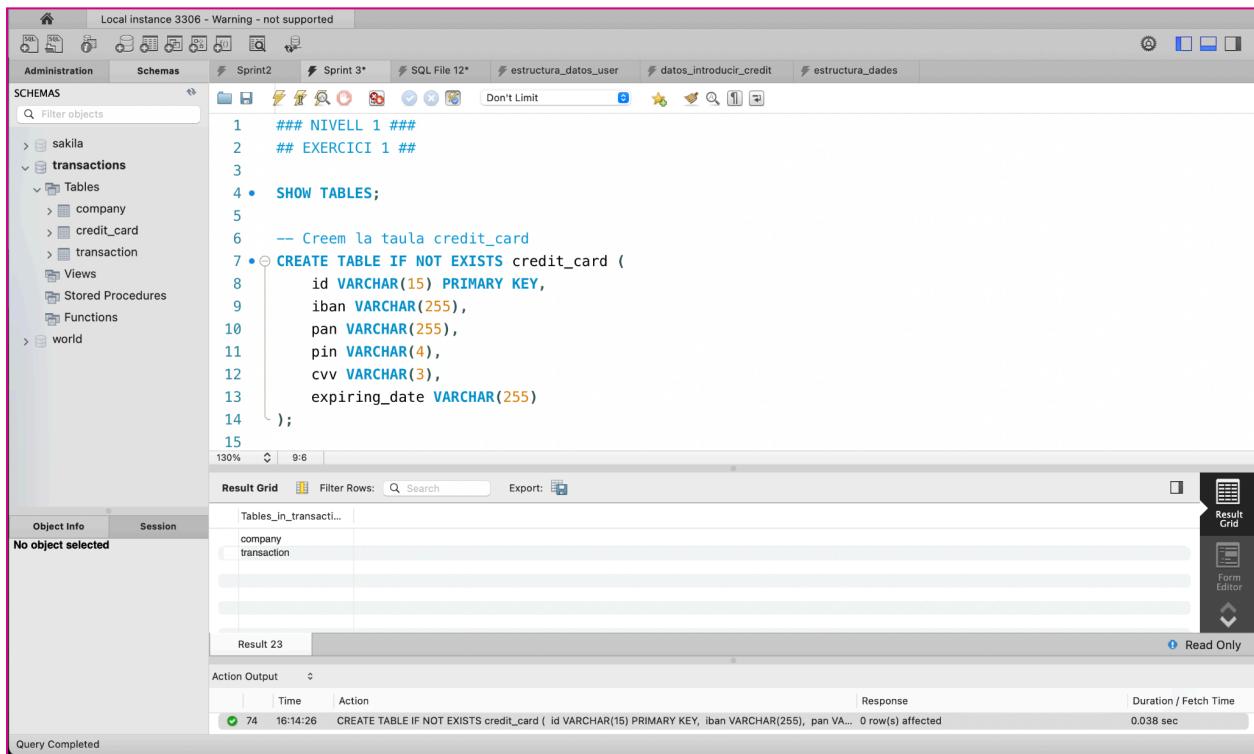
The screenshot shows the MySQL Workbench interface with the following details:

- Left Panel (Object Navigator):** Shows the database schema. Under the 'transactions' schema, there are two tables: 'company' and 'transaction'. The 'company' table has columns: id, company\_name, phone, email, country, and website. The 'transaction' table has column: id.
- Center Panel (Query Editor):** A SQL editor window with the following content:

```
1  ### NIVELL 1 ###
2  ## EXERCICI 1 ##
3
4 • SHOW TABLES;
```
- Result Grid:** A table titled 'Tables\_in\_transacti...' showing the results of the SHOW TABLES query:

Tables_in_transacti...
company
transaction
- Bottom Status Bar:** Shows the following information:
  - Action Output: 72 16:06:36 SHOW TABLES
  - Response: 2 row(s) returned
  - Duration / Fetch Time: 0.054 sec / 0.00023...

Afegim la taula, refresquem es schemas i els veiem a l'esquerra.  
He elegit VARCHAR per a totes les variables



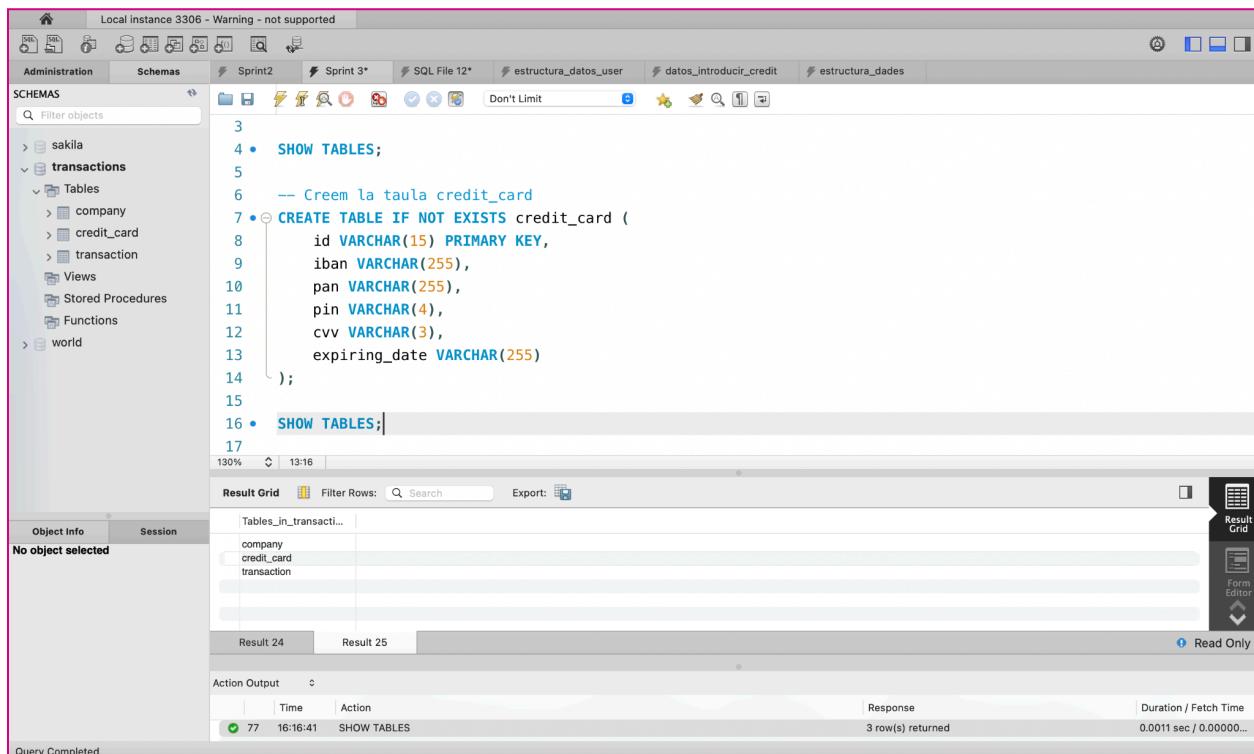
```

1  ### NIVELL 1 ###
2  ## EXERCICI 1 ##
3
4 • SHOW TABLES;
5
6  -- Creem la taula credit_card
7 • CREATE TABLE IF NOT EXISTS credit_card (
8      id VARCHAR(15) PRIMARY KEY,
9      iban VARCHAR(255),
10     pan VARCHAR(255),
11     pin VARCHAR(4),
12     cvv VARCHAR(3),
13     expiring_date VARCHAR(255)
14 );
15

```

The screenshot shows the MySQL Workbench interface. In the top navigation bar, there are tabs for Administration, Schemas, and several open queries. The Schemas tab is selected, showing the 'transactions' schema which contains tables like 'company', 'credit\_card', and 'transaction'. Below the schema tree, a code editor window displays the SQL script for creating the 'credit\_card' table. The 'Result Grid' pane shows the output of the 'SHOW TABLES' command, listing 'company' and 'transaction'. The 'Action Output' pane shows the log entry for the 'CREATE TABLE' command.

També li tornem a preguntar per les taules que hi ha ara



```

3
4 • SHOW TABLES;
5
6  -- Creem la taula credit_card
7 • CREATE TABLE IF NOT EXISTS credit_card (
8      id VARCHAR(15) PRIMARY KEY,
9      iban VARCHAR(255),
10     pan VARCHAR(255),
11     pin VARCHAR(4),
12     cvv VARCHAR(3),
13     expiring_date VARCHAR(255)
14 );
15
16 • SHOW TABLES;|
17

```

The screenshot shows the MySQL Workbench interface again. The 'transactions' schema is selected in the Schemas tree. The code editor now contains the 'SHOW TABLES' command. The 'Result Grid' pane shows the output of this command, listing 'company', 'credit\_card', and 'transaction'. The 'Action Output' pane shows the log entry for the 'SHOW TABLES' command.

Ara carregarem les dades de "dades\_introduir\_credit"

Que té unes 275 files

Li donem un ull a la taula, que tingui aquest número d'entrades i si

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

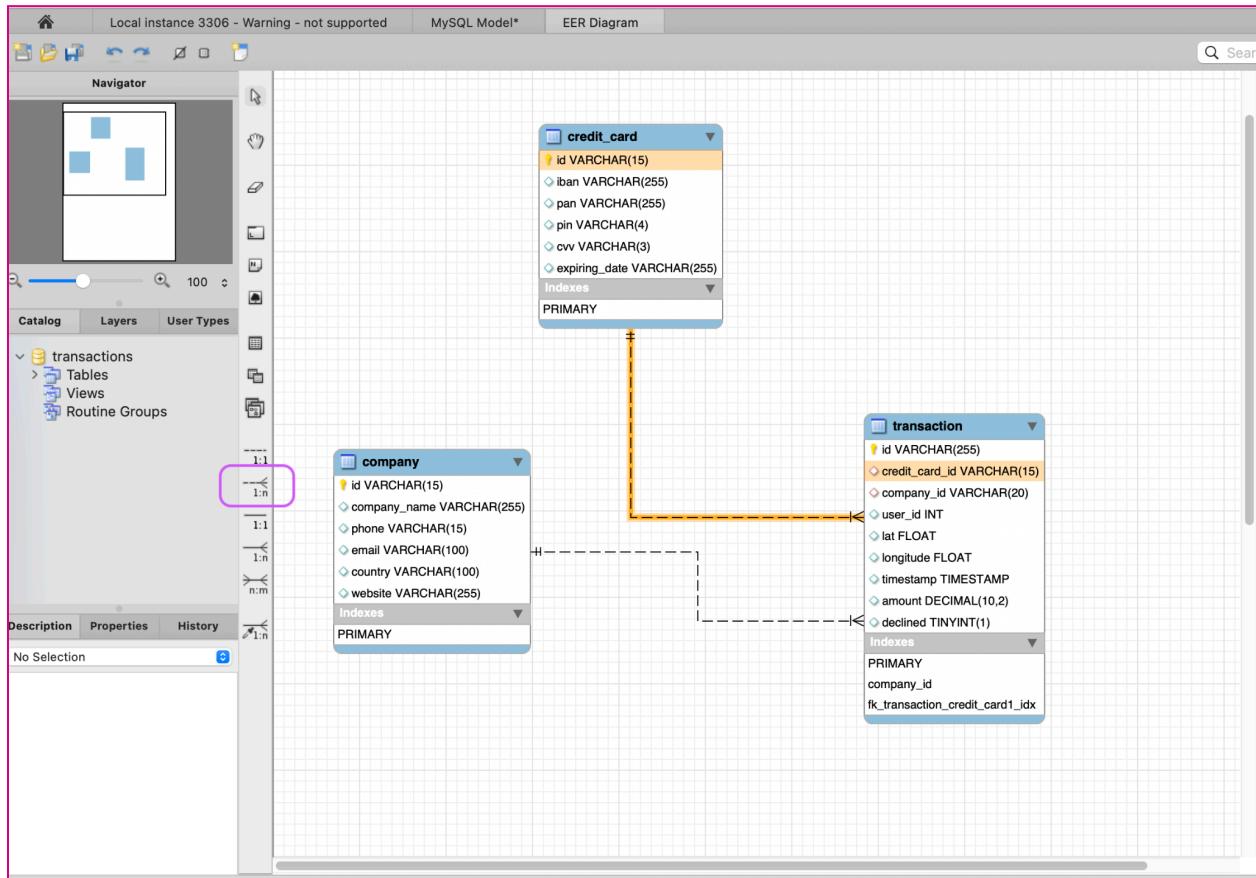
```
1 •  SELECT *
2   FROM credit_card;
```

The results grid displays 275 rows of data from the credit\_card table. The columns are:

id	iban	pan	pin	cvv	expiring_date
CcU-2945	DO26854763748537475216568689	5142623821948828	9080	887	08/24/23
CcU-2952	BG45IVOL5271052508255	4556 453 55 5287	4598	438	06/29/21
CcU-2959	CR7242477244335841535	372461377349375	3583	667	02/24/23
CcU-2965	BG72LKTQ15627628377363	448566 86747 7265	4900	130	10/29/24
CcU-2973	PT87806228135092429456346	544 58654 5434 384	8760	887	01/30/25
CcU-2980	DE39241881883062771136	402400 714584596	5075	591	07/24/22
CcU-2987	GE89681434837748781813	3763 747687 76666	2298	797	10/51/23
CcU-2994	BH62714428368066765294	344283273252593	7545	595	02/28/22
CcU-3001	CY4908742665477458126683211	511722 924833 2244	9562	867	09/16/22
CcU-3008	LU507216693616119230	448574464433884	1856	740	04/05/25
CcU-3015	PS11939821629571968342456821	3784 662233 17389	3246	822	01/31/22
CcU-3022	GT9169516285056977423121857	5164 1379 4424 3951	5610	342	04/25/25
CcU-3029	AZ623174139824411812373974	3429 279566 77631	9708	505	09/02/23
CcU-3036	AZ39336002925842865843941994	3768 451556 48766	2232	565	10/27/25
CcU-3043	TN6488143310514852179535	455676 6437463635	5969	196	06/07/25
CcU-3050	FR5167744369175836831854477	4024007123722	4834	126	10/09/23
CcU-3057	LU931822574697545215	3484 621767 21237	6805	848	09/14/25
CcU-3064	PS14696554454925377627273133	3467 732741 26810	3865	498	06/03/25
CcU-3071	NO89923814763512	3464 789562 23535	6628	661	12/20/23
CcU-3078	IS025127145846462379546733	4539 322 74 2377	9405	720	03/08/23
CcU-3085	BE63114723972437	5266 3346 1135 1687	7241	413	05/10/23
CcU-3092	RO651.SOD116122125447487	3488 75423 46256	9417	594	12/19/22
CcU-3099	PT2610527355682370537218	448 5618 98663 789	5612	564	01/22/23
CcU-3106	AT684251637751136592	349547146395283	9733	209	01/27/24
CcU-3113	I26LGCGT47732173572752	341834822877471	9011	287	06/12/21
CcU-3120	DE26LGCGT47732173572752	347944822877471	9808	980	07/16/23

Query Completed

Ara faltarà la relació, la posarem a mà en el diagrama clicant 1:n, per a que la primary key de credit\_card puga relacionar-se amb moltes credit\_card\_id de transaction, ja que una targeta es pot fer servir en varies transaccions.



La relació amb company és indirecta a través de la taula transaction

## - Exercici 2: canvi registre

El departament de Recursos Humans ha identificat un error en el número de compte de l'usuari amb ID CcU-2938. La informació que ha de mostrar-se per a aquest registre és: R323456312213576817699999. Recorda mostrar que el canvi es va realitzar.

Busquem aquesta entrada en la taula 'credit\_card'

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

```
1 •  SELECT *
2   from credit_card
3  WHERE id = 'CcU-2938';
```

The results grid displays one row of data:

id	iban	pan	pin	cvv	expiring_date
CcU-2938	TR301960312213576817638661	5424465566813633	3257	984	10/30/22

Below the grid, the status bar shows "Query Completed".

Fem el canvi de registre i comprovem que el canvi s'ha realitzat

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

- Left Panel (Schemas):** Shows the database structure. Under the 'transactions' schema, there is a 'credit\_card' table which contains columns: id, iban, pan, pin, cvv, and expiring\_date.
- SQL Editor:** Displays the following SQL code:

```
1 UPDATE credit_card SET iban = 'R323456312213576817699999' WHERE id = 'CcU-2938';
2
3
4 SELECT *
5 FROM credit_card
6 WHERE id = 'CcU-2938';
```
- Result Grid:** Shows the result of the SELECT query. The table has columns: id, iban, pan, pin, cvv, and expiring\_date. One row is displayed:

id	iban	pan	pin	cvv	expiring_date
CcU-2938	R323456312213576817699999	5424465566813633	3257	984	10/30/22
- Action Output:** Shows the history of actions taken. The last action was a SELECT query: "SELECT \* from credit\_card WHERE id = 'CcU-2938'" executed at 17:04:37 by user 372. It returned 1 row(s) in 0.00043 sec / 0.000... seconds.

## - Exercici 3: nou usuari

En la taula "transaction" ingressa un nou usuari amb la següent informació:

Id	108B1D1D-5B23-A76C-55EF-C568E49A99DD
credit_card_id	CcU-9999
company_id	b-9999
user_id	9999
lat	829.999
longitude	-117.999
amount	111.11
declined	0

Usem el codi per a afegir nova entrada

The screenshot shows the MySQL Workbench interface with the 'transactions' schema selected. In the SQL tab, the following code was run:

```
1  ## NIVELL 1 ##
2  ## EXERCICI 3 ##
3
4
5  # - Nou usuari a "transaction" amb les dades que ens han donat
6 •  INSERT into transaction (id, credit_card_id, company_id, user_id, lat, longitude, amount, declined) VALUES ('108B1D1D-5B23-A76C-55EF-C568E49A99DD', 'CcU-9999', 'b-9999', '9999', 829.999, -117.999, 111.11, 0)
```

The execution of the query resulted in an error message in the 'Action Output' pane:

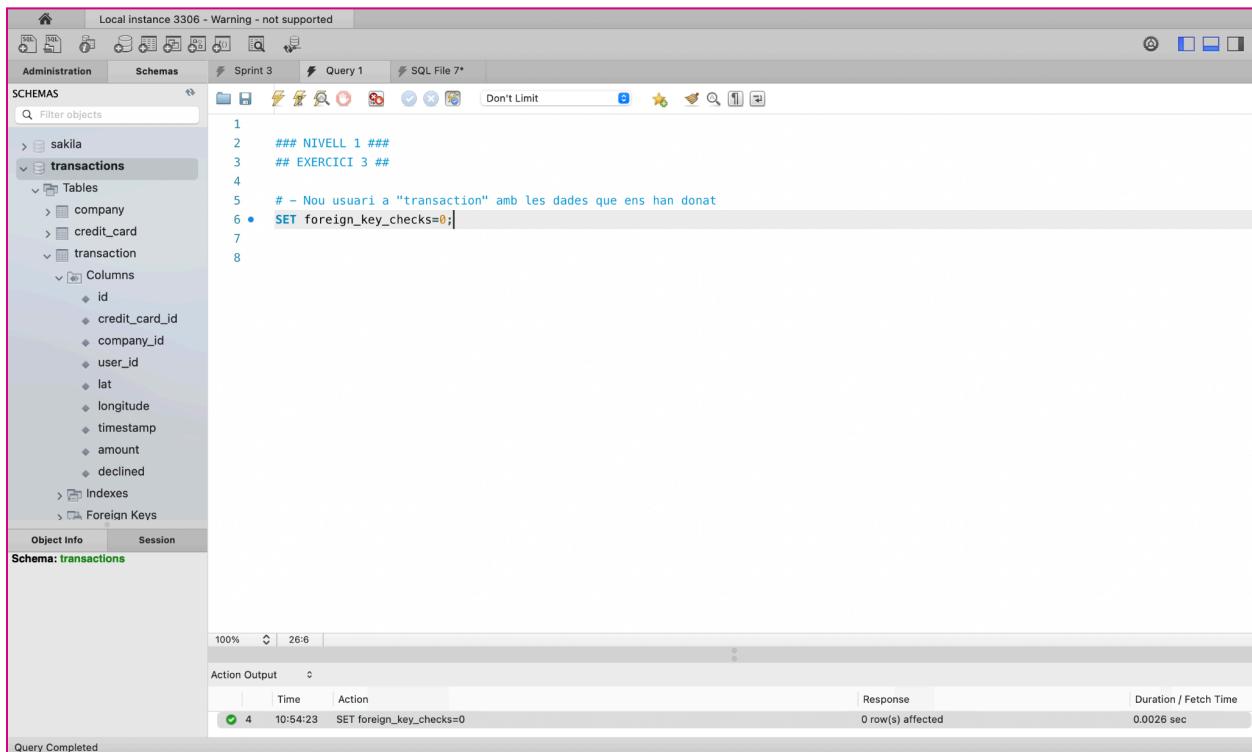
```
1 10:36:57 INSERT into transaction (id, credit_card_id, company_id, user_id, lat, longitude, amount, declined) VALUE... Error Code: 1452. Cannot add or update a child row: a... 0.018 sec
```

The message indicates that the operation failed due to a foreign key constraint.

## Com que ens dóna error

```
Error Code: 1452. Cannot add or update a child row: a foreign key  
constraint fails (`transactions`.`transaction`, CONSTRAINT  
`transaction_ibfk_1` FOREIGN KEY (`company_id`) REFERENCES `company`  
(`id`))
```

Desactivarem les restriccions temporalment per a afegir aquesta entrada.



The screenshot shows the MySQL Workbench interface. The left sidebar displays the schema tree for the 'transactions' database, showing tables like 'company', 'credit\_card', 'transaction', and their columns. The main area is a SQL editor with the following query:

```
1  
2  ### NIVELL 1 ###  
3  ## EXERCICI 3 ##  
4  
5  # - Nou usuari a "transaction" amb les dades que ens han donat  
6 •  SET foreign_key_checks=0;
```

The results pane at the bottom shows the execution log:

Action	Time	Action	Response	Duration / Fetch Time
4	10:54:23	SET foreign_key_checks=0	0 row(s) affected	0.0026 sec

A message 'Query Completed' is visible at the bottom left.

I ara podem afegir aquesta entrada

The screenshot shows the MySQL Workbench interface. In the left sidebar, under the 'Schemas' section, the 'transactions' schema is selected. The main area displays the following SQL code:

```
1
2  ### NIVELL 1 ###
3  ## EXERCICI 3 ##
4
5  # - Nou usuari a "transaction" amb les dades que ens han donat
6  SET foreign_key_checks=0;
7
8  •  INSERT into transaction (id, credit_card_id, company_id, user_id, lat, longitude, amount, declined)
9  VALUES ('108B1D1D-5B23-A76C-55EF-C568E49A99DD', 'CcU-9999', 'b-9999', '9999', '829.999', '-117.999', '111.11', '0');
10
```

The results pane at the bottom shows the execution details:

Action	Time	Response	Duration / Fetch Time
INSERT into transaction (id, credit_card_id, company_id, user_id, lat, longitude, amount, declined) VALUES ('108B1D1D-5B23-A76C-55EF-C568E49A99DD', 'CcU-9999', 'b-9999', '9999', '829.999', '-117.999', '111.11', '0')	10:55:40	1 row(s) affected	0.0063 sec

Query Completed

Comprovem que l'entrada s'ha afegit a la nostra taula

The screenshot shows the MySQL Workbench interface. In the left sidebar, under the 'Schemas' section, the 'transactions' schema is selected. The main area displays the following SQL code:

```
1 •  SELECT *
2   FROM transaction
3   WHERE id = '108B1D1D-5B23-A76C-55EF-C568E49A99DD';
```

The results pane at the bottom shows the execution details and the retrieved data:

Action	Time	Response	Duration / Fetch Time
SELECT * FROM transaction WHERE id = '108B1D1D-5B23-A76C-55EF-C568E49A99DD'	10:58:10	0 rows returned	0.0002 sec / 0.0000...
SELECT * FROM transaction WHERE id = '108B1D1D-5B23-A76C-55EF-C568E49A99DD'	10:59:12	1 row(s) returned	0.00076 sec / 0.0000...

Query Completed

Quan afegim de nou les restriccions, MySQL no revalida l'entrada que hem afegit

The screenshot shows the MySQL Workbench interface. The left sidebar displays the database schema for the 'transactions' table, including columns like id, credit\_card\_id, company\_id, user\_id, lat, longitude, timestamp, amount, and declined. The main query editor window contains the command:

```
1 • SET foreign_key_checks=1;
```

The status bar at the bottom indicates "Query Completed". Below the query editor, the "Action Output" section shows the results of the command:

Action	Time	Response	Duration / Fetch Time
SET foreign_key_checks=1	11:01:37	0 row(s) affected	0.00057 sec

## - Exercici 4: eliminar columna

Des de recursos humans et sol·liciten eliminar la columna "pan" de la taula credit\_card. Recorda mostrar el canvi realitzat.

Comencem donant un ull a la taula credit\_card

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

- Schemas:** sakila, transactions
- Tables:** company, credit\_card
- Columns:** id, iban, pan, pin, cvv, expiring\_date
- Object Info:** credit\_card
- Table:** credit\_card
- Columns:** id, iban, pan, pin, cvv, expiring\_date
- Query:** A query is being run:

```
2
3  ### NIVELL 1 ####
4  ## EXERCICI 4 ##
5  # - Eliminar la columna "pan" de la taula credit_card
6
7 •  SELECT *
8  FROM credit_card;
```
- Result Grid:** Shows the results of the query, listing 275 rows of data from the credit\_card table.
- Action Output:** Shows the execution details:

Action	Time	Response	Duration / Fetch Time
11 11:48:16	SELECT * FROM credit_card	275 row(s) returned	0.037 sec / 0.00045...

## Treiem la columna pan

The screenshot shows the MySQL Workbench interface. In the left sidebar, under the 'Schemas' section, the 'credit\_card' table is selected. In the main pane, a query editor window is open with the following SQL code:

```

1
2
3  ### NIVELL 1 ###
4  ## EXERCICI 4 ##
5  # - Eliminar la columna "pan" de la taula credit_card
6 • ALTER TABLE credit_card
7   DROP COLUMN pan;

```

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

I comprovem que la columna ja no està

The screenshot shows the MySQL Workbench interface. In the left sidebar, under the 'Schemas' section, the 'credit\_card' table is selected. In the main pane, a query editor window is open with the following SQL code:

```

1
2 • SELECT *
3   FROM credit_card;

```

Below the query, a 'Result Grid' shows the data from the 'credit\_card' table. The columns listed are id, iban, pin, cvv, and expiring\_date. The data grid contains approximately 275 rows of card information.

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

## Nivell 2

### - Exercici 1: eliminar registre

Elimina de la taula transaction el registre amb ID 02C6201E-D90A-1859-B4EE-88D2986D3B02 de la base de dades.

## - Exercici 2: vista

La secció de màrqueting desitja tenir accés a informació específica per a realitzar anàlisi i estratègies efectives. S'ha sol·licitat crear una vista que proporcioni detalls clau sobre les companyies i les seves transaccions. Serà necessària que creïs una vista anomenada VistaMarketing que contingui la següent informació: Nom de la companyia. Telèfon de contacte. País de residència. Mitjana de compra realitzat per cada companyia. Presenta la vista creada, ordenant les dades de major a menor mitjana de compra.

Vista: VistaMarketing

company.company\_name - Nom de la companyia.

company.phone - Telèfon de contacte.

company.country - País de residència.

avg(amount), WHERE declined = 0 - Mitjana de compra realitzat per cada companyia.

ORDER BY avg(amount) DESC - Order by major a menor mitjana de compra

## - Exercici 3: filtrar vista

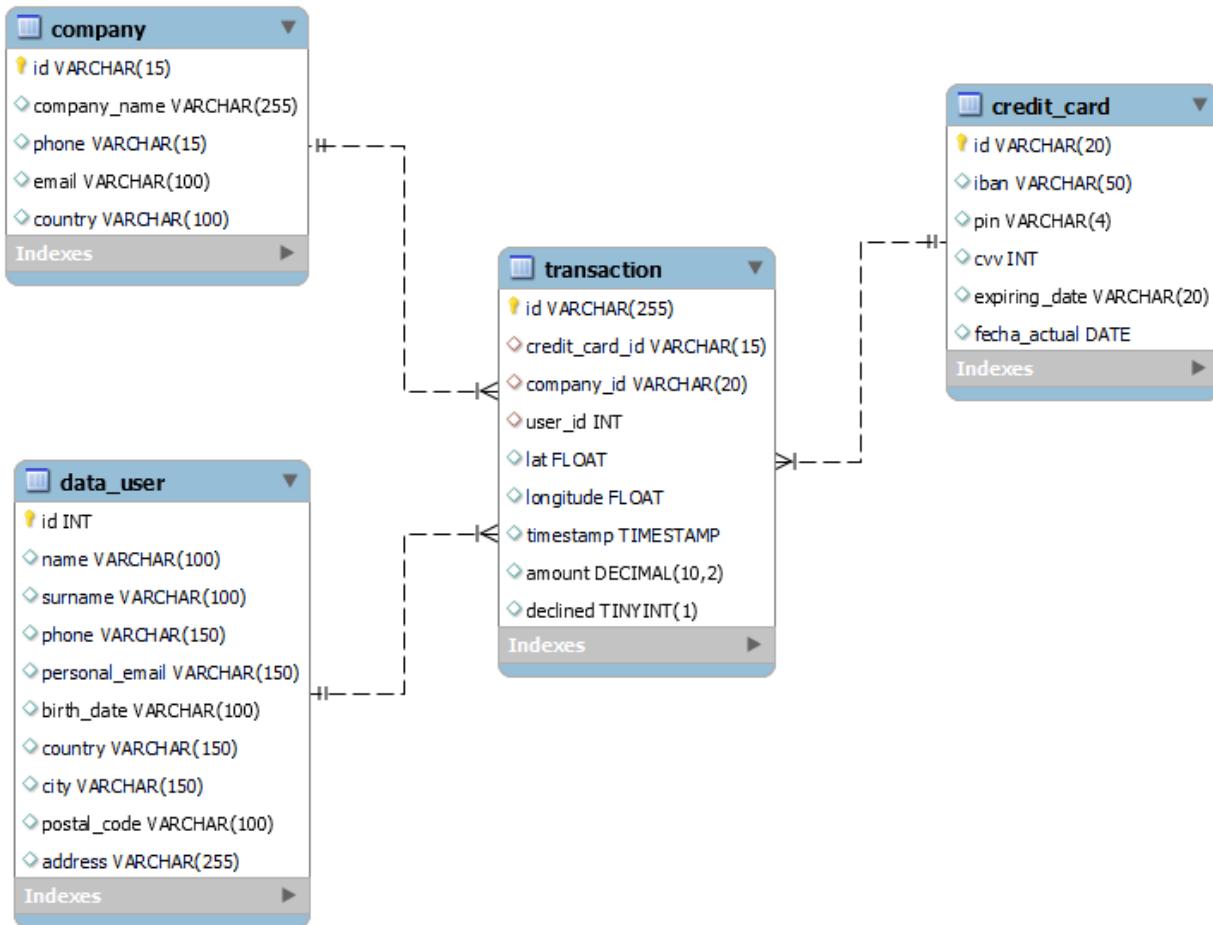
Filtra la vista VistaMarketing per a mostrar només les companyies que tenen el seu país de residència en "Germany"

WHERE country ='Germany'

# Nivell 3

## - Exercici 1: modificacions base dades

La setmana vinent tindràs una nova reunió amb els gerents de màrqueting. Un company del teu equip va realitzar modificacions en la base de dades, però no recorda com les va realitzar. Et demana que l'ajudis a deixar els comandos executats per a obtenir el següent diagrama:



### Recordatori

En aquesta activitat, és necessari que descriguis el "pas a pas" de les tasques realitzades. És important realitzar descripcions senzilles, simples i fàcils de comprendre. Per a realitzar aquesta activitat hauràs de treballar amb els arxius denominats "estructura\_dades\_user" i "dades\_introduir\_user"

## - Exercici 2: informe técnico

L'empresa també et sol·licita crear una vista anomenada "InformeTecnico" que contingui la següent informació:

- ID de la transacció
- Nom de l'usuari/ària
- Cognom de l'usuari/ària
- IBAN de la targeta de crèdit usada.
- Nom de la companyia de la transacció realitzada.
- Assegura't d'incloure informació rellevant de totes dues taules i utilitza àlies per a canviar de nom columnes segons sigui necessari.

Mostra els resultats de la vista, ordena els resultats de manera descendente en funció de la variable ID de transaction.

```
SELECT *
transaction.id
JOIN transaction.user_id per a nom i cognom
JOIN transaction.credit_card_id per a IBAN
JOIN company per a company.company_name

ORDER BY transaction.id DESC
```