

SPRINT 2

Nivell 1 – Exercici 1:

```

1  -- Creamos la base de datos
2  CREATE DATABASE IF NOT EXISTS transactions;
3  USE transactions;
4
5  -- Creamos la tabla company
6  CREATE TABLE IF NOT EXISTS company (
7      id VARCHAR(15) PRIMARY KEY,
8      company_name VARCHAR(255),
9      phone VARCHAR(15),
10     email VARCHAR(100),
11     country VARCHAR(100),
12     website VARCHAR(255)
13 );
14
15  -- Creamos la tabla transaction
16  CREATE TABLE IF NOT EXISTS transaction (
17      id VARCHAR(255) PRIMARY KEY,
18      credit_card_id VARCHAR(15) REFERENCES credit_card(id),
19      company_id VARCHAR(20),
20      user_id INT REFERENCES user(id),
21      lat FLOAT,
22      longitude FLOAT,
23      timestamp TIMESTAMP,
24      amount DECIMAL(10, 2),
25      declined BOOLEAN,
26      FOREIGN KEY (company_id) REFERENCES company(id)
27 );
28

```

Action Output

Time	Action	Response	Duration / Fetch Time
851 13:34:28	CREATE DATABASE IF NOT EXISTS transactions	1 row(s) affected	0.0014 sec
852 13:34:28	USE transactions	0 row(s) affected	0.00015 sec
853 13:34:32	CREATE TABLE IF NOT EXISTS company (id VARCHAR(15) PRIMARY KEY, company_name VARCHAR(255), phone... 0 row(s) affected		0.0061 sec
854 13:34:38	CREATE TABLE IF NOT EXISTS transaction (id VARCHAR(255) PRIMARY KEY, credit_card_id VARCHAR(15) REFERENC... Error Code: 1824. Failed to open the referenced table...		0.00088 sec

Error 1824 de MySQL, "Failed to open the referenced table": és produeix perquè credit_card_id fa referència a una clau externa que no apareix en cap altra taula de la base de dades.

Vaig treure aquestes referències per poder carregar correctament l'estructura de la BBDD, tal que així:

```

1  -- Creamos la base de datos
2  CREATE DATABASE IF NOT EXISTS transactions;
3  USE transactions;
4
5  -- Creamos la tabla company
6  CREATE TABLE IF NOT EXISTS company (
7      id VARCHAR(15) PRIMARY KEY,
8      company_name VARCHAR(255),
9      phone VARCHAR(15),
10     email VARCHAR(100),
11     country VARCHAR(100),
12     website VARCHAR(255)
13 );
14
15  -- Creamos la tabla transaction
16  CREATE TABLE IF NOT EXISTS transaction (
17      id VARCHAR(255) PRIMARY KEY,
18      credit_card_id VARCHAR(15),
19      company_id VARCHAR(20),
20      user_id INT,
21      lat FLOAT,
22      longitude FLOAT,
23      timestamp TIMESTAMP,
24      amount DECIMAL(10, 2),
25      declined BOOLEAN,
26      FOREIGN KEY (company_id) REFERENCES company(id)
27 );
28

```

Action Output

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852 13:34:28	USE transactions	0 row(s) affected	0.00015 sec
853 13:34:32	CREATE TABLE IF NOT EXISTS company (id VARCHAR(15) PRIMARY KEY, company_name VARCHAR(255), phone... 0 row(s) affected		0.0061 sec
854 13:34:38	CREATE TABLE IF NOT EXISTS transaction (id VARCHAR(255) PRIMARY KEY, credit_card_id VARCHAR(15) REFERENC... Error Code: 1824. Failed to open the referenced table...		0.00088 sec
855 13:38:21	CREATE TABLE IF NOT EXISTS transaction (id VARCHAR(255) PRIMARY KEY, credit_card_id VARCHAR(15), comp... 0 row(s) affected		0.011 sec

Carrega de dades:

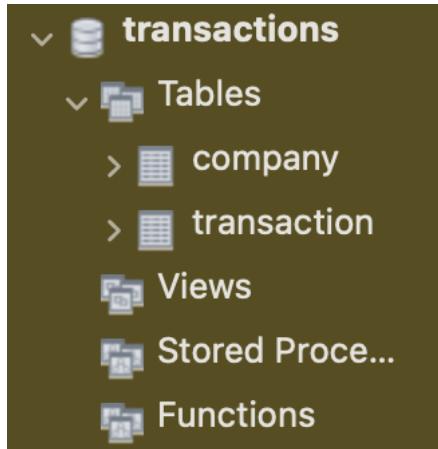
```

0079 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('074179B5-F42D-4857-9AEA-8A2436
0080 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('F6665E6B-E543-4E0D-AE28-C34232
0081 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('5CDCBCB2-1ECB-43E5-B538-954205
0082 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('80077626-1186-4973-BBAA-1CBE7A
0083 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('31F6C9E0-96AA-4F1B-9890-3D6BCJ
0084 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('E6B26F62-F637-469B-B464-5A130E
0085 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('83380605-AE39-48B2-AA25-A005B8
0086 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('C35A2438-EC2E-4006-AE6B-8CD926
0087 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('2F347A65-9778-48EA-80E2-EC3F8D
0088 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('2376839F-EC40-455A-B602-7A1421
0089 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('82343C87-140B-42A7-8843-577209
0090 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('5CE87C40-F2D4-4644-8065-4C15ED
0091 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('72546752-C2F6-4E5A-886B-EA0906
0092 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('623640C6-AA7E-4B79-B3F2-221928
0093 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('29063BCD-1886-4E89-ACED-D2E18F
0094 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('9890540B-E9E1-40B5-8A25-20CB1D
0095 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('7733BCDA-5EBF-41A3-90CE-FD7403
0096 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('DF27ABD1-13A2-4AE1-8E65-74103F
0097 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('5A980850-2921-4191-87B0-DB0D67
0098 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('FBC7857A-E48E-497B-AD14-F51C1D
0099 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('16C3BD53-1A6C-4262-9390-C68F95
0100 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3D39E00C-1F9D-42AE-B0F5-C43507
0101 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('E183116A-883A-412C-87CE-A1DF02
0102 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('65FF0A2A-3141-4378-AEF6-785D51
100% 1:10010 |
```

Action Output

Action	Time	Response	Duration / Fetch Time
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('FBC7...	1 row(s) affected	0.00016 sec
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('16C3...	1 row(s) affected	0.00016 sec
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3D39...	1 row(s) affected	0.00017 sec
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('E183...	1 row(s) affected	0.00017 sec
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('86FF0...	1 row(s) affected	0.00016 sec
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('D7AE2...	1 row(s) affected	0.00018 sec
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('C312...	1 row(s) affected	0.00018 sec
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3E8F1...	1 row(s) affected	0.00016 sec

BBDD Transactions en Schema:



Taula Transaction:

```
1 • SELECT * FROM transactions.company;
```

100% 1:1

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

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	nisius.donec.nibh@icloud.org	Australia	https://whatsapp.com/group/9
b-2230	Fusce Corp.	08 14 97 58 85	risus@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://cnn.com/user/110

Action Output

Time	Action	Response
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('16C3...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3D39...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('E1831...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('65FF0...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('D7AE2...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('C312...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3EFB1...' 1 row(s) affected)	
10... 13:49:18	SELECT * FROM transactions.company LIMIT 0, 1000	100 row(s) returned

Taula Company:

```
1 • SELECT * FROM transactions.transaction;
```

100% 1:1

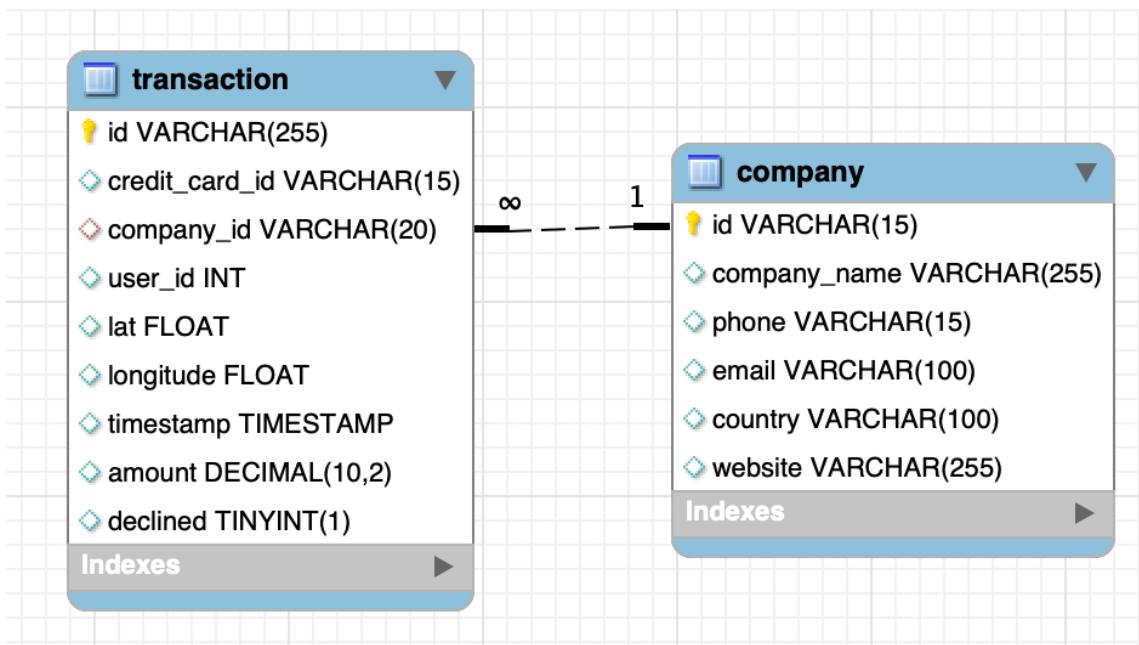
Result Grid Filter Rows: Search Edit: Export/Import: Fetch rows:

id	credit_card...	company_id	user_id	lat	longitude	timestamp	amount	declined
00045D6B-ED2E-4F2F-8186-CEE074D875D0	CcS-6699	b-2390	2118	29.7573	-95.3796	2020-07-14 15:37:45	326.01	0
000481C3-1C26-4FFF-83A0-4CDE0B004BB0	CcS-6696	b-2230	2115	63.5489	-113.503	2017-09-04 19:44:53	161.60	0
00051AA4-9CBE-4268-B070-C38062A1B3E2	CcS-7608	b-2266	3025	52.2084	5.69081	2017-01-05 18:19:25	148.91	0
0008A312-EDFE-4A4F-BC99-E9C92EC3CA4D	CcU-3358	b-2598	2115	53.5535	-113.499	2023-09-23 04:51:43	294.59	0

Action Output

Time	Action	Response
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3D39...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('E1831...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('65FF0...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('D7AE2...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('C312...' 1 row(s) affected)	
10... 13:39:03	INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3EFB1...' 1 row(s) affected)	
10... 13:49:18	SELECT * FROM transactions.company LIMIT 0, 1000	100 row(s) returned
10... 13:49:38	SELECT * FROM transactions.transaction LIMIT 0, 1000	1000 row(s) returned

Diagrama:



Com podem observar, existeix una relació N:1 entre la taula transaction i company. A la taula transaction tenim com clau primària id i forànea company_id, aquesta ultima connecta amb la primària id de la taula company.

La taula transaction té informació rellevant a les vendes realitzades, mentre la taula company, té informació sobre les empreses que fan les compres.

A continuació, una breu descripció de les variables:

Taula Company

- Id: Identificador únic de cada empresa. Serveix per diferenciar-les i relacionar-les amb altres taules.
- Company_name: Nom de l'empresa que ha processat o generat la transacció de compra del bé o servei.
- Phone: Número de telèfon de l'empresa.
- Email: Correu electrònic de contacte de l'empresa.
- Country: País on opera l'empresa.
- Website: Pàgina web oficial de l'empresa.

Taula Transaction:

- Id: Identificador únic de cada transacció.
- Credit_card_id: Identificador de la targeta utilitzada per fer la compra. Aquesta enllaça amb la taula credit_card.
- Company_id: Identificador de l'empresa relacionada amb la transacció. Relacionat amb company.id.
- User_id: Identificador assignat a cada usuari que ha realitzat la compra.
- Lat: Latitud geogràfica des d'on s'ha realitzat la transacció.

- Longitude: Longitud geogràfica del punt de la transacció.
- Timestamp: Data i hora de quan s'ha efectuat la transacció.
- Amount: Import total de la compra, accepta decimals.
- Declined: Indica si la transacció ha estat rebutjada (1) o acceptada (0). En la pràctica TYNINT(1) es molt similar a BOOLEAN.

Nivell 1 - Exercici 2:

```

1 • USE transactions;
2
3 -- Nivell 1
4 -- Exercici 2: Utilitzant JOIN realitzaràs les següents consultes; llistat dels països que estan generant vendes
5
6 • SELECT DISTINCT c.country
7   FROM company c
8   JOIN transaction t ON c.id = t.company_id
9   WHERE t.declined = 0;
10
11
12
130% 22:9
Result Grid Filter Rows: Search Export: 
country
Netherlands
Sweden
Ireland
United States
Belgium
Canada
Germany
Norway
France
Italy
United Kingdom
New Zealand
China
Spain
Result 86
Action Output
Time Action Response Duration / Fetch Time
61 11:32:13 SELECT c.company_name, c.phone, c.country, DATE(t.timestamp) AS date, t.amount FROM transaction t JOIN company c ON c.id = t.company_id WHERE t.declined = 0 8 row(s) returned 0.065 sec / 0.000007...
62 11:32:46 SELECT DISTINCT c.country FROM company c JOIN transaction t ON c.id = t.company_id WHERE t.declined = 0 15 row(s) returned 0.226 sec / 0.000067...
63 11:34:59 SELECT DISTINCT c.country FROM company c JOIN transaction t ON c.id = t.company_id WHERE t.declined = 0 15 row(s) returned 0.227 sec / 0.000055...

```

```

11 --
12 -- Des de quants països es generen les vendes.
13
14 • SELECT COUNT(DISTINCT c.country) AS NumberOfCountries
15   FROM company c
16   JOIN transaction t ON c.id = t.company_id
17   WHERE t.declined = 0;
18
130% 22:17
Result Grid Filter Rows: Search Export: 
NumberOfCountry...
15
Result 87
Action Output
Time Action Response Duration / Fetch Time
62 11:32:46 SELECT DISTINCT c.country FROM company c JOIN transaction t ON c.id = t.company_id WHERE t.declined = 0 15 row(s) returned 0.226 sec / 0.000067...
63 11:34:59 SELECT DISTINCT c.country FROM company c JOIN transaction t ON c.id = t.company_id WHERE t.declined = 0 15 row(s) returned 0.227 sec / 0.000056...
64 11:35:39 SELECT COUNT(DISTINCT c.country) AS NumberOfCountries FROM company c JOIN transaction t ON c.id = t.company_id WHE... 1 row(s) returned 0.223 sec / 0.000047...

```

```

19
20 -- Identifica la companyia amb la mitjana més gran de vendes
21
22 • SELECT
23     c.company_name,
24     ROUND(AVG(t.amount), 2) AS AverageSales
25   FROM company c
26   JOIN transaction t ON c.id = t.company_id
27 WHERE t.declined = 0
28 GROUP BY c.company_name
29 ORDER BY AverageSales DESC
30 LIMIT 1;

```

Result Grid | Filter Rows: Q Search | Export: Result Grid | Form Editor | Field Types

company_name	AverageSales
Ac Fermentum Incorporated	284.91

Result 88 | Read Only

Action Output | Time | Action | Response | Duration / Fetch Time

- 63 11:34:59 SELECT DISTINCT c.country FROM company c JOIN transaction t ON c.id = t.company_id WHERE t.declined = 0 15 row(s) returned 0.227 sec / 0.000055...
- 64 11:35:39 SELECT COUNT(DISTINCT c.country) AS NumberOfCountries FROM company c JOIN transaction t ON c.id = t.company_id WHERE t.declined = 0 1 row(s) returned 0.223 sec / 0.000047...
- 65 11:36:37 SELECT c.company_name, ROUND(AVG(t.amount), 2) AS AverageSales FROM company c JOIN transaction t ON c.id = t.company_id WHERE t.declined = 0 1 row(s) returned 0.277 sec / 0.000061...

Nivell 1 – Exercici 3:

```

32
33 -- Exercici 3: Utilitzant només subconsultes (sense utilitzar JOIN), mostra totes les transaccions realitzades per empreses d'Alemanya
34
35 • SELECT *
36   FROM transaction t
37 WHERE t.declined = 0
38   AND EXISTS(
39       SELECT 1
40         FROM company c
41        WHERE c.id = t.company_id
42          AND c.country = 'Germany'
43   );

```

Result Grid | Filter Rows: Q Search | Edit: Export/Import: Fetch rows: Result Grid | Form Editor | Field Types

id	credit_card...	company_id	user_id	lat	longitude	timestamp	amount	declined
00138D3B-206D-4C03-94B7-63A267E8984	Ccs-4896	b-2222	318	41.3781	12.447	2020-03-25 10:43:43	426.36	0
0013C1B6-3B84-4D6C-B154-E283FBCA8E9	Ccs-5070	b-2222	489	41.3814	2.18176	2020-12-17 16:15:57	316.90	0
00201A11-2E62-44C-941D-198f-C8D77f0	Ccu-3512	b-2222	193	65.5703	-3.65129	2021-01-22 23:44:27	453.04	0
00206116-65C-4D49-9DC-3A949505223	Ccs-8137	b-2222	3556	69.8421	18.729	2020-09-09 15:43:19	263.14	0
005AA7A-B-1FA-4B6C-9815-1625A78C9C38	Ccs-8996	b-2222	4417	41.1591	-8.83905	2024-05-15 09:11:11	442.01	0
0069713B-0-882-4AFA-976-76P04AB4	Ccs-4870	b-2222	289	51.1968	10.4669	2019-03-08 19:37:49	524.84	0
0074F-0-32F1-4-827-0758-558863146234	Ccs-808	b-2222	3500	39.7016	-8.50325	2018-12-28 23:06:57	491.90	0
00AA89CD-3906-4DCB-B41D-13BE730C90A9	Ccs-6797	b-2222	2216	50.7652	-3.76245	2021-03-25 03:06:59	167.15	0
0095600-0-4-ABE8-2265-4-000000000000	Ccs-5053	b-2222	120	39.9265	12.9893	2019-03-25 10:43:43	10.00	0
00DA383-E048-457-8ED1-3C56C258FF2F	Ccs-9223	b-2222	4842	51.1742	10.4669	2019-03-21 11:47:34	328.62	0
00DD110E-ED01-4BBD-83A0-4AD1B3A50DF	Ccs-7681	b-2222	3100	45.7055	4.83109	2024-01-28 16:20:49	242.53	0
01449CE0-98E9-4-DE5-8810-726C8A0E0EF	Ccs-5424	b-2222	843	47.0163	2.26204	2024-03-17 19:27:14	451.71	0
0175E8C7-241E-42DA-A8B9-9F2460BF4D2F	Ccs-7510	b-2222	2929	52.0619	4.29464	2021-08-28 16:29:38	9.46	0
01ABDAB9-06E2-4CA0-A131-AEE6FF1B749	Ccs-5053	b-2222	472	51.7738	5.17479	2020-01-28 01:15:07	368.41	0

transaction 89 | Apply

Action Output | Time | Action | Response | Duration / Fetch Time

- 64 11:35:39 SELECT COUNT(DISTINCT c.country) AS NumberOfCountries FROM company c JOIN transaction t ON c.id = t.company_id WHERE t.declined = 0 1 row(s) returned 0.223 sec / 0.000047...
- 65 11:36:37 SELECT c.company_name, ROUND(AVG(t.amount), 2) AS AverageSales FROM company c JOIN transaction t ON c.id = t.company_id WHERE t.declined = 0 1 row(s) returned 0.277 sec / 0.000061...
- 66 11:37:54 SELECT * FROM transaction t WHERE t.declined = 0 AND EXISTS(SELECT 1 FROM company c WHERE c.id = t.company_id... 13269 row(s) returned 0.037 sec / 0.060 sec

```

45  -- Llista les empreses amb transaccions superiors a la mitjana
46
47
48  SELECT c.company_name
49  FROM company c
50  WHERE EXISTS(
51      SELECT 1
52      FROM transaction t
53      WHERE t.company_id = c.id
54      AND t.declined = 0
55      AND t.amount > (
56          SELECT AVG(t2.amount)
57          FROM transaction t2
58          WHERE t2.declined = 0
59      )
60  );

```

Result Grid | Filter Rows: | Search | Export: | Read Only

company_name
Fusce Corp.
Convallis In Incorporated
Ante laculic Nec Foundation
Donec Ltd
Sed Nunc Ltd
Amet Nulla Donec Corporation
Nascetur Ridiculus Mus Inc.
Vestibulum Lorem PC
Gravida Sagittis LLP
Mus Aenean Eget Foundation
Dis Parturient Institute

Action Output | Time | Action | Response | Duration / Fetch Time

Action	Time	Response	Duration / Fetch Time
66 11:37:54 SELECT * FROM transaction t WHERE t.declined = 0 AND EXISTS(SELECT 1 FROM company c WHERE c.id = t.company_id...)	13269 row(s) returned	0.037 sec / 0.060 sec	
67 11:38:22 SELECT * FROM transaction t WHERE t.company_id IN(SELECT c.id FROM company c WHERE c.country='Germany') AND...)	13269 row(s) returned	0.0039 sec / 0.075 sec	
68 11:39:23 SELECT c.company_name FROM company c WHERE EXISTS(SELECT 1 FROM transaction t WHERE t.company_id = c.id AND...)	100 row(s) returned	0.100 sec / 0.000024...	

```

62  -- Llista d'empreses sense transaccions registrades
63
64
65  SELECT c.company_name
66  FROM company c
67  WHERE NOT EXISTS(
68      SELECT 1
69      FROM transaction t
70      WHERE t.company_id = c.id
71      AND t.declined = 0
72  );

```

Result Grid | Filter Rows: | Search | Export: | Read Only

company_name

Action Output | Time | Action | Response | Duration / Fetch Time

Action	Time	Response	Duration / Fetch Time
69 11:40:22 SELECT c.company_name FROM company c WHERE NOT EXISTS(SELECT 1 FROM transaction t WHERE t.company_id = ...)	0 row(s) returned	0.069 sec / 0.000018...	
70 11:40:33 SELECT company_name FROM company WHERE id IN(SELECT company_id FROM transaction t WHERE declined=0 AND amo...)	100 row(s) returned	0.086 sec / 0.000018...	
71 11:40:55 SELECT c.company_name FROM company c WHERE NOT EXISTS(SELECT 1 FROM transaction t WHERE t.company_id=c.i...)	0 row(s) returned	0.069 sec / 0.000018...	

Nivell 2 - Exercici 1:

```

74  -- Nivell 2:
75  -- Els 5 dies amb més ingressos. Mostra la data de cada transacció juntament amb el total de les vendes.
76
77
78 • SELECT
79      ROUND(SUM(t.amount), 2) AS TotalSales,
80      DATE(t.timestamp) AS Date
81  FROM transaction t
82  WHERE t.declined = 0
83  GROUP BY Date
84  ORDER BY TotalSales DESC
85  LIMIT 5;
86
87
88  -- Mitjana de vendes per país
89

```

Result Grid | Filter Rows: Search Export: Result Grid | Form Editor | Field Types | Read Only

TotalSales	Date
14337.44	2022-12-13
13591.32	2019-11-18
13332.59	2023-02-20
13318.43	2017-12-20
12680.95	2019-03-18

Result 92 | Action Output | Time | Action | Response | Duration / Fetch Time

Action	Time	Response	Duration / Fetch Time
70 11:40:33 SELECT company_name FROM company WHERE id IN(SELECT company_id FROM transaction t WHERE declined=0 AND amo...	11:40:33	100 row(s) returned	0.086 sec / 0.000018...
71 11:40:55 SELECT c.company_name FROM company c WHERE NOT EXISTS(SELECT 1 FROM transaction t WHERE t.company_id=c...	11:40:55	0 row(s) returned	0.069 sec / 0.000018...
72 11:41:26 SELECT ROUND(SUM(t.amount), 2) AS TotalSales, DATE(t.timestamp) AS Date FROM transaction t WHERE t.declined = 0...	11:41:26	5 row(s) returned	0.113 sec / 0.000014...

Nivell 2 - Exercici 2:

```

87
88  -- Mitjana de vendes per país
89
90 • SELECT
91      c.country, ROUND(AVG(t.amount), 2) AS AverageSales
92  FROM company c
93  JOIN transaction t ON c.id = t.company_id
94  WHERE t.declined = 0
95  GROUP BY c.country
96  ORDER BY AverageSales DESC;
97

```

Result Grid | Filter Rows: Search Export: Result Grid | Form Editor | Field Types | Read Only

country	AverageSales
Australia	265.54
United States	264.42
Belgium	260.97
Germany	260.83
Ireland	260.39
Spain	260.28
France	259.91
New Zealand	259.59
Norway	259.14
Netherlands	258.34
Italy	258.12
Canada	257.41

Result 93 | Action Output | Time | Action | Response | Duration / Fetch Time

Action	Time	Response	Duration / Fetch Time
71 11:40:55 SELECT c.company_name FROM company c WHERE NOT EXISTS(SELECT 1 FROM transaction t WHERE t.company_id=c...	11:40:55	0 row(s) returned	0.069 sec / 0.000018...
72 11:41:26 SELECT ROUND(SUM(t.amount), 2) AS TotalSales, DATE(t.timestamp) AS Date FROM transaction t WHERE t.declined = 0...	11:41:26	5 row(s) returned	0.113 sec / 0.000014...
73 11:43:31 SELECT c.country, ROUND(AVG(t.amount), 2) AS AverageSales FROM company c JOIN transaction t ON c.id = t.company_id...	11:43:31	15 row(s) returned	0.282 sec / 0.000079...

Nivell 2 - Exercici 3:

```

98
99 -- Llista de transaccions d'empreses del mateix pais que "Non Institute". Mostra el llistat aplicant JOIN i subconsultes.
100
101 • SELECT t.*  

102   FROM transaction t  

103   JOIN company c ON c.id = t.company_id  

104  WHERE t.declined = 0  

105  AND c.country = (  

106    SELECT c2.country  

107      FROM company c2  

108     WHERE c2.company_name = 'Non Institute'  

109   );  

110
111
112 -- Mostra el llistat aplicant solament subconsultes.  

113

```

100% 5:109

Result Grid Filter Rows: Search Export: Fetch rows: Result Grid Form Editor Field Types

id	credit_card...	company_id	user_id	lat	longitude	timestamp	amount	declined
01F075B1-E7DAE-4D02-AAD9-5FFD72A3FC	Ccs-8700	b-2246	4119	55.856	-3.15783	2016-01-27 13:44:36	103.73	0
023FCE8-E618-4938-BF56-CBD05040DD	Ccs-7816	b-2246	3235	46.3568	11.82755	2016-12-19 11:53:45	219.28	0
02683BE-BEF9-1A56-4564-857B-D6F1662AB7C5	Ccs-9471	b-2246	4890	42.1332	12.399	2017-01-01 21:09:29	326.87	0
02C2F2E-CEF2-4C1E-A594-F4768F279C0	Ccs-9082	b-2246	4501	39.4662	-0.373248	2020-05-24 01:17:29	155.72	0
02F468DC-426C-47C2-B80A-D8B25B7A81AF	Ccs-6913	b-2246	2332	52.175	19.3505	2023-03-17 16:36:27	305.35	0
0306BE3B-817B-4A49-934E-0E439291A104	Ccs-5302	b-2246	721	51.9233	18.928	2021-12-02 23:06:02	339.58	0
0347F6E-8EB5-4387-B187-07E8EBF28BF	Ccs-7674	b-2246	3093	45.768	4.84271	2021-12-30 08:40:24	172.93	0
03AE8D0E-DC97-4B03-9C57-8A6D7B7802FD	Ccs-6121	b-2246	1540	50.8113	10.3145	2018-11-11 11:28:49	114.77	0
03CA36D3-88F-4DFB-BFD4-4CC7DAEEF2B	Ccs-8036	b-2246	3455	52.5178	13.4131	2017-02-25 15:38:21	440.27	0
0494182-96D4-42E8-B2F-E5FB2C5210537	Ccs-6791	b-2246	2210	41.9542	12.4607	2018-05-17 17:53:53	241.59	0
04AAFCF6-FFB5-49F-B-0E4-E6730655366A	Ccs-5363	b-2246	782	39.2464	-7.80454	2018-08-09 22:12:54	188.58	0

Result 94 | Read Only

Action Output

Time	Action	Response	Duration / Fetch Time
72 11:41:26	SELECT ROUND(SUM(t.amount), 2) AS TotalSales, DATE(t.timestamp) AS Date FROM transaction t WHERE t.declined = 0...	5 row(s) returned	0.113 sec / 0.000014...
73 11:43:31	SELECT c.country, ROUND(AVG(t.amount), 2) AS AverageSales FROM company c JOIN transaction t ON c.id = t.company_id...	15 row(s) returned	0.282 sec / 0.000079...
74 11:44:32	SELECT t.* FROM transaction t JOIN company c ON c.id = t.company_id WHERE t.declined = 0 AND c.country = (SELECT c2.c...	13754 row(s) returned	0.0053 sec / 0.091 sec

111
112 -- Mostra el llistat aplicant solament subconsultes.
113
114 • SELECT t.*
115 FROM transaction t
116 WHERE t.declined = 0
117 AND EXISTS(
118 SELECT 1
119 FROM company c
120 WHERE c.id = t.company_id
121 AND c.country = (
122 SELECT c2.country
123 FROM company c2
124 WHERE c2.company_name = 'Non Institute'
125)
126);

100% 3:126

Result Grid Filter Rows: Search Edit: Export/Import: Fetch rows: Result Grid Form Editor Field Types

id	credit_card...	company_id	user_id	lat	longitude	timestamp	amount	declined
008629B4-C9A9-406C-A3D2-71FDA478C546	Ccs-7063	b-2246	2482	45.7666	4.83048	2015-07-30 12:12:42	486.44	0
00872BA4-5A93-4B8E-B13F-2D67535A17A	Ccs-8475	b-2246	3694	55.6212	-3.7846	2017-10-26 22:08:26	414.06	0
01F075B1-E7DAE-4D02-AAD9-5FFD72A3FC	Ccs-8700	b-2246	4119	55.856	-3.15783	2018-01-27 13:44:36	103.73	0
0209F99B-48E8-456A-9570-20E41662A97C5	Ccs-9476	b-2246	3232	46.3568	11.82755	2016-12-19 11:53:45	219.28	0
0209F99B-48E8-456A-9570-20E41662A97C5	Ccs-9471	b-2246	4890	42.1332	12.399	2017-01-01 21:09:29	326.87	0
02C2F2E-CEF2-4C1E-A594-F4768F279C0	Ccs-9082	b-2246	4601	39.4662	-0.373248	2020-05-24 01:17:29	155.72	0
02C2F2E-CEF2-4C1E-A594-F4768F279C0	Ccs-6913	b-2246	2332	52.175	19.3505	2023-03-17 16:36:27	305.35	0
0306E3B8-817B-4A49-934E-0E439291A104	Ccs-5302	b-2246	721	51.9233	18.928	2021-12-02 23:06:02	339.58	0
0347F6E-8EB5-4387-B187-07E8EBF28BF	Ccs-7674	b-2246	3093	45.768	4.84271	2021-12-30 08:40:24	172.93	0
03AE8D0E-DC97-4B03-9C57-8A6D7B7802FD	Ccs-6121	b-2246	1540	50.8113	10.3145	2018-11-11 11:28:49	114.77	0
03CA36D3-88F-4DFB-BFD4-4CC7DAEEF2B	Ccs-8036	b-2246	3455	52.5178	13.4131	2017-02-25 15:38:21	440.27	0
04AAFCF6-FFB5-49F-B-0E4-E6730655366A	Ccs-5363	b-2246	782	39.2464	-7.80454	2018-08-09 22:12:54	188.58	0

transaction 95 | Apply

Action Output

Time	Action	Response	Duration / Fetch Time
74 11:44:32	SELECT t.* FROM transaction t JOIN company c ON c.id = t.company_id WHERE t.declined = 0 AND c.country = (SELECT c2.c...	13754 row(s) returned	0.0053 sec / 0.091 sec
75 11:45:57	SELECT t.*-- Mejor utilizar esto para todo de transaction FROM transaction t JOIN company c ON c.id=t.company_id WHERE t...	13754 row(s) returned	0.0047 sec / 0.092 sec
76 11:46:31	SELECT t.* FROM transaction t WHERE t.declined = 0 AND EXISTS(SELECT 1 FROM company c WHERE c.id = t.c...	13754 row(s) returned	0.0047 sec / 0.082 sec

Nivell 3 – Exercici 1:

```

129 -- Nivell 3
130 -- Exercici 1: Dades d'empreses amb transaccions entre 350 i 400€ en dates '2015-04-29', '2018-07-20', '2024-03-13'
131
132 • SELECT
133   c.company_name,
134   c.phone,
135   c.country,
136   DATE(t.timestamp) AS date,
137   t.amount
138   FROM transaction t
139   JOIN company c
140   ON t.company_id = c.id
141   WHERE t.amount BETWEEN 350 AND 400
142   AND t.declined = 0
143   AND DATE(t.timestamp) IN ('2015-04-29', '2018-07-20', '2024-03-13')
144   ORDER BY t.amount DESC;
100% ◇ 24:144 |
```

Result Grid Filter Rows: Search: Export:

company_name	phone	country	date	amount
Aliquam PC	01 45 73 52 16	Germany	2024-03-13	399.84
Auctor Mauris Vel LLP	08 09 28 74 14	United States	2018-07-20	399.51
At Pede Corp.	06 14 48 33 15	Italy	2015-04-29	360.69
Aliquam PC	01 45 73 52 16	Germany	2024-03-13	368.29
Orci Adipsicing Limited	03 18 00 77 81	United Kingdom	2015-04-29	374.71
Fringilla C	07 09 29 15 57	New Zealand	2015-04-29	367.62
Pede Cum Ltd	07 09 26 48 38	Norway	2018-07-20	366.87
Auctor Mauris Vel LLP	08 09 28 74 14	United States	2024-03-13	353.76

Result 96 | Read Only

Action Output: Action

Time	Action	Response	Duration / Fetch Time
75 11:45:57	SELECT t.* -- Mejor utilizar esto para todo de transaction FROM transaction t JOIN company c ON c.id=t.company_id WHERE t...	13754 row(s) returned	0.0047 sec / 0.092 sec
76 11:46:31	SELECT t.* FROM transaction t WHERE t.declined = 0 AND EXISTS(SELECT 1 FROM company c WHERE c.id = t.c...	13754 row(s) returned	0.0047 sec / 0.082 sec
77 11:47:22	SELECT c.company_name, c.phone, c.country, DATE(t.timestamp) AS date, t.amount FROM transaction t JOIN co...	8 row(s) returned	0.089 sec / 0.00021...

Nivell 3 – Exercici 2:

```

146 -- Exercici 2: Classificació de les empreses segons si tenen més o menys de 400 transaccions
147
148 • SELECT
149   c.id,
150   c.company_name,
151   COUNT(t.id) AS num_transactions,
152   CASE
153     WHEN COUNT(t.id) > 400 THEN 'Over400'
154     WHEN COUNT(t.id) < 400 THEN 'Under400'
155     ELSE 'Exactly400'
156   END AS category_transaction
157   FROM company c
158   JOIN transaction t ON c.id = t.company_id
159   WHERE t.declined = 0
160   GROUP BY c.id, c.company_name;
100% ◇ 32:156 |
```

Result Grid Filter Rows: Search: Export:

id	company_name	num_transactions	category_transaction
b-2458	Eget Tincidunt Duis Institute	1522	Over400
b-2370	Non Justo Corp.	1476	Over400
b-2390	Neque Telus Imperdiet Corp.	422	Over400
b-2230	Fusce Corp.	445	Over400
b-2266	Mus Aenean Eget Foundation	2933	Over400
b-2598	Aliquam Facilis Lacus Corp.	422	Over400
b-2599	Nulla Dolor Corp.	1465	Over400
b-2526	Amet Luctus Vulputate Foundation	410	Over400
b-2558	Nulla Interrogata Vulputate Corp.	1447	Over400
b-2550	Auctor Mauris Corp.	1561	Over400
b-2590	Eusmod Mauris Institute	417	Over400
b-2598	Quisque Proin Iam	1446	Over400

Result 97 | Read Only

Action Output: Action

Time	Action	Response	Duration / Fetch Time
76 11:46:31	SELECT t.* FROM transaction t WHERE t.declined = 0 AND EXISTS(SELECT 1 FROM company c WHERE c.id = t.c...	13754 row(s) returned	0.0047 sec / 0.082 sec
77 11:47:22	SELECT c.company_name, c.phone, c.country, DATE(t.timestamp) AS date, t.amount FROM transaction t JOIN co...	8 row(s) returned	0.089 sec / 0.00021...
78 11:48:04	SELECT c.id, c.company_name, COUNT(t.id) AS num_transactions, CASE WHEN COUNT(t.id) > 400 THEN 'Over...	100 row(s) returned	0.405 sec / 0.00062...

Canvis aplicats i comentaris finals Peer-to-Peer:

- Millorar la informació descrita en el diagrama sobre cada variable de les taules en el nivell 1.
- Afegir “declined=0” sempre que es pregunti per transaccions.
- Revisar indexació.
- Utilitzar sempre àlies.