

SPRINT 2

Nivell 1

Exercici 1

A partir dels documents adjunts (estructura_dades i dades_introduir), importa les dues taules. Mostra les característiques principals de l'esquema creat i explica les diferents taules i variables que existeixen.

Assegura't d'incloure un diagrama que il·lustri la relació entre les diferents taules i variables.

- a) **Importa les dues taules.** Abrimos el archivo data_structure y ejecutamos los comandos de creación de las tablas "Company" y "Transaction".

Abrimos el archivo input_data y observamos que hay dos grupos de datos "Company" y "Transaction".

Asegurando que estamos en el schema correspondiente y le damos a ejecutar; esto hará que se importen los datos, en cada tabla correspondiente.

```

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

```

```

9
10   phone VARCHAR(15),
11   email VARCHAR(100),
12   country VARCHAR(100),
13   website VARCHAR(255)
14
15
16   -- Creamos la tabla transaction
17 • CREATE TABLE IF NOT EXISTS transaction (
18     id VARCHAR(255) PRIMARY KEY,
19     credit_card_id VARCHAR(15) REFERENCES credit_card(id),
20     company_id VARCHAR(20),
21     user_id INT REFERENCES user(id),
22     lat FLOAT,
23     longitude FLOAT,
24     timestamp TIMESTAMP,
25     amount DECIMAL(10, 2),
26     declined BOOLEAN,
27     FOREIGN KEY (company_id) REFERENCES company(id)
28 );
29

```

```
Query 1   data_structure   input_data
Limit to 1000 rows
104
105 -- Insertamos datos de transaction
106 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('CDDA7E40-544D-47BB-A4E0-6
107 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('09456357-8E9B-475A-B257-8
108 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('C47C7C84-C174-4973-A76B-8
109 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('2FB526AA-3844-40DF-AC09-2
110 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('D0877407-B85E-40D2-9229-6
111 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('A0BD09EE-7199-41CF-9CB5-3
112 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('29322BF7-84F4-4A6C-9FFC-8
113 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3F614E9B-1EEC-4FB7-8B88-A
114 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('133534F1-81E5-4688-B4AF-5
115 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('185D9ECE-9540-484D-B38D-3
116 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('F0800CF5-21E6-4461-A5B6-9
117 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('A8004B08-F26A-41D1-9925-E
118 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('ED886B5B-E4D5-46AA-A43C-9
119 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('44CD5949-4007-4E8C-887E-D
120 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('8EA91C7B-510C-47DC-8A5B-9
121 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('C44DE82C-0E04-4B40-BF29-6
122 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('116544E8-A709-4950-85E4-0
123 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('BB554AF3-7E92-402C-A771-E
124 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('7132FE26-EE50-48E6-B373-9
125 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('2BF04606-685E-4352-AF0B-9
126 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('4CD51F8E-2B85-45DE-B51C-0
```

```
Query 1 | data_structure | input_data
Limit to 1000 rows
1 • USE transactions;
2
3 -- Insertamos datos de company
4 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2222', 'Ac Fermentum Incorporated', '06 85 56 52 33', '','')
5 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2226', 'Magna A Neque Industries', '04 14 44 64 62', '','')
6 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2230', 'Fusce Corp.', '08 14 97 58 85', 'risus@protonmail.com', 'http://www.fuscecorp.com')
7 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2234', 'Convallis In Incorporated', '06 66 57 29 50', '','')
8 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2238', 'Ante Iaculis Nec Foundation', '08 23 04 99 53', '','')
9 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2242', 'Donec Ltd', '01 25 51 37 37', 'at.iaculis@hotmail.com', 'http://www.donecltd.com')
10 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2246', 'Sed Nunc Ltd', '02 62 64 73 48', 'nibl@yahoo.outlook.com', 'http://www.sednunc.com')
11 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2250', 'Amet Nulla Donec Corporation', '07 15 25 14 74', '','')
12 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2254', 'Nascetur Ridiculus Mus Inc.', '06 26 87 61 84', '','')
13 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2258', 'Vestibulum Lorem PC', '02 02 87 33 40', 'aenean@outlook.com', 'http://www.vestibulumlorempc.com')
14 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2262', 'Gravida Sagittis LLP', '03 81 28 33 97', 'turpis@outlook.com', 'http://www.gravidasagittisllp.com')
15 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2266', 'Mus Aenean Eget Foundation', '06 25 15 52 43', '','')
16 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2270', 'Dis Parturient Institute', '05 36 29 78 74', '','')
17 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2274', 'Sed LLC', '01 63 16 26 52', 'at@outlook.com', 'http://www.sedllc.com')
18 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2278', 'Arcu LLP', '06 46 04 41 45', 'dui@aol.ca', 'Nostrud@outlook.com')
19 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2282', 'Pretium Neque Corp.', '07 77 48 55 28', 'eleifend@outlook.com', 'http://www.pretiumnequecorp.com')
20 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2286', 'Fringilla LLC', '08 29 15 93 57', 'gravida@protonmail.com', 'http://www.fringillallc.com')
21 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2290', 'Quisque Libero LLC', '01 45 48 71 11', 'sapien@outlook.com', 'http://www.quisqueliberollc.com')
22 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2294', 'Auctor Mauris Vel LLP', '08 09 28 74 14', 'nec@outlook.com', 'http://www.auctormaurisvelllp.com')
23 • INSERT INTO company (id, company_name, phone, email, country, website) VALUES ('b-2298', 'Etiam Laoreet Associates', '07 69 74 17 49', '','')
```

- b) *Explica les diferents taules i variables que existeixen.* Creamos un nuevo query, y escribimos el comando "select all (*) from company", y luego "select all (*) from transaction" así podremos verificar si se han cargado los datos y visualizarlos.

Tabla 1: COMPANY

The screenshot shows the MySQL Workbench interface with a query editor window. The query is:

```
1 •  SELECT * FROM company
```

The results grid displays 22 rows of data from the 'company' table. The columns are: id, company_name, phone, email, country, and website. The data includes various company names like 'Ac Fermentum Incorporated', 'Magna A Neque Industries', etc., along with their respective details. The 'country' column shows countries like Germany, Australia, United States, Germany, New Zealand, Norway, United Kingdom, Italy, United States, Belgium, Sweden, and Sweden. The 'website' column contains URLs such as <https://instagram.com/site>, <https://whatsapp.com/group/9>, etc.

La lista company, tiene 6 columnas. Es un listado de empresas con columnas: id, nombre, teléfono, email, país y website.

The screenshot shows the MySQL Workbench interface with a query editor window. The query is:

```
1 •  SELECT * FROM transaction
```

The results grid displays 22 rows of data from the 'transaction' table. The columns are: id, company_name, phone, email, country, and website. The data includes various company names like 'Ac Fermentum Incorporated', 'Magna A Neque Industries', etc., along with their respective details. The 'country' column shows countries like Germany, Australia, United States, Germany, New Zealand, Norway, United Kingdom, Italy, United States, Belgium, Sweden, Sweden, Ireland, Belgium, Norway, Australia, New Zealand, China, United States, Canada, and Germany. The 'website' column contains URLs such as <https://instagram.com/group/9>, <https://google.com/one>, etc.

Tabla2: TRANSACTIONS

The screenshot shows a MySQL Workbench interface with a query editor window. The query is:

```
1 •  SELECT * FROM transaction
```

The results grid has the following columns:

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined	company 1	transaction 2
00043A49-2949-494B-A5DD-A5BAE3BB19DD	CcS-9294	b-2458	4713	46.1999	1.43554	2024-08-28 07:16:46	395.43	0		
000447FE-B650-4DCF-85DE-C7ED0EE1CAAD	CcS-5019	b-2370	438	41.5972	12.2218	2016-12-21 20:07:18	155.63	0		
00045D6B-ED2E-4F2F-8186-CEE074D875D0	CcS-6699	b-2390	2118	29.7573	-95.3796	2020-07-14 15:37:45	326.01	0		
000481C3-1C26-4FFC-83A0-4CD0E8004BBD	CcS-6696	b-2230	2115	53.5489	-113.503	2017-09-04 19:44:53	161.60	0		
00051AA4-9CBE-4268-B070-C38062A1B3E2	CcS-7606	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	215	53.5535	-113.499	2023-09-23 04:51:43	294.59	0		
0009A151-9BCF-4E31-9053-A468FF77FAAB	CcS-7509	b-2546	2928	51.9362	5.34265	2023-12-31 00:06:36	383.63	0		
0009D494-6245-4DF9-955D-2C084191CFFB	CcS-8483	b-2526	3902	45.492	-73.5706	2017-07-18 07:52:02	197.80	0		
000A1DEC-CDB6-4AB2-A619-71DAB8D4A262	CcS-6467	b-2558	1886	55.7425	-3.30009	2018-09-08 05:29:58	339.94	0		
000A1E64-1414-40B0-9D92-5678A4D958E2	CcS-5966	b-2550	1385	52.0821	5.28424	2022-09-17 04:02:19	369.71	0		
000A5879-3472-41D9-AF60-42D3503B543C	CcU-4569	b-2590	42	39.949	-75.1719	2020-02-07 23:03:45	162.43	0		
000AE0D4-F06E-4146-... 000AE0D4-F06E-4146-...	CcS-8134	b-2426	3553	46.8055	-71.2149	2017-07-10 07:11:41	188.94	0		

La lista de transacciones tiene 9 columnas. Aquí vemos un listado de “intercambios”. Vemos ID de cada transacción, tarjeta de crédito, id usuario, lat y longitud, monto, y rechazada. Vemos aquí aparece también company_ID, identificador único para cada empresa. A primera vista, llama la atención tener dos columnas de latitud y longitud, esto tendremos que investigar, asumimos que tal vez sean ciudades.

The screenshot shows a MySQL Workbench interface with a query editor window. The query is:

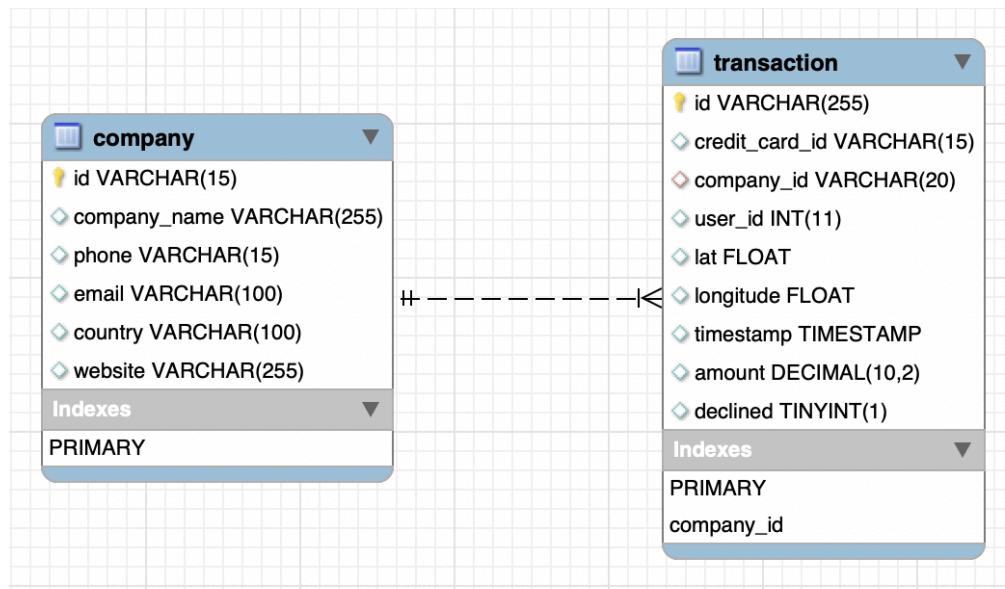
```
1 •  SELECT * FROM transaction
```

The results grid has the following columns:

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined	company 1	transaction 2
00043A49-2949-494B-A5DD-A5BAE3BB19DD	CcS-9294	b-2458	4713	46.1999	1.43554	2024-08-28 07:16:46	395.43	0		
000447FE-B650-4DC... 000447FE-B650-4DC...	CcS-5019	b-2370	438	41.5972	12.2218	2016-12-21 20:07:18	155.63	0		
00045D6B-ED2E-4F2F-8186-CEE074D875D0	CcS-6699	b-2390	2118	29.7573	-95.3796	2020-07-14 15:37:45	326.01	0		
000481C3-1C26-4FFC-83A0-4CD0E8004BBD	CcS-6696	b-2230	2115	53.5489	-113.503	2017-09-04 19:44:53	161.60	0		
00051AA4-9CBE-4268-B070-C38062A1B3E2	CcS-7606	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	215	53.5535	-113.499	2023-09-23 04:51:43	294.59	0		
0009A151-9BCF-4E31-9053-A468FF77FAAB	CcS-7509	b-2546	2928	51.9362	5.34265	2023-12-31 00:06:36	383.63	0		
0009D494-6245-4DF9-955D-2C084191CFFB	CcS-8483	b-2526	3902	45.492	-73.5706	2017-07-18 07:52:02	197.80	0		
000A1DEC-CDB6-4AB2-A619-71DAB8D4A262	CcS-6467	b-2558	1886	55.7425	-3.30009	2018-09-08 05:29:58	339.94	0		
000A1E64-1414-40B0-9D92-5678A4D958E2	CcS-5966	b-2550	1385	52.0821	5.28424	2022-09-17 04:02:19	369.71	0		
000A5879-3472-41D9-AF60-42D3503B543C	CcU-4569	b-2590	42	39.949	-75.1719	2020-02-07 23:03:45	162.43	0		
000AE0D4-F06E-4146-... 000AE0D4-F06E-4146-...	CcS-8134	b-2426	3553	46.8055	-71.2149	2017-07-10 07:11:41	188.94	0		
000BCBF8-A4AB-4E8... 000BCBF8-A4AB-4E8...	CcS-6020	b-2598	1439	33.4472	-112.072	2019-05-28 04:23:02	96.22	0		
000BD852-E25B-4785... 000BD852-E25B-4785...	CcS-5445	b-2330	864	51.4317	5.47489	2024-07-31 09:45:39	92.13	0		
000DAA8F-ABEA-4F3... 000DAA8F-ABEA-4F3...	CcS-6404	b-2454	1823	41.7392	12.6293	2023-07-26 22:39:50	298.18	0		
000E44B7-43B4-443D... 000E44B7-43B4-443D...	CcS-7604	b-2458	3023	54.9751	-3.40465	2018-08-01 11:03:20	171.13	0		
000E64A2-2C13-4306... 000E64A2-2C13-4306...	CcS-6737	b-2386	2156	45.4992	-73.5719	2018-05-30 16:09:08	105.03	0		
000E658B-4747-42C4... 000E658B-4747-42C4...	CcS-6096	b-2502	1515	39.4074	-8.4635	2019-11-28 07:13:00	239.04	0		
0010CCE6-CF15-4F2... 0010CCE6-CF15-4F2...	CcS-8139	b-2438	3558	51.1839	10.5086	2021-10-03 15:58:34	271.87	0		
00110D8C-179A-4DE... 00110D8C-179A-4DE...	CcU-3449	b-2606	202	53.5551	-113.487	2020-05-30 23:27:14	195.62	0		
0011D40E-1E70-4902... 0011D40E-1E70-4902...	CcS-8725	b-2266	1114	50.6085	16.5561	2022-05-12 20:20:16	162.62	0		

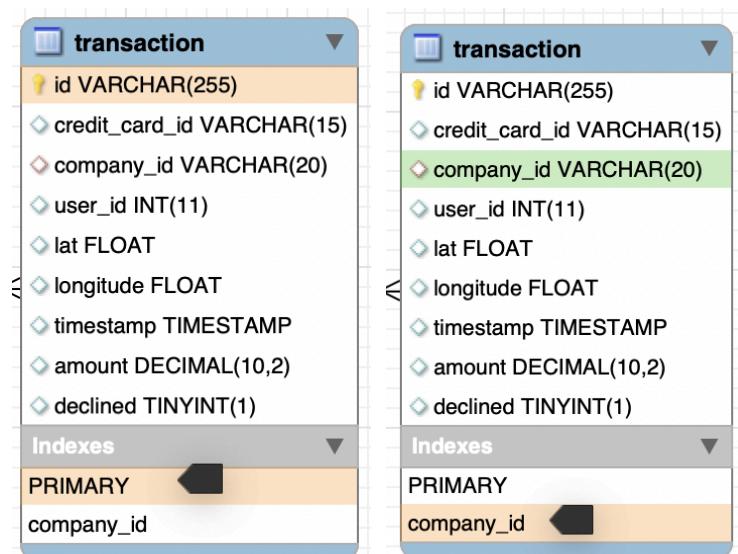
- c) *Diagrama que il·lustri la relació entre les diferents taules i variables.* Aquí, de forma visual, vemos que hemos creado una base de datos, con dos tablas dentro.

La relación es 1(Company) - N (Transacciones). Esto significa que 1 empresa puede tener muchas (n) transacciones; y a la inversa, varias transacciones pertenecen a una sola empresa.



company	
id VARCHAR(15)	PRIMARY
company_name VARCHAR(255)	
phone VARCHAR(15)	
email VARCHAR(100)	
country VARCHAR(100)	
website VARCHAR(255)	
Indexes	
PRIMARY	

Vemos que PRIMARY key en Company es la columna ID. En transacción también tiene su PRIMARY key en ID (en este caso, identificador de transacción) y como FOREIGN key company_id; quedando así vinculadas.



Vemos que las columnas de company, son todas cadenas de longitud variable (letras, números, caracteres especiales) y cada columna tiene limitantes de longitud de según el caso (teléfono 15, website 225..etc).

En cambio transaction vemos diferentes tipo de data: ID, credit card, company ID son todas cadenas de

longitud variable (letras, números, caracteres especiales). User_id es data type INT, que es para números (longitud 11). Latitud y longitud, son FLOAT: es un tipo de dato que almacena números aproximados de punto flotante (con decimales). Timestamp son datos que almacena una fecha y hora combinadas, incluyendo fracciones de segundo, para registrar un punto exacto en el tiempo, el formato suele ser "YYYY-MM-DD hh:mm:ss". Amount que es el monto de la transacción, esta configurado como DECIMAL, tipo de dato de punto fijo que se usa para almacenar números con precisión exacta, incluyendo los enteros y los decimales, en este caso 10 dígitos y una escala de 2 dígitos después del punto decimal. Por último declined (rechazada) es tipo TINYINT, que son números pequeños, en este caso (1) significa valores verdadero/falso (asumimos: 0=no rechazada; 1=rechazada).

Exercici 2

Utilitzant JOIN realitzaràs les següents consultes:

- a) Llistat dels països que estan generant vendes.

The screenshot shows the MySQL Workbench interface. The top part is the Query Editor with the following SQL code:

```

1 •  SELECT * FROM transaction
2
3 ✘  -- Llistat dels països que estan generant vendes.
4  SELECT company.id, company.country, transaction.amount
5  FROM company
6  INNER JOIN transaction ON transaction.company_id=company.id

```

The third line has a red error icon next to it. The bottom part is the Result Grid displaying the query results:

	id	country	amount
▶	b-2458	Netherlands	395.43
	b-2370	Sweden	155.63
	b-2390	Ireland	326.01
	b-2230	United States	161.60
	b-2266	Sweden	148.91
	b-2598	Belgium	294.59
	b-2546	Sweden	383.63
	b-2526	Canada	197.80
	b-2558	Sweden	339.94
	b-2550	Germany	369.71
	b-2590	Belgium	162.43
	b-2426	Norway	188.94

The status bar at the bottom indicates "Result 4".

- b) Des de quants països es generen les vendes.

```

3 -- Llistat dels països que estan generant vendes.
4 SELECT company.id, company.country, transaction.amount
5 FROM company
6 INNER JOIN transaction ON transaction.company_id=company.id
7 ORDER BY transaction.amount
8
9 -- Des de quants països es generen les vendes.
10 SELECT company.id, company.country, transaction.timestamp
11 FROM company
12 INNER JOIN transaction ON transaction.company_id=company.id

```

Result Grid

id	country	timestamp
b-2222	Germany	2021-01-22 23:44:27
b-2222	Germany	2020-09-09 15:43:19
b-2222	Germany	2024-05-15 09:10:11
b-2222	Germany	2019-03-09 19:37:49
b-2222	Germany	2016-12-26 23:06:57
b-2222	Germany	2021-04-25 03:06:59
b-2222	Germany	2019-02-27 15:25:16
b-2222	Germany	2019-03-21 11:47:34
b-2222	Germany	2024-01-28 18:20:49
b-2222	Germany	2024-02-17 19:37:14
b-2222	Germany	2021-08-28 16:29:38
b-2222	Germany	2020-01-28 01:15:07

```

8
9 -- Des de quants països es generen les vendes.
10 SELECT company.id, company.country, transaction.timestamp
11 FROM company
12 INNER JOIN transaction ON transaction.company_id=company.id
13 ORDER BY transaction.timestamp

```

Result Grid

id	country	timestamp
b-2350	Netherlands	2015-01-01 00:40:23
b-2374	United Kingdom	2015-01-01 00:49:25
b-2374	United Kingdom	2015-01-01 02:50:51
b-2430	United Kingdom	2015-01-01 04:03:33
b-2234	Germany	2015-01-01 04:42:32
b-2342	Sweden	2015-01-01 05:00:24
b-2566	Germany	2015-01-01 05:12:01
b-2566	Germany	2015-01-01 05:38:40
b-2318	Italy	2015-01-01 06:36:54
b-2306	Germany	2015-01-01 07:50:34
b-2282	Australia	2015-01-01 08:10:26
b-2614	Germany	2015-01-01 08:36:05

Organizo timestamp de menor a mayor, ahora veo que las primeras ventas fueron desde el **1 de Enero 2025 - Netherlands**.

c) Identifica la companyia amb la mitjana més gran de vendes.

Agrupamos todas las transacciones de cada compañía y calcular el promedio de cada grupo (compañía) y luego ordenar la columna monto-promedio DES.

La compañía de promedio más alto es **Ac Fermentum Incorporated** - Promedio **284.867160**

```
20
21 -- He logrado identificar monto de venta más alto. Ahora tengo que lograr la media AVG
22 SELECT company.id, company.company_name, AVG(transaction.amount)
23 FROM company
24 INNER JOIN transaction ON transaction.company_id=company.id
25 GROUP BY company.id, company.company_name
26 ORDER BY AVG(transaction.amount) DESC;|
```

100% 39:26 1 error found

Result Grid Filter Rows: Search Export:

id	company_name	AVG(transaction.amou...)
b-2222	Ac Fermentum Incorporated	284.867160
b-2282	Pretium Neque Corp.	276.158330
b-2422	Urna Convallis Associates	274.235011
b-2538	At Associates	272.214870
b-2498	Metus Vitae Associates	270.080965
b-2570	Aliquet Diam Limited	269.599181
b-2470	Nec Luctus LLC	268.604837
b-2382	Neque Tellus Incorporated	267.850372
b-2394	Tortor Nunc Commodo Company	267.836085
b-2514	Cras Consulting	267.439409
b-2398	Eget Ipsum Ltd	267.060541
b-2274	Sed LLC	266.067885
b-2334	Amet Institute	265.538889
b-2462	Pede Ultrices Ltd	265.363311
b-2230	Fusce Corp.	265.228367
b-2486	Tincidunt Orci Limited	265.098592
b-2242	Donec Ltd	265.012027
b-2258	Vestibulum Lorem PC	264.958222

Exercici 3

Utilitzant només subconsultes (sense utilitzar JOIN):

- a) Mostra totes les transaccions realitzades per empreses d'Alemanya.

(En el scrip fuí detallando los pasos hasta lograr el resultado)

```
50
51      SELECT transaction.company_id, transaction.timestamp, transaction.amount,
52      (SELECT company.company_name
53       FROM company
54      WHERE company.id=transaction.company_id) AS company_name,
55      (SELECT company.country
56       FROM company
57      WHERE company.id=transaction.company_id) AS country
58   FROM transaction
59  WHERE transaction.company_id IN (
60      SELECT id
61       FROM company
62      WHERE country='Germany');
63
```

100% 1:49 3 errors found

Result Grid Filter Rows: Search Export: Fetch rows:

company_id	timestamp	amount	company_name	country
b-2222	2020-03-25 10:43:43	426.36	Ac Fermentum Incorporated	Germany
b-2222	2020-12-17 18:15:37	316.90	Ac Fermentum Incorporated	Germany
b-2222	2021-01-22 23:44:27	453.04	Ac Fermentum Incorporated	Germany
b-2222	2020-09-09 15:43:19	263.14	Ac Fermentum Incorporated	Germany
b-2222	2024-05-15 09:10:11	442.01	Ac Fermentum Incorporated	Germany
b-2222	2019-03-09 19:37:49	524.84	Ac Fermentum Incorporated	Germany
b-2222	2016-12-26 23:06:57	491.90	Ac Fermentum Incorporated	Germany
b-2222	2021-04-25 03:06:59	167.15	Ac Fermentum Incorporated	Germany
b-2222	2019-02-27 15:25:16	141.66	Ac Fermentum Incorporated	Germany
b-2222	2019-03-21 11:47:34	325.62	Ac Fermentum Incorporated	Germany
b-2222	2024-01-28 18:20:49	242.53	Ac Fermentum Incorporated	Germany
b-2222	2024-02-17 19:37:14	451.71	Ac Fermentum Incorporated	Germany
b-2222	2021-08-28 16:29:38	9.46	Ac Fermentum Incorporated	Germany
b-2222	2020-01-28 01:15:07	368.41	Ac Fermentum Incorporated	Germany
b-2222	2022-12-17 09:40:14	168.79	Ac Fermentum Incorporated	Germany
b-2222	2020-04-30 08:57:27	333.45	Ac Fermentum Incorporated	Germany
b-2222	2018-04-14 18:52:13	155.29	Ac Fermentum Incorporated	Germany

- b) Llista les empreses que han realitzat transaccions per un amount superior a la mitjana de totes les transaccions.
- agrupar por company_id y company_name
 - calcular el promedio de cada empresa

Aquí podemos ver el promedio de cada empresa. El promedio más alto es de la empresa 'Ac Fermentum Incorporated' : 284.867160 ' y el más bajo 'Nibh Phasellus Corporation' : 243.315963 '

```

67 •   SELECT company_name,
68   (SELECT AVG(amount)
69   FROM transaction
70   WHERE transaction.company_id=company.id) AS promedio
71   FROM company
72   ORDER BY promedio DESC;
73
130% 1:63 | 3 errors found

Result Grid Filter Rows: Search Export: 

| company_name                | promedio   |
|-----------------------------|------------|
| Ac Fermentum Incorporated   | 284.867160 |
| Pretium Neque Corp.         | 276.158330 |
| Urna Convallis Associates   | 274.235011 |
| At Associates               | 272.214870 |
| Metus Vitae Associates      | 270.080965 |
| Aliquet Diam Limited        | 269.599181 |
| Nec Luctus LLC              | 268.604837 |
| Neque Tellus Incorporated   | 267.850372 |
| Tortor Nunc Commodo Company | 267.836085 |
| Cras Consulting             | 267.439409 |
| Eget Ipsum Ltd              | 267.060541 |
| Sed LLC                     | 266.067885 |
| Amet Institute              | 265.538889 |
| Pede Ultrices Ltd           | 265.363311 |
| Fusce Corp.                 | 265.228367 |
| Tincidunt Orci Limited      | 265.098592 |
| ...                         | 265.016627 |


```

```

66
67 •   SELECT company_name,
68   (SELECT AVG(amount)
69   FROM transaction
70   WHERE transaction.company_id=company.id) AS promedio
71   FROM company
72   ORDER BY promedio;
73
130% 1:64 | 3 errors found

Result Grid Filter Rows: Search Export: 

| company_name                     | promedio   |
|----------------------------------|------------|
| Nibh Phasellus Corporation       | 243.315963 |
| A Institute                      | 247.847790 |
| Fringilla Porttitor Incorporated | 248.351360 |
| Auctor Mauris Vel LLP            | 249.570203 |
| Fringilla LLC                    | 252.008741 |
| Dui Cras Associates              | 252.144244 |
| Elit Etiam Laoreet Associates    | 252.286411 |
| Erat LLP                         | 252.403618 |
| Arcu LLP                         | 252.802036 |
| Aliquam PC                       | 253.136923 |
| Enim Condimentum Ltd             | 253.157865 |
| Nunc Sit Incorporated            | 253.189929 |
| Sapien Nunc Pulvinar LLP         | 253.281106 |
| Augue Foundation                 | 253.505000 |
| Non Institute                    | 253.657518 |
| Sed Nunc Ltd                     | 254.133666 |
| Dui Quis Institute               | 254.290000 |
| Cras Vehicula Aliquet Industries | 254.342385 |


```

- Calcular promedio global, filtrar y mostrar las empresas que SUPERAN ese promedio (global).

El promedio más alto es de la empresa 'Ac Fermentum Incorporated : 284.867160 ' y el más bajo 'Lorem Ipsum Dolor Corp. : 259.066194'. La media entonces es entonces mayor a 259.066194.

```

75 •   SELECT company_name,
76   ⊖     (SELECT AVG (amount)
77   |       FROM transaction
78   |       WHERE transaction.company_id=company.id) AS promedio
79   |   FROM company
80   |   WHERE
81   ⊖     (SELECT AVG (amount)
82   |       FROM transaction) <
83   ⊖     (SELECT AVG(amount)
84   |       FROM transaction
85   |       WHERE transaction.company_id=company.id)
86   ORDER BY promedio DESC

```

130% 14:71 3 errors found

Result Grid Filter Rows: Search Export:

company_name	promedio
Ac Fermentum Incorporated	284.867160
Pretium Neque Corp.	276.158330
Urna Convallis Associates	274.235011
At Associates	272.214870
Metus Vitae Associates	270.080965
Aliquet Diam Limited	269.599181
Nec Luctus LLC	268.604837
Neque Tellus Incorporated	267.850372
Tortor Nunc Commodo Company	267.836085
Cras Consulting	267.439409
Eget Ipsum Ltd	267.060541
Sed LLC	266.067885

Result 62

```

76 •   SELECT company_name,
77   ⊖     (SELECT AVG (amount)
78   |       FROM transaction
79   |       WHERE transaction.company_id=company.id) AS promedio
80   |   FROM company
81   |   WHERE
82   ⊖     (SELECT AVG (amount)
83   |       FROM transaction) <
84   ⊖     (SELECT AVG(amount)
85   |       FROM transaction
86   |       WHERE transaction.company_id=company.id)
87   ORDER BY promedio;

```

130% 1:74 3 errors found

Result Grid Filter Rows: Search Export:

company_name	promedio
Lorem Ipsum Dolor Corp.	259.066194
Nunc Interdum Incorporated	259.319156
Risus Associates	259.800737
Magna A Neque Industries	260.038610
Tempor Diam Institute	260.096898
Placerat LLP	260.210135
Aliquam Iaculis Lacus Corp.	260.262606
Integer Mollis Corp.	260.274387
Ante Iaculis Nec Foundation	260.336419
Amet Lorem LLP	260.468125
Quisque Libero LLC	260.514660
Tincidunt Associates	260.753112

- c) Eliminaran del sistema les empreses que no tenen transaccions registrades, entrega el llistat d'aquestes empreses.

Comparar:

- company.id (de la tabla company)
- con transaction.company_id (de la tabla transaction)
- y encontrar las empresas que no tienen coincidencia, es decir, aquellas cuyo id no aparece en transaction.company_id.

No lo he logrado. Busco empresas con transacción cero o null, o empresas que NO estén en listado de transaccionnes. Y el resultado es NULL

```
SELECT *
FROM company
WHERE id NOT IN
    (SELECT company_id
     FROM transaction);
```

NIVEL 2

Exercici 1

Identifica els cinc dies que es va generar la quantitat més gran d'ingressos a l'empresa per vendes.

Mostra la data de cada transacció juntament amb el total de les vendes.

Identifica els cinc dies que es va generar la quantitat més gran d'ingressos

```
96
97      -- Identifica els cinc dies que es va generar la quantitat més gran d'ingressos
98
99  •  SELECT
100      DATE(timestamp) AS fecha,
101      SUM(amount) AS total_ventas
102  FROM transaction
103  GROUP BY DATE(timestamp)
104  ORDER BY total_ventas DESC
105  LIMIT 5;
106
```

100% | 1:92 | 3 errors found

Result Grid Filter Rows: Search Export: Fetch rows:

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

Mostra la data de cada transacció juntament amb el total de les vendes.

```
108
109  •  SELECT transaction.id, transaction.company_id, transaction.timestamp, transaction.amount,
110      (SELECT company.company_name
111       FROM company
112       WHERE company.id = transaction.company_id) AS empresa,
113      (SELECT company.country
114       FROM company
115       WHERE company.id = transaction.company_id) AS pais,
116      (SELECT SUM(t2.amount)
117       FROM transaction AS t2
118       WHERE DATE(t2.timestamp) = DATE(transaction.timestamp)) AS total_ventas_dia
119  FROM transaction
120  WHERE DATE(transaction.timestamp) IN (
121      SELECT fecha
122      FROM (
123          SELECT DATE(timestamp) AS fecha
124          FROM transaction
125          GROUP BY DATE(timestamp)
126          ORDER BY SUM(amount) DESC
127          LIMIT 5) AS dias_top
128  )
129  ORDER BY DATE(transaction.timestamp), transaction.amount DESC;
```

75% | 1:107 | 1 error found

Result Grid Filter Rows: Search Export: Fetch rows:

id	company_id	timestamp	amount	empresa	pais	total_ventas_dia
9263EEFC-04F6-46B2... b-2558	b-2558	2017-12-20 11:06:05	743.78	Nulla Integer Vulputate Corp.	Sweden	13318.43
E5129134-2A39-424F... b-2558	b-2558	2017-12-20 19:59:29	743.78	Nulla Integer Vulputate Corp.	Sweden	13318.43
FCAD0321-783E-4F8... b-2558	b-2558	2017-12-20 18:49:04	743.78	Nulla Integer Vulputate Corp.	Sweden	13318.43
83B803F5-5ADB-4FE... b-2522	b-2522	2017-12-20 21:46:49	638.37	Viverra Donec Foundation	United Kingdom	13318.43
31BBB94-E643-411D... b-2522	b-2522	2017-12-20 15:04:35	638.37	Viverra Donec Foundation	United Kingdom	13318.43
5E22B941-E460-4CFF... b-2522	b-2522	2017-12-20 02:40:57	638.37	Viverra Donec Foundation	United Kingdom	13318.43
5FD3AA92-836C-41B... b-2522	b-2522	2017-12-20 11:51:41	638.37	Viverra Donec Foundation	United Kingdom	13318.43
B76F773B-57A3-4D50... b-2474	b-2474	2017-12-20 15:18:03	622.75	Mauris Incorporated	Norway	13318.43
87B22C72-EE3F-44D... b-2482	b-2482	2017-12-20 21:44:13	542.80	Dui Cras Associates	Italy	13318.43
2969CBC1-BE38-4D8... b-2558	b-2558	2017-12-20 11:50:27	542.70	Nulla Integer Vulputate Corp.	Sweden	13318.43
8252B660-B603-4221... b-2330	b-2330	2017-12-20 13:38:57	439.13	Donec Fringilla PC	France	13318.43
6A65C63E-CC65-4F9... b-2354	b-2354	2017-12-20 16:13:19	409.71	Ac Libero Inc.	United Kingdom	13318.43
9170497C-4C4D-46C... b-2578	b-2578	2017-12-20 01:15:23	388.60	Dui Quis Institute	New Zealand	13318.43
1EF4466FD-D3FC-419... b-2614	b-2614	2017-12-20 04:23:20	363.31	Rutrum Non Inc.	Germany	13318.43

```

109 •   SELECT transaction.id, transaction.company_id, transaction.timestamp, transaction.amount,
110   (SELECT company.company_name
111     FROM company
112       WHERE company.id = transaction.company_id) AS empresa,
113   (SELECT company.country
114     FROM company
115       WHERE company.id = transaction.company_id) AS pais,
116   (SELECT SUM(t2.amount)
117     FROM transaction AS t2
118       WHERE DATE(t2.timestamp) = DATE(transaction.timestamp)) AS total_ventas_dia
119   FROM transaction
120   WHERE DATE(transaction.timestamp) IN (
121     SELECT fecha
122     FROM (
123       SELECT DATE(timestamp) AS fecha
124         FROM transaction
125           GROUP BY DATE(timestamp)
126           ORDER BY SUM(amount) DESC
127           LIMIT 5) AS dias_top
128   )
129   ORDER BY DATE(transaction.timestamp), transaction.amount DESC;
130

```

75% | 1:107 | 1 error found

Result Grid Filter Rows: Search Export:

id	company_id	timestamp	amount	empresa	pais	total_ventas_dia
5B0A1A57-8B53-4CD...	b-2222	2019-03-18 03:03:35	524.84	Ac Fermentum Incorporated	Germany	12680.95
366B63CB-9A32-4458...	b-2222	2019-03-18 16:16:44	524.84	Ac Fermentum Incorporated	Germany	12680.95
BCB7241B-A81B-41D...	b-2222	2019-03-18 21:03:59	524.84	Ac Fermentum Incorporated	Germany	12680.95
D0FA90E3-F541-4972...	b-2558	2019-03-18 20:01:51	502.98	Nulla Integer Vulputate Corp.	Sweden	12680.95
224CAC93-B350-4010...	b-2546	2019-03-18 08:22:57	499.33	Lorem Ipsum Dolor Corp.	Sweden	12680.95
B70B7C15-58DC-41B...	b-2566	2019-03-18 08:39:09	487.85	Aliquam PC	Germany	12680.95
3F859054-4F35-450A...	b-2310	2019-03-18 19:52:03	483.20	Non Magna LLC	United Kingdom	12680.95
BAD86319-9A1C-495...	b-2542	2019-03-18 17:18:40	474.40	Nunc In Foundation	Italy	12680.95
C1C38CBA-4FBC-45F...	b-2542	2019-03-18 12:33:14	466.90	Nunc In Foundation	Italy	12680.95
8C9FA16E-7F5E-49C...	b-2542	2019-03-18 05:07:04	447.71	Nunc In Foundation	Italy	12680.95
206C1273-078F-49E2...	b-2542	2019-03-18 18:37:47	441.42	Nunc In Foundation	Italy	12680.95
E06D337E-4BE2-4C6...	b-2450	2019-03-18 14:24:53	437.06	Turpis Company	Netherlands	12680.95
9C36D208-1A2C-4672...	b-2238	2019-03-18 19:40:58	421.47	Ante Iaculis Nec Foundation	New Zealand	12680.95
650DCEEF-145C-426...	b-2450	2019-03-18 11:10:20	400.00	Fusce Etiam Foundation	France	12680.95

Exercici 2

Quina és la mitjana de vendes per país? Presenta els resultats ordenats de major a menor mitjà.

- Agrupar por país
- Calcular promedio AVG, de todas las transacciones de ese país.

Sweden tiene el mayor promedio: 257.437949. Un total de 16513 transacciones.

China tiene el menor promedio: 252.422260, y un total de 916 transacciones.

```

131 •   mitjana de vendes per pais
132 •   SELECT
133   company.country,
134   AVG(transaction.amount) AS promedio,
135   COUNT(*) AS transacciones
136   FROM company
137   JOIN transaction ON transaction.company_id = company.id
138   GROUP BY company.country
139   ORDER BY transacciones DESC;
140

```

100% | 1:129 |

Result Grid Filter Rows: Search Export:

country	promedio	transacciones
Sweden	257.437949	16513
Netherlands	258.436128	15055
United Kingdom	256.759607	13776
Italy	258.272740	13668
Germany	260.841391	13291
France	259.979185	4700
United States	264.977877	4036
Belgium	261.153042	3531
Norway	259.375337	3030
Ireland	260.644761	2659
New Zealand	259.586176	2641
Australia	265.190742	2562
Canada	257.431229	2107
Spain	260.468125	1515
China	252.422260	916

