

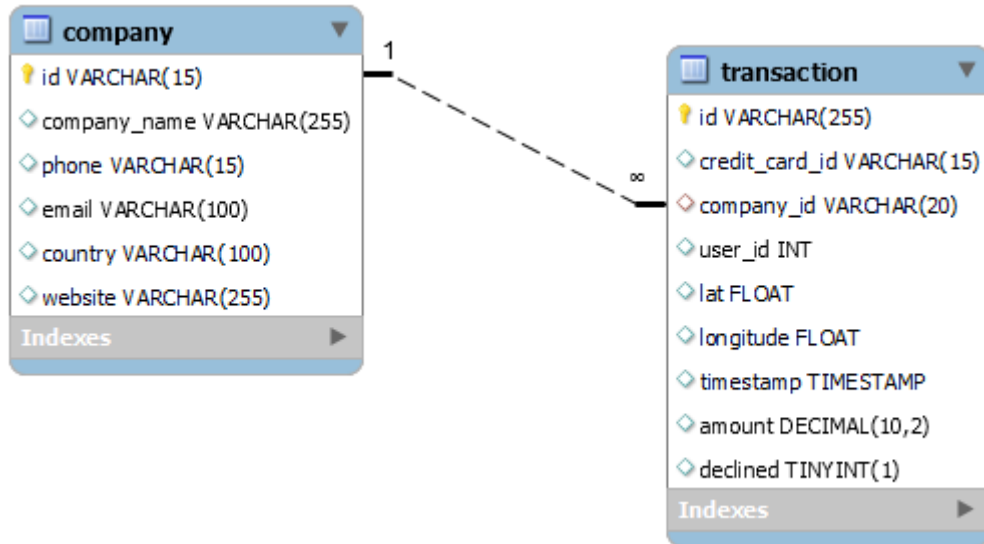
Sprint 2: bases de dades relacionals i SQL

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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.



Ens trobem amb dues taules, company que conté informació sobre les empreses i transaction, que conté informació sobre les transaccions realitzades.

La relació es de un a molts, ja que per cada companyia hi pot haver moltes transaccions. Es relacionen mitjançant el camp d'id d'empresa, primary key a company i foreign key a transaction

Dintre de **company** hi ha els següents camps:

- **id:** Aquest camp actua com a identificador únic de cada empresa i és la primary key de la taula. Donat que id també és utilitzat a la taula transaction, seria recomanable renombrar-lo com a company_id per evitar ambigüitats. Aquest camp ha de complir les propietats NOT NULL i UNIQUE per assegurar que cada empresa estigui registrada amb un identificador únic.
- **company_name:** Conté el nom de l'empresa. Ha de ser NOT NULL per assegurar que totes les empreses estiguin identificades.
- **phone:** Emmagatzema el número de telèfon de l'empresa.
- **email:** Conté el correu electrònic de contacte de l'empresa.
- **country:** Indica el país de la seu principal de l'empresa.
- **website:** Emmagatzema l'adreça del lloc web de l'empresa.

Dintre de **transaction** hi ha els següents camps:

- **id:** Identificador únic de la transacció, que serveix com a primary key. Similar a la taula company, aquest camp seria més clar si es renombrés com a transaction_id per evitar confusions amb altres identificadors. Aquest camp també ha de ser NOT NULL i UNIQUE.
- **credit_card_id:** Identifica la targeta de crèdit utilitzada en la transacció. Suposem que hi ha una taula que no surt on hi hagi emmagatzemades les dades de les targetes de credit.

- **company_id**: Enllaça la transacció amb l'empresa que l'ha realitzat mitjançant la foreign key que fa referència al camp id de la taula company. D'aquesta manera, es pot saber quina empresa ha efectuat cada transacció.
- **user_id**: Identificador de l'usuari que ha realitzat la transacció. És una foreign key que apunta a la taula user, indicant així qui ha realitzat la transacció en nom de l'empresa.
- **lat i longitude**: Coordenades geogràfiques (latitud i longitud) del lloc on s'ha realitzat la transacció.
- **timestamp**: Data i hora exactes de la transacció.
- **amount**: Import total de la transacció, emmagatzemat en format decimal.
- **declined**: Camp de tipus boolean que indica si la transacció ha estat rebutjada o completada correctament. Els valors són false (0) si la transacció s'ha completat correctament i true (1) si ha estat rebutjada.

Exercici 2: Utilitzant JOIN realitzaràs les següents consultes:

Llistat dels països que estan fent compres.

- SELECT DISTINCT country FROM transactions.company
 - INNER JOIN transactions.transaction
 - ON company.id = transaction.company_id
- ```

1 • SELECT DISTINCT country FROM transactions.company
2 INNER JOIN transactions.transaction
3 ON company.id = transaction.company_id
4 ;
5

```

| Result Grid |                | Filter Rows: | Export: | Wrap Cell Content: |
|-------------|----------------|--------------|---------|--------------------|
|             | country        |              |         |                    |
|             | Germany        |              |         |                    |
|             | Australia      |              |         |                    |
|             | United States  |              |         |                    |
|             | New Zealand    |              |         |                    |
|             | Norway         |              |         |                    |
|             | United Kingdom |              |         |                    |
|             | Italy          |              |         |                    |
|             | Belgium        |              |         |                    |
|             | Sweden         |              |         |                    |
|             | Ireland        |              |         |                    |
|             | China          |              |         |                    |
|             | Canada         |              |         |                    |
|             | France         |              |         |                    |
|             | Netherlands    |              |         |                    |
|             | Spain          |              |         |                    |

**Com podem observar hi ha 15 païssos que estan fent compres: Alemanya, Australia, Estats units, Nova Zelanda, Noruega, RegneUnit, Italia, Suïssa, Irlanda, Xina, Cana, França, Païssos Baixos i Espanya.**

**Des de quants països es realitzen les compres.**

- SELECT COUNT(DISTINCT country) FROM transactions.company
- INNER JOIN transactions.transaction
- ON company.id = transaction.company\_id
- ;

```
1 • SELECT COUNT(DISTINCT country) FROM transactions.company
2 INNER JOIN transactions.transaction
3 ON company.id = transaction.company_id
4 ;
5
```



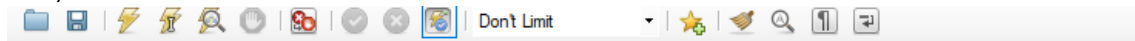
The screenshot shows a database interface with a query editor and a result grid. The query is: `SELECT COUNT(DISTINCT country) FROM transactions.company INNER JOIN transactions.transaction ON company.id = transaction.company_id ;`. The result grid displays a single row with the value 15.

| COUNT(DISTINCT country) |
|-------------------------|
| 15                      |

**Es realitzen compres de de 15 païssos**

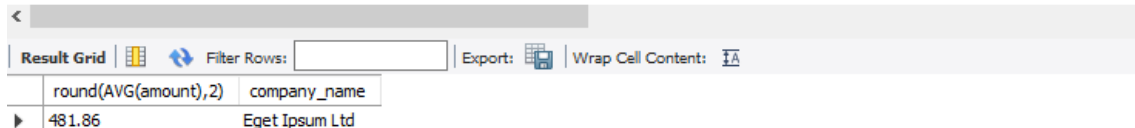
**Identifica la companyia amb la mitjana més gran de vendes.**

- SELECT round(AVG(amount),2) , company\_name FROM transactions.transactionINNER JOIN transactions.company
- ON company.id = transaction.company\_id
- WHERE declined = 0
- GROUP BY company\_name
- order by AVG(amount) Desc
- LIMIT 1
- ;



The screenshot shows a database query editor with the following SQL query: `#Nivell 1 Exercici 2-c: Identifica la companyia amb la mitjana més gran de vendes. SELECT round(AVG(amount),2) , company_name FROM transactions.transaction INNER JOIN transactions.company ON company.id = transaction.company_id WHERE declined = 0 GROUP BY company_name order by AVG(amount) Desc LIMIT 1 ;`

```
1 #Nivell 1 Exercici 2-c: Identifica la companyia amb la mitjana més gran de vendes.
2 • SELECT round(AVG(amount),2) , company_name FROM transactions.transaction
3 INNER JOIN transactions.company
4 ON company.id = transaction.company_id
5 WHERE declined = 0
6 GROUP BY company_name
7 order by AVG(amount) Desc
8 LIMIT 1
9 ;
10
```



The screenshot shows a database interface with a query editor and a result grid. The query is: `SELECT round(AVG(amount),2) , company_name FROM transactions.transaction INNER JOIN transactions.company ON company.id = transaction.company_id WHERE declined = 0 GROUP BY company_name order by AVG(amount) Desc LIMIT 1 ;`. The result grid displays a single row with the value 481.86 and the company name Eget Ipsum Ltd.

| round(AVG(amount),2) | company_name   |
|----------------------|----------------|
| 481.86               | Eget Ipsum Ltd |

**La companyia amb més vendes es Eget Ipsum Ltd, seguida de molt aprop per Sed Id Limited i neque Tellus Incorporated**

### Exercici 3: Utilitzant només subconsultes (sense utilitzar JOIN)

**Mostra totes les transaccions realitzades per empreses d'Alemanya.**

- SELECT company\_name, country, amount, declined
- FROM transactions.company, transactions.transaction
- WHERE company\_id IN
- (SELECT company\_id FROM transactions.company WHERE country LIKE 'Germany')
- ;

```
1 #Mostra totes les transaccions realitzades per empreses d'Alemanya.
2 • SELECT company_name, country, amount, declined FROM transactions.company, transactions.transaction
3 WHERE company_id IN
4 (SELECT company_id FROM transactions.company WHERE country LIKE 'Germany')
5 ;
6
```

The screenshot shows a database interface with a 'Result Grid' and an 'Action Output' section.

**Result Grid:**

| company_name              | country | amount | declined |
|---------------------------|---------|--------|----------|
| Ac Fermentum Incorporated | Germany | 480.13 | 1        |
| Ac Fermentum Incorporated | Germany | 219.83 | 0        |
| Ac Fermentum Incorporated | Germany | 42.32  | 0        |
| Ac Fermentum Incorporated | Germany | 200.72 | 0        |
| Ac Fermentum Incorporated | Germany | 78.29  | 0        |
| Ac Fermentum Incorporated | Germany | 335.56 | 0        |
| Ac Fermentum Incorporated | Germany | 207.09 | 1        |
| Ac Fermentum Incorporated | Germany | 304.95 | 0        |
| Ac Fermentum Incorporated | Germany | 149.84 | 0        |
| Ac Fermentum Incorporated | Germany | 151.32 | 0        |
| Ac Fermentum Incorporated | Germany | 135.93 | 0        |
| Ac Fermentum Incorporated | Germany | 18.08  | 0        |
| Ac Fermentum Incorporated | Germany | 148.97 | 0        |
| Ac Fermentum Incorporated | Germany | 294.13 | 0        |
| Ac Fermentum Incorporated | Germany | 227.05 | 0        |
| Ac Fermentum Incorporated | Germany | 182.01 | 0        |
| Ac Fermentum Incorporated | Germany | 267.52 | 0        |
| Ac Fermentum Incorporated | Germany | 114.89 | 1        |
| Ac Fermentum Incorporated | Germany | 146.34 | 0        |
| Ac Fermentum Incorporated | Germany | 385.28 | 0        |
| Ac Fermentum Incorporated | Germany | 229.65 | 0        |
| Ac Fermentum Incorporated | Germany | 394.59 | 0        |
| Ac Fermentum Incorporated | Germany | 274.28 | 0        |
| Ac Fermentum Incorporated | Germany | 316.74 | 0        |

**Action Output:**

| #    | Time     | Action                                                                            | Message               |
|------|----------|-----------------------------------------------------------------------------------|-----------------------|
| ✓ 24 | 11:47:42 | SELECT * FROM transactions.company, transactions.transaction WHERE company_id...  | 58700 row(s) returned |
| ✓ 25 | 11:48:34 | SELECT company_name, country, amount, declined FROM transactions.company, tran... | 58700 row(s) returned |

***Hi ha hagut 58700 transaccions de companyies alemanyes***

**Llista les empreses que han realitzat transaccions per un amount superior a la mitjana de totes les transaccions.**

- SELECT company\_name, country
- FROM transactions.company
- WHERE id IN (
- SELECT company\_id
- FROM transactions.transaction
- WHERE amount > (
- SELECT AVG(amount)
- FROM transactions.transaction))
- ;

The screenshot shows a SQL IDE window titled 'nivell1RLM'. The query editor contains the following SQL code:

```

1 #Llista les empreses que han realitzat transaccions per un amount superior a la mitjana de totes les transaccions.
2 • SELECT company_name, country
3 FROM transactions.company
4 WHERE id IN (
5 SELECT company_id
6 FROM transactions.transaction
7 WHERE amount > (
8 SELECT AVG(amount)
9 FROM transactions.transaction))
10 ;
11

```

Below the query editor, the 'Result Grid' shows the results of the query. It displays a table with two columns: 'company\_name' and 'country'. The results are as follows:

| company_name                  | country        |
|-------------------------------|----------------|
| Ac Fermentum Incorporated     | Germany        |
| Magna A Neque Industries      | Australia      |
| Fusce Corp.                   | United States  |
| Ante Taculis Nec Foundation   | New Zealand    |
| Donec Ltd                     | Norway         |
| Sed Nunc Ltd                  | United Kingdom |
| Nascetur Ridiculus Mus Inc.   | United States  |
| Vestibulum Lorem PC           | Belgium        |
| Gravida Sagittis LLP          | Sweden         |
| Mus Aenean Eget Foundation    | Sweden         |
| Dis Parturient Institute      | Ireland        |
| Sed LLC                       | Belgium        |
| Arcu LLP                      | Norway         |
| Fringilla LLC                 | New Zealand    |
| Elit Etiam Laoreet Associates | Canada         |
| Nunc Interdum Incorporated    | Germany        |
| Augue Foundation              | Germany        |
| Non Magna LLC                 | United Kingdom |
| A Institute                   | Belgium        |

At the bottom of the IDE, the 'Output' window shows the execution log:

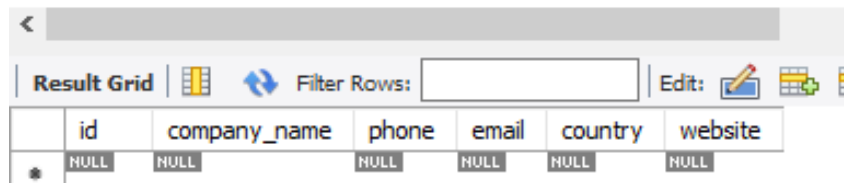
| #  | Time     | Action                                                                                   | Message             |
|----|----------|------------------------------------------------------------------------------------------|---------------------|
| 46 | 11:27:02 | SELECT AVG(amount), company_name FROM transactions.transaction INNER JOIN transaction... | 100 row(s) returned |
| 47 | 11:32:29 | SELECT company_name, country FROM transactions.company WHERE id IN ( SELECT compa...     | 70 row(s) returned  |

**Hi ha 70 empreses que superen la mitjana de vendes**

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

- SELECT \*
- FROM transactions.company
- WHERE id NOT IN (
- SELECT company\_id
- FROM transactions.transaction)
- ;

```
1 • SELECT *
2 FROM transactions.company
3 WHERE id NOT IN (
4 SELECT company_id
5 FROM transactions.transaction
6);
```



The screenshot shows a database interface with a 'Result Grid' tab. Above the grid is a 'Filter Rows' input field and an 'Edit' button. The grid contains one row with the following values:

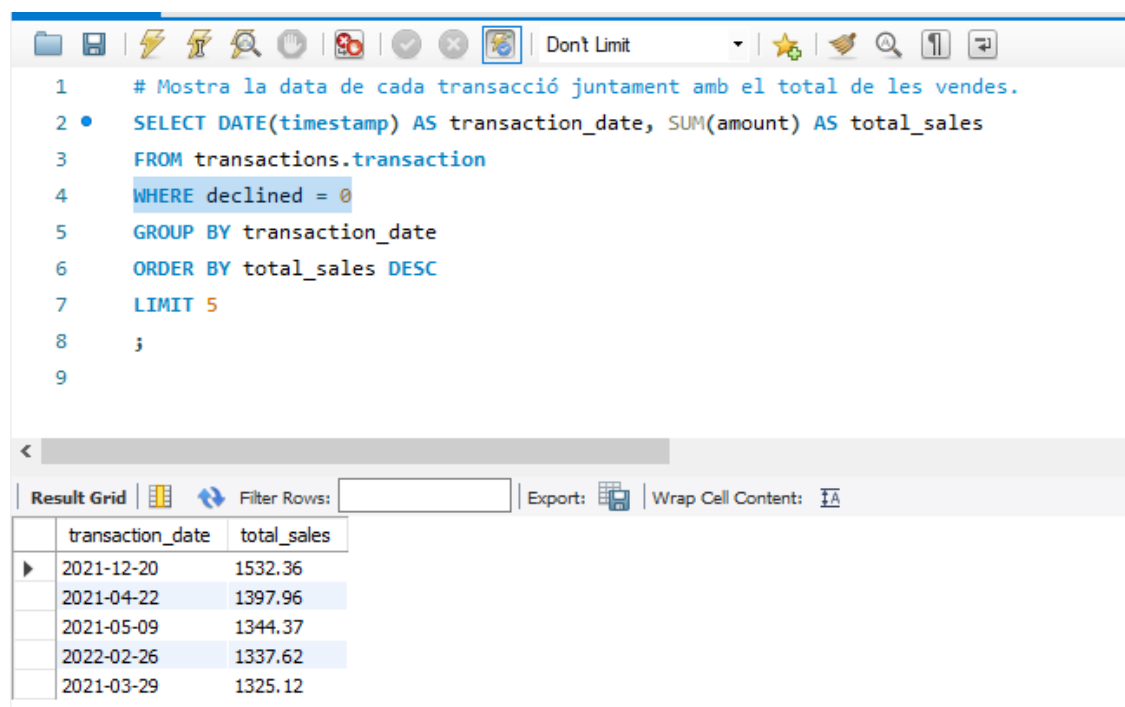
|   | id   | company_name | phone | email | country | website |
|---|------|--------------|-------|-------|---------|---------|
| * | NULL | NULL         | NULL  | NULL  | NULL    | NULL    |

*No hi ha cap companyia que no hagi tingut vendes, però la que té la mitjana més baixa es Augue Foundation, amb una Mitjana de 15.05*

### 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.

- SELECT DATE(timestamp) AS transaction\_date, SUM(amount) AS total\_sales
- FROM transactions.transaction
- WHERE declined = 0
- GROUP BY transaction\_date
- ORDER BY total\_sales DESC
- LIMIT 5
- ;



```

1 # Mostra la data de cada transacció juntament amb el total de les vendes.
2 • SELECT DATE(timestamp) AS transaction_date, SUM(amount) AS total_sales
3 FROM transactions.transaction
4 WHERE declined = 0
5 GROUP BY transaction_date
6 ORDER BY total_sales DESC
7 LIMIT 5
8 ;
9

```

| transaction_date | total_sales |
|------------------|-------------|
| 2021-12-20       | 1532.36     |
| 2021-04-22       | 1397.96     |
| 2021-05-09       | 1344.37     |
| 2022-02-26       | 1337.62     |
| 2021-03-29       | 1325.12     |

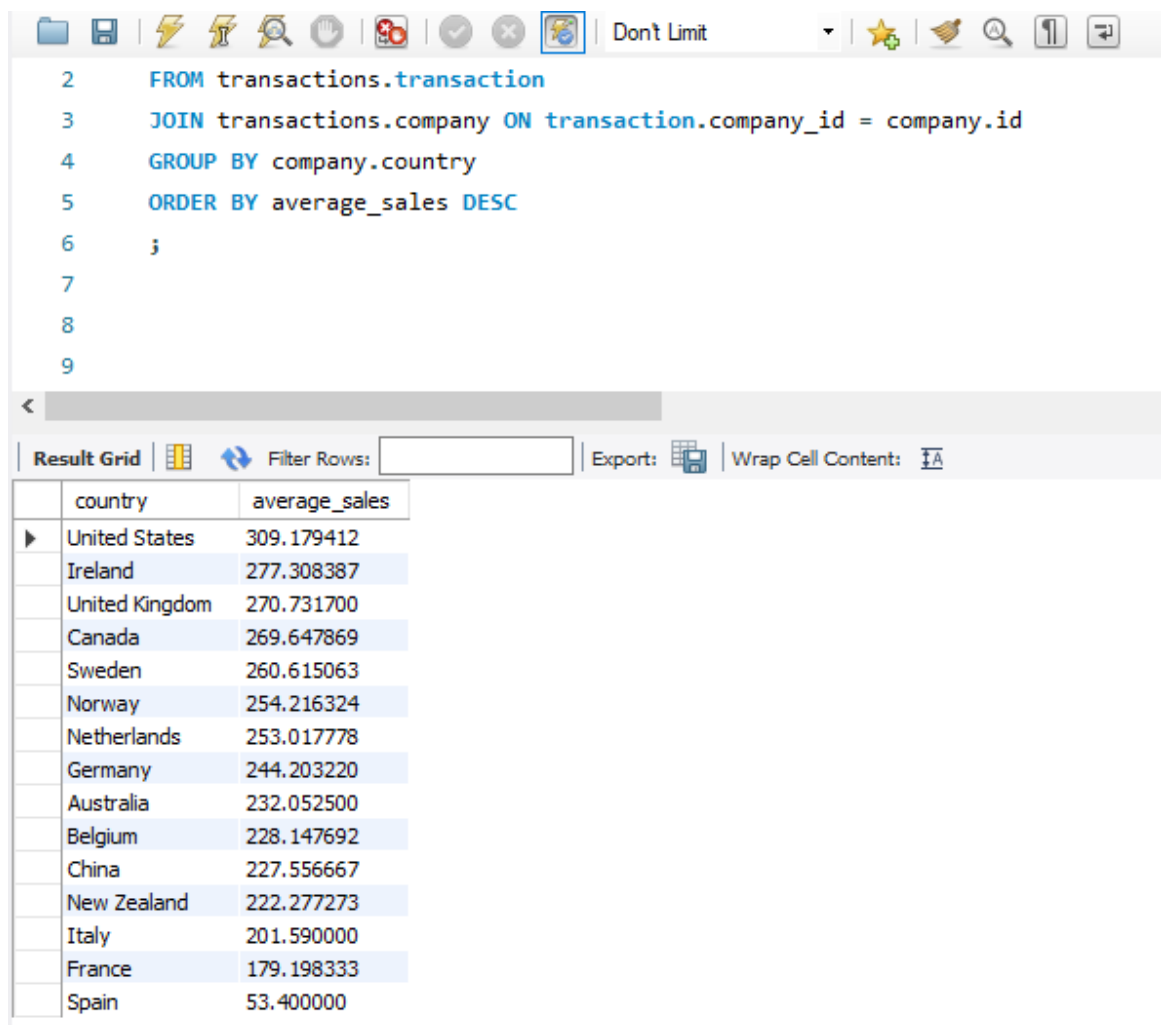
Descomptant les transaccions cancel·lades (declined=1) 4 dels millors diez de vendes van ser al 2021, potser podríem revisar la campanya que es va fer aquell any per veure com podem millorar les vendes actuals.



## Exercici 2

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

- SELECT company.country, AVG(transaction.amount) AS average\_sales
- FROM transactions.transaction
- JOIN transactions.company ON transaction.company\_id = company.id
- GROUP BY company.country
- ORDER BY average\_sales DESC
- ;



```
2 FROM transactions.transaction
3 JOIN transactions.company ON transaction.company_id = company.id
4 GROUP BY company.country
5 ORDER BY average_sales DESC
6 ;
7
8
9
```

| country        | average_sales |
|----------------|---------------|
| United States  | 309.179412    |
| Ireland        | 277.308387    |
| United Kingdom | 270.731700    |
| Canada         | 269.647869    |
| Sweden         | 260.615063    |
| Norway         | 254.216324    |
| Netherlands    | 253.017778    |
| Germany        | 244.203220    |
| Australia      | 232.052500    |
| Belgium        | 228.147692    |
| China          | 227.556667    |
| New Zealand    | 222.277273    |
| Italy          | 201.590000    |
| France         | 179.198333    |
| Spain          | 53.400000     |

*Segons aquestes dades, la companyia té un gran volum de vendes a Estats Units. Podriem pensar que té a veure amb la quantitat de gent que hi viu, però com el següent país és Irlanda es de poc més de 5.5 milions de persones, mentre que a Espanya hi viuen 48 milions i està l'última en quantitat de vendes, necessitariem més dades per definir que fa que tingui més èxit a uns països que a uns altres.*

### Exercici 3

En la teva empresa, es planteja un nou projecte per a llançar algunes campanyes publicitàries per a fer competència a la companyia "Non Institute". Per a això, et demanen la llista de totes les transaccions realitzades per empreses que estan situades en el mateix país que aquesta companyia.

- Mostra el llistat aplicant JOIN i subconsultes.
- SELECT transaction.id, company.company\_name, transaction.timestamp, transaction.amount
- FROM transactions.transaction
- JOIN transactions.company ON transaction.company\_id = company.id
- WHERE company.country = (
- SELECT country
- FROM transactions.company
- WHERE company\_name = 'Non Institute'
- );

```
1 #Mostra el llistat aplicant JOIN i subconsultes.
```

```
2 • SELECT transaction.id, company_name, country, timestamp, amount
```

```
3 FROM transactions.transaction
```

```
4 JOIN transactions.company ON transaction.company_id = company.id
```

```
5 WHERE company.country = (
```

```
6 SELECT country
```

```
7 FROM transactions.company
```

```
8 WHERE company_name = 'Non Institute'
```

```
9);
```

```
0
```

sult Grid | Filter Rows: | Export: | Wrap Cell Content: |

| id                                   | company_name         | country        | timestamp           | amount |
|--------------------------------------|----------------------|----------------|---------------------|--------|
| 2B928E1C-EC14-A760-0A75-871477649D6A | Sed Nunc Ltd         | United Kingdom | 2021-08-10 08:14:49 | 383.73 |
| ACD2011A-A2B1-C365-41E1-2AB00C65147A | Sed Nunc Ltd         | United Kingdom | 2022-03-05 20:41:20 | 60.07  |
| 4334349E-CEB0-3D68-A4D4-FEB7718A1ACE | Non Magna LLC        | United Kingdom | 2021-05-03 22:37:23 | 458.74 |
| BC2B9A38-77B4-28CD-1FE8-14DED863E773 | Non Magna LLC        | United Kingdom | 2021-10-18 07:27:35 | 477.95 |
| 1479B3D2-B7BA-C7BB-4CE3-8D7C2DE85ABB | Enim Condimentum Ltd | United Kingdom | 2021-08-09 00:58:07 | 309.45 |
| 152598C2-029D-D684-4B66-91EDF393EBFF | Enim Condimentum Ltd | United Kingdom | 2021-07-05 03:10:00 | 395.43 |
| 1B636B58-A2E8-7C69-D9C9-C54535DAFD3B | Enim Condimentum Ltd | United Kingdom | 2021-07-06 08:48:46 | 195.06 |
| 20418DE5-B804-BE9B-BD7A-A95C1BFD8F5C | Enim Condimentum Ltd | United Kingdom | 2022-01-03 15:59:29 | 479.52 |
| 239B8576-6C0E-137A-C2F6-3180A188A2D3 | Enim Condimentum Ltd | United Kingdom | 2021-08-26 06:04:05 | 43.90  |
| 267C4A86-7BA7-1C5E-0718-2824983C87DD | Enim Condimentum Ltd | United Kingdom | 2021-10-01 21:08:53 | 122.63 |
| 3142C93E-B3B7-49E4-EE2D-29CA834B198D | Enim Condimentum Ltd | United Kingdom | 2021-04-06 17:24:44 | 91.59  |
| 3578688E-7B1D-B887-3BC7-20B8673AA31E | Enim Condimentum Ltd | United Kingdom | 2021-07-26 22:59:24 | 303.60 |
| 360C7814-F7AF-B43A-0946-AB38D2683C86 | Enim Condimentum Ltd | United Kingdom | 2021-08-21 10:19:58 | 494.82 |
| 391E1CFD-D653-E45B-A729-F2EB93247B58 | Enim Condimentum Ltd | United Kingdom | 2021-10-09 00:50:38 | 271.27 |
| 3C4D7C2A-A402-B941-625A-D64CA53526E8 | Enim Condimentum Ltd | United Kingdom | 2021-04-25 19:11:52 | 441.27 |
| 3ED634C2-01CA-D6E9-2DBD-24B53A7912F7 | Enim Condimentum Ltd | United Kingdom | 2021-03-29 11:38:38 | 478.54 |
| 3FEC4131-9BED-2EA6-1776-82674C80DDBB | Enim Condimentum Ltd | United Kingdom | 2021-07-25 04:59:17 | 393.42 |
| 41C13F08-471E-D475-3E14-760DF3F79B42 | Enim Condimentum Ltd | United Kingdom | 2022-01-16 16:48:55 | 45.63  |
| 41EC591D-808E-D85C-F05F-08BC3DE7A618 | Enim Condimentum Ltd | United Kingdom | 2022-01-06 07:47:39 | 335.54 |
| 4217E857-ID51-5D25-B645-EC24D23C8759 | Enim Condimentum Ltd | United Kingdom | 2021-04-23 13:07:58 | 193.33 |
| 45CA3E45-6B42-CAC4-7683-EBB69D523B3E | Enim Condimentum Ltd | United Kingdom | 2021-04-29 06:17:02 | 149.89 |
| 46D1A5E9-E5E0-7733-C9C8-30B8E7E1838  | Enim Condimentum Ltd | United Kingdom | 2021-12-24 23:43:50 | 411.81 |

ult 7 x

put

Action Output

| # | Time     | Action                                                                               | Message             |
|---|----------|--------------------------------------------------------------------------------------|---------------------|
| 7 | 10:51:30 | SELECT * FROM transactions.company WHERE id NOT IN ( SELECT company_id F...          | 0 row(s) returned   |
| 8 | 10:53:19 | SELECT transaction.id, company.company_name, transaction.timestamp, transaction.a... | 100 row(s) returned |
| 9 | 10:54:34 | SELECT transaction.id, company_name, country, timestamp, amount FROM transaction...  | 100 row(s) returned |

- Mostra el llistat aplicant solament subconsultes.

- SELECT \*
- FROM transactions.transaction
- WHERE company\_id IN (
- SELECT id
- FROM transactions.company
- WHERE country = (
- SELECT country
- FROM transactions.company
- WHERE company\_name = 'Non Institute'
- )
- );

```

1 #Mostra el llistat aplicant solament subconsultes.
2 • SELECT *
3 FROM transactions.transaction
4 WHERE company_id IN (
5 SELECT id
6 FROM transactions.company
7 WHERE country = (
8 SELECT country
9 FROM transactions.company
10 WHERE company_name = 'Non Institute')
11);

```

| Result Grid                             |                                      |                |            |         |          |           |                     |        |     |  |
|-----------------------------------------|--------------------------------------|----------------|------------|---------|----------|-----------|---------------------|--------|-----|--|
| Filter Rows:                            |                                      |                |            |         |          |           |                     |        |     |  |
| Edit: Export/Import: Wrap Cell Content: |                                      |                |            |         |          |           |                     |        |     |  |
|                                         | id                                   | credit_card_id | company_id | user_id | lat      | longitude | timestamp           | amount | dec |  |
| ▶                                       | 2B928E1C-EC14-A760-0A75-871477649D6A | CcU-2980       | b-2246     | 275     | -41.0496 | 161.685   | 2021-08-10 08:14:49 | 383.73 | 0   |  |
|                                         | ACD2011A-A2B1-C365-41E1-2AB00C65147A | CcU-2980       | b-2246     | 275     | -54.4792 | -82.7974  | 2022-03-05 20:41:20 | 60.07  | 1   |  |
|                                         | 4334349E-CEB0-3D68-A4D4-FEB7718A1ACE | CcU-3092       | b-2310     | 275     | -20.4859 | 150.87    | 2021-05-03 22:37:23 | 458.74 | 0   |  |
|                                         | BC2B9A38-77B4-28CD-1FE8-14DED863E773 | CcU-3092       | b-2310     | 275     | -78.0295 | 18.5295   | 2021-10-18 07:27:35 | 477.95 | 1   |  |
|                                         | 1479B3D2-B7BA-C7BB-4CE3-8D7C2DE85ABB | CcU-2994       | b-2326     | 133     | 66.2672  | 172.399   | 2021-08-09 00:58:07 | 309.45 | 0   |  |
|                                         | 152598C2-029D-D684-4B66-91EDF393EBFF | CcU-2994       | b-2326     | 126     | -67.0189 | -141.672  | 2021-07-05 03:10:00 | 395.43 | 0   |  |
|                                         | 1B636B58-A2E8-7C69-D9C9-C5453DAFD38  | CcU-2994       | b-2326     | 131     | 70.2543  | -13.1336  | 2021-07-06 08:48:46 | 195.06 | 0   |  |
|                                         | 20418DE5-B804-BE9B-BD7A-A95C1BFD8F5C | CcU-2994       | b-2326     | 126     | -79.1145 | 1.51481   | 2022-01-03 15:59:29 | 479.52 | 0   |  |
|                                         | 239B8576-6C0E-137A-C2F6-3180A188A2D3 | CcU-2994       | b-2326     | 126     | 23.6174  | 137.222   | 2021-08-26 06:04:05 | 43.90  | 0   |  |
|                                         | 267C4A86-7BA7-1C5E-0718-2824983C87DD | CcU-2994       | b-2326     | 126     | -17.5259 | 104.915   | 2021-10-01 21:08:53 | 122.63 | 0   |  |
|                                         | 3142C93E-B3B7-49E4-EE2D-29CA834B198D | CcU-2994       | b-2326     | 126     | -67.8476 | -119.978  | 2021-04-06 17:24:44 | 91.59  | 0   |  |
|                                         | 3578688E-7B1D-B887-3BC7-20B8673AA31E | CcU-2994       | b-2326     | 126     | 87.0665  | -22.7339  | 2021-07-26 22:59:24 | 303.60 | 0   |  |
|                                         | 360C7814-F7AF-B43A-0946-AB38D2683C86 | CcU-2994       | b-2326     | 116     | -7.93005 | -79.0733  | 2021-08-21 10:19:58 | 494.82 | 0   |  |
|                                         | 391E1CFD-D653-E45B-A729-F2EB93247B58 | CcU-2994       | b-2326     | 118     | 60.5512  | 103.904   | 2021-10-09 00:50:38 | 271.27 | 0   |  |
|                                         | 3C4D7C2A-A402-B941-625A-D64CA53526E8 | CcU-2994       | b-2326     | 117     | 23.1627  | -10.381   | 2021-04-25 19:11:52 | 441.27 | 0   |  |
|                                         | 3ED634C2-01CA-D6E9-2DBD-24B53A7912F7 | CcU-4219       | b-2326     | 137     | 69.0549  | 96.5033   | 2021-03-29 11:38:38 | 478.54 | 0   |  |
|                                         | 3FEC4131-9BED-2EA6-1776-82674C80DD8B | CcU-2994       | b-2326     | 126     | -7.28469 | 179.063   | 2021-07-25 04:59:17 | 393.42 | 0   |  |
|                                         | 41C13F08-471E-D475-3E14-760DF3F79B42 | CcU-4219       | b-2326     | 138     | -51.7289 | 55.3294   | 2022-01-16 16:48:55 | 45.63  | 0   |  |
|                                         | 41EC591D-808E-D85C-F05F-08BC3DE7A618 | CcU-2994       | b-2326     | 126     | 5.38535  | -78.3917  | 2022-01-06 07:47:39 | 335.54 | 0   |  |

## Exercici 1

Presenta el nom, telèfon, país, data i amount, d'aquelles empreses que van realitzar transaccions amb un valor comprès entre 100 i 200 euros i en alguna d'aquestes dates: 29 d'abril del 2021, 20 de juliol del 2021 i 13 de març del 2022. Ordena els resultats de major a menor quantitat.

- SELECT company\_name, phone, country, timestamp, amount
  - FROM transactions.transaction
  - JOIN transactions.company ON transaction.company\_id = company.id
  - WHERE transaction.amount BETWEEN 100 AND 200
  - AND DATE(transaction.timestamp) IN ('2021-04-29', '2021-07-20', '2022-03-13')
  - ORDER BY transaction.amount DESC
  - ;
- ```

1 • SELECT company_name, phone, country, timestamp, amount
2   FROM transactions.transaction
3   JOIN transactions.company ON transaction.company_id = company.id
4   WHERE transaction.amount BETWEEN 100 AND 200
5     AND DATE(timestamp) IN ('2021-04-29', '2021-07-20', '2022-03-13')
6   ORDER BY amount DESC;
7

```

company_name	phone	country	timestamp	amount
Interdum Feugiat Sed Associates	04 88 40 32 52	United Kingdom	2021-07-20 10:12:15	164.86
Nunc Interdum Incorporated	05 18 15 48 13	Germany	2022-03-13 13:37:34	164.32
Enim Condimentum Ltd	09 55 51 66 25	United Kingdom	2021-04-29 06:17:02	149.89
Lorem Eu Incorporated	01 83 66 62 07	Canada	2021-07-20 08:47:44	133.39
Nunc Interdum Incorporated	05 18 15 48 13	Germany	2021-04-29 02:25:49	111.51

Exercici 2

Necessitem optimitzar l'assignació dels recursos i dependrà de la capacitat operativa que es requereixi, per la qual cosa et demanen la informació sobre la quantitat de transaccions que realitzen les empreses, però el departament de recursos humans és exigent i vol un llistat de les empreses on especifiquis si tenen més de 4 transaccions o menys.

- SELECT company.company_name,
- company.country,
- COUNT(transaction.id) AS transaction_count,
- CASE
- WHEN COUNT(transaction.id) > 4 THEN 'Más de 4 transacciones'
- ELSE '4 o menos transacciones'
- END AS transaction_classification
- FROM transactions.company
- LEFT JOIN transactions.transaction ON company.id = transaction.company_id
- GROUP BY company.company_name, company.country
- ORDER BY transaction_count DESC;

The screenshot shows a SQL IDE interface with a query editor and a results pane. The query is as follows:

```
2 SELECT company.company_name,
3     company.country,
4     COUNT(transaction.id) AS transaction_count,
5     CASE
6     WHEN COUNT(transaction.id) > 4 THEN 'Más de 4 transacciones'
7     ELSE '4 o menos transacciones'
8     END AS transaction_classification
9 FROM transactions.company
10 LEFT JOIN transactions.transaction ON company.id = transaction.company_id
11 GROUP BY company.company_name, company.country
12 ORDER BY transaction_count DESC;
```

The results pane displays a table with the following data:

company_name	country	transaction_count	transaction_classification
Nunc Interdum Incorporated	Germany	105	Más de 4 transacciones
Ut Semper Foundation	Sweden	59	Más de 4 transacciones
Enim Conditum Ltd	United Kingdom	57	Más de 4 transacciones
Arcu LLP	Norway	56	Más de 4 transacciones
Lorem Eu Incorporated	Canada	54	Más de 4 transacciones
Malesuada PC	Ireland	52	Más de 4 transacciones
Non Institute	United Kingdom	30	Más de 4 transacciones
Fusce Corp.	United States	2	4 o menos transacciones
Convallis In Incorporated	Germany	2	4 o menos transacciones
Ante Iaculis Nec Foundation	New Zealand	2	4 o menos transacciones
Donec Ltd	Norway	2	4 o menos transacciones
Sed Nunc Ltd	United Kingdom	2	4 o menos transacciones
Amet Nulla Donec Corporation	Italy	2	4 o menos transacciones
Nascetur Ridiculus Mus Inc.	United States	2	4 o menos transacciones
Vestibulum Lorem PC	Belgium	2	4 o menos transacciones
Gravida Sagittis LLP	Sweden	2	4 o menos transacciones
Mus Aenean Eget Foundation	Sweden	2	4 o menos transacciones
Dis Parturient Institute	Ireland	2	4 o menos transacciones

The output pane shows the following message:

```
1 10:23:02 SELECT company.company_name, company.country, COUNT(transaction.id) AS transact... 100 row(s) returned
```