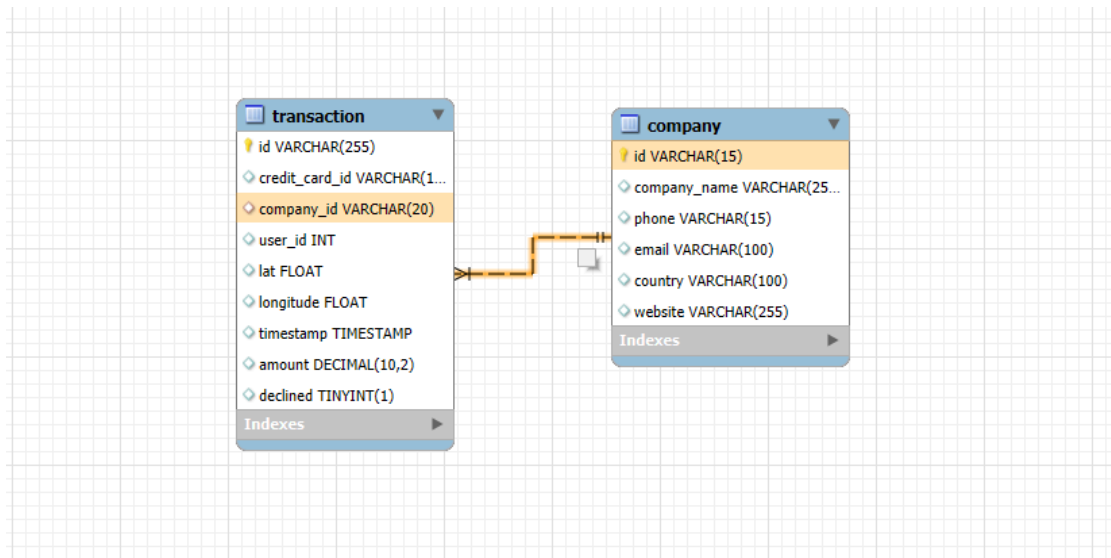Nil Regidor Vivas
DA especialització

Sprint 2: BBDD relacionals i introducció a SQL

Nivell 1

Exercici 1

La base de dades està formada per dues taules que es conecten entre elles en una relació de un a molts, on la primary key de la taula de company és l'id que fa alhora de foreign key a la taula de transaction nombrada com company_id. Això vol de que cada id únic de la taula company pot aparèixer més d'un cop a la taula transaction. També dóna la sensació de que la taula de transaction podría ser de fets i la de company una dimensió.

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Exercici 2

```
•   SELECT distinct country
    FROM company
    LEFT JOIN transaction
    ON company.id = transaction.company_id;
```

	country
▶	Germany
	Australia
	United States
	New Zealand
	Norway
	United Kingdom
	Italy
	Belgium

Result 19 ✕

Output

Action Output ▼

	#	Time	Action	Message
✓	18	11:48:36	SELECT transaction.id, transaction.company_id, transaction.amount FROM transaction LEFT JOIN company ON transaction.company_id = ...	100 row(s) returned
✓	19	11:52:27	SELECT company.company_name, company.phone, company.country, DATE(transaction.timestamp) as time, transaction.amount FROM co...	5 row(s) returned
✓	20	11:53:15	SELECT count(transaction.id), transaction.company_id, CASE WHEN count(transaction.id) >= 4 THEN "Té més o igual a 4 transaccions" ...	100 row(s) returned
✓	21	12:58:05	SELECT company_name, round(avg(transaction.amount),2) FROM company LEFT JOIN transaction ON company.id = transaction.company...	1 row(s) returned
✓	22	12:58:13	SELECT distinct country FROM company LEFT JOIN transaction ON company.id = transaction.company_id LIMIT 0, 1000	15 row(s) returned

```
SELECT COUNT(DISTINCT country) as Nombre_paisos
FROM company
LEFT JOIN transaction
ON company.id = transaction.company_id;
```

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

	Nombre_paisos
▶	15

Result 21 ✕

Output

Action Output ▼

	#	Time	Action	Message
✓	20	11:53:15	SELECT count(transaction.id), transaction.company_id, CASE WHEN count(transaction.id) >= 4 THEN "Té més o igual a 4 transaccions" ...	100 row(s) returned
✓	21	12:58:05	SELECT company_name, round(avg(transaction.amount),2) FROM company LEFT JOIN transaction ON company.id = transaction.company...	1 row(s) returned
✓	22	12:58:13	SELECT distinct country FROM company LEFT JOIN transaction ON company.id = transaction.company_id LIMIT 0, 1000	15 row(s) returned
✓	23	13:00:18	SELECT COUNT(DISTINCT country) /* alias */ FROM company LEFT JOIN transaction ON company.id = transaction.company_id LIMIT 0,...	1 row(s) returned
✓	24	13:00:48	SELECT COUNT(DISTINCT country) as Nombre_paisos FROM company LEFT JOIN transaction ON company.id = transaction.company_id ...	1 row(s) returned

```sql
SELECT company_name, round(avg(transaction.amount),2) as mitjana
FROM company
LEFT JOIN transaction
ON company.id = transaction.company_id
WHERE declined = 0
GROUP BY company_name
ORDER BY 2 DESC
LIMIT 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

company_name	mitjana
Eget Ipsum Ltd	481.86

Result 23 ✕

Output

Action Output

#	Time	Action	Message
✓	22	12:58:13	SELECT distinct country FROM company LEFT JOIN transaction ON company.id = transaction.company_id LIMIT 0, 1000	15 row(s) returned
✓	23	13:00:18	SELECT COUNT(DISTINCT country) /* alias */ FROM company LEFT JOIN transaction ON company.id = transaction.company_id LIMIT 0,...	1 row(s) returned
✓	24	13:00:48	SELECT COUNT(DISTINCT country) as Nombre_paisos FROM company LEFT JOIN transaction ON company.id = transaction.company_id ...	1 row(s) returned
✓	25	13:02:40	SELECT company_name, round(avg(transaction.amount),2) FROM company LEFT JOIN transaction ON company.id = transaction.company...	1 row(s) returned
✓	26	13:02:55	SELECT company_name, round(avg(transaction.amount),2) as mitjana FROM company LEFT JOIN transaction ON company.id = transactio...	1 row(s) returned

Exercici 3

```
1 •  SELECT id
2    FROM transaction
3 ⊖  WHERE company_id IN (
4        SELECT id
5        FROM company
6        WHERE country = "Germany") ;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

id
108B1D1D-5B23-A76C-55EF-C568E49A05DD
EA2C3281-C9C1-A387-44F8-729FB4B51C76
0DD2E608-5C9E-D1B3-4999-B99F43AD735A
AB069F53-965E-A2A8-CE06-CA8C4FD92501
0466A42E-47CF-8D24-FD01-C0B689713128
0A476ED9-0C13-1962-F87B-D3563924B539
122DC333-E19F-D629-DCD8-9C54CF1EBB9A
135267BA-2F7D-957C-C42C-6450A2B3FD54

transaction 1 ×

Output

Action Output

#	Time	Action	Message
24	13:00:48	SELECT COUNT(DISTINCT country) as Nombre_paisos FROM company LEFT JOIN transaction ON company.id = transaction.company_id ...	1 row(s) returned
25	13:02:40	SELECT company_name, round(avg(transaction.amount),2) FROM company LEFT JOIN transaction ON company.id = transaction.company...	1 row(s) returned
26	13:02:55	SELECT company_name, round(avg(transaction.amount),2) as mitjana FROM company LEFT JOIN transaction ON company.id = transactio...	1 row(s) returned
27	13:07:12	SELECT id FROM transaction WHERE company_id IN (SELECT id FROM company WHERE country = "Germany") LIMIT 0, 1000	118 row(s) returned
28	13:07:39	SELECT id FROM transaction WHERE company_id IN (SELECT id FROM company WHERE country = "Germany") LIMIT 0, 1000	118 row(s) returned

```sql
1   SELECT company_name
2   FROM company
3   WHERE id in (
4       select company_id
5       from transaction
6       where amount > (
7           SELECT avg(amount)
8           FROM transaction)
9       )
10  ORDER BY 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: IA

company_name
A Institute
Ac Fermentum Incorporated
Ac Industries
Aliquam PC
Aliquet Diam Limited
Aliquet Sem Limited
Amet Institute
Amet Luctus Vulputate Foundation

company 3 ✕

Output

Action Output

#	Time	Action	Message
26	13:02:55	SELECT company_name, round(avg(transaction.amount),2) as mitjana FROM company LEFT JOIN transaction ON company.id = transactio...	1 row(s) returned
27	13:07:12	SELECT id FROM transaction WHERE company_id IN (SELECT id FROM company WHERE country = "Germany") LIMIT 0, 1000	118 row(s) returned
28	13:07:39	SELECT id FROM transaction WHERE company_id IN (SELECT id FROM company WHERE country = "Germany") LIMIT 0, 1000	118 row(s) returned
29	13:09:16	SELECT company_name FROM company WHERE id in (select company_id from transaction where amount > (SELECT avg(amount) ...	70 row(s) returned
30	13:10:57	SELECT company_name FROM company WHERE id in (select company_id from transaction where amount > (SELECT avg(amount) ...	70 row(s) returned

```
1 ●   SELECT company_name
2     FROM company
3 ⊖  WHERE id NOT IN (
4         SELECT DISTINCT company_id
5         FROM transaction);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: IA

company_name

company 4 ✕

Output

Action Output ▼

#	Time	Action		Message
●	31	13:13:39	SELECT company_name FROM company WHERE id NOT IN (SELECT DISTINCT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
●	32	13:13:42	SELECT company_name FROM company WHERE id NOT IN (SELECT DISTINCT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
●	33	13:13:47	SELECT company_name FROM company WHERE id NOT IN (SELECT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
●	34	13:13:54	SELECT company_name FROM company WHERE id NOT IN (SELECT DISTINCT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
●	35	13:14:15	SELECT company_name FROM company WHERE id NOT IN (SELECT DISTINCT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned

Nivell 2

Exercici 1

```
1 •   SELECT date(timestamp) as data, sum(amount) as suma_amount
2     FROM transaction
3     WHERE declined=0
4     group by 1
5     order by 2
6     LIMIT 5;
```

data	suma_amount
2022-01-04	15.05
2021-04-27	18.08
2022-01-24	23.86
2022-02-27	30.76
2022-01-14	37.55

Result 6 ×

Output

Action Output

#	Time	Action	Message
33	13:13:47	SELECT company_name FROM company WHERE id NOT IN (SELECT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
34	13:13:54	SELECT company_name FROM company WHERE id NOT IN (SELECT DISTINCT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
35	13:14:15	SELECT company_name FROM company WHERE id NOT IN (SELECT DISTINCT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
36	13:15:36	SELECT date(timestamp), sum(amount) FROM transaction WHERE declined=0 group by 1 order by 2 LIMIT 5	5 row(s) returned
37	13:16:24	SELECT date(timestamp) as data, sum(amount) as suma_amount FROM transaction WHERE declined=0 group by 1 order by 2 LIMIT 5	5 row(s) returned

Exercici 2

```
1  ●  SELECT avg(transaction.amount), company.country
2     FROM transaction
3     LEFT JOIN company
4     ON transaction.company_id = company.id
5     group by company.country
6     order by 1 DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: IA

avg(transaction.amount)	country
309.179412	United States
277.308387	Ireland
270.731700	United Kingdom
269.647869	Canada
260.615063	Sweden
254.216324	Norway
253.017778	Netherlands
244.203220	Germany

esult 7 ×

utput

Action Output

#	Time	Action	Message
34	13:13:54	SELECT company_name FROM company WHERE id NOT IN (SELECT DISTINCT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
35	13:14:15	SELECT company_name FROM company WHERE id NOT IN (SELECT DISTINCT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
36	13:15:36	SELECT date(timestamp), sum(amount) FROM transaction WHERE declined=0 group by 1 order by 2 LIMIT 5	5 row(s) returned
37	13:16:24	SELECT date(timestamp) as data, sum(amount) as suma_amount FROM transaction WHERE declined=0 group by 1 order by 2 LIMIT 5	5 row(s) returned
38	13:18:34	SELECT avg(transaction.amount), company.country FROM transaction LEFT JOIN company ON transaction.company_id = company.id gro...	15 row(s) returned

Exercici 3

```
1 ●   SELECT transaction.id, transaction.company_id, transaction.amount
2     FROM transaction
3     LEFT JOIN company
4     ON transaction.company_id = company.id
5     WHERE company.country in (
6         SELECT country
7         FROM company
8         WHERE company_name = "Non Institute");
```

id	company_id	amount
2B928E1C-EC14-A760-0A75-871477649D6A	b-2246	383.73
ACD2011A-A2B1-C365-41E1-2AB00C65147A	b-2246	60.07
4334349E-CEB0-3D68-A4D4-FEB7718A1ACE	b-2310	458.74
BC2B9A38-77B4-28CD-1FE8-14DED863E773	b-2310	477.95
1479B3D2-B7BA-C7BB-4CE3-8D7C2DE85ABB	b-2326	309.45
152598C2-029D-D684-4B66-91EDF393EBFF	b-2326	395.43
1B636B58-A2E8-7C69-D9C9-C54535DAFD3B	b-2326	195.06
20418DE5-B804-BE9B-BD7A-A95C1BEDBE5C	b-2326	479.52

Result 8 ×

Output

Action Output

#	Time	Action	Message
35	13:14:15	SELECT company_name FROM company WHERE id NOT IN (SELECT DISTINCT company_id FROM transaction) LIMIT 0, 1000	0 row(s) returned
36	13:15:36	SELECT date(timestamp), sum(amount) FROM transaction WHERE declined=0 group by 1 order by 2 LIMIT 5	5 row(s) returned
37	13:16:24	SELECT date(timestamp) as data, sum(amount) as suma_amount FROM transaction WHERE declined=0 group by 1 order by 2 LIMIT 5	5 row(s) returned
38	13:18:34	SELECT avg(transaction.amount), company.country FROM transaction LEFT JOIN company ON transaction.company_id = company.id gro...	15 row(s) returned
39	13:19:50	SELECT transaction.id, transaction.company_id, transaction.amount FROM transaction LEFT JOIN company ON transaction.company_id = ...	100 row(s) returned

Nivell 3

Exercici 1

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

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

company_name	phone	country	time	amount
Interdum Feugiat Sed Associates	04 88 40 32 52	United Kingdom	2021-07-20	164.86
Nunc Interdum Incorporated	05 18 15 48 13	Germany	2022-03-13	164.32
Enim Condimentum Ltd	09 55 51 66 25	United Kingdom	2021-04-29	149.89
Lorem Eu Incorporated	01 83 66 62 07	Canada	2021-07-20	133.39
Nunc Interdum Incorporated	05 18 15 48 13	Germany	2021-04-29	111.51

Result 9 ✕

Output

Action Output ▾

#	Time	Action	Message
✓	36	13:15:36	SELECT date(timestamp), sum(amount) FROM transaction WHERE declined=0 group by 1 order by 2 LIMIT 5	5 row(s) returned
✓	37	13:16:24	SELECT date(timestamp) as data, sum(amount) as suma_amount FROM transaction WHERE declined=0 group by 1 order by 2 LIMIT 5	5 row(s) returned
✓	38	13:18:34	SELECT avg(transaction.amount), company.country FROM transaction LEFT JOIN company ON transaction.company_id = company.id gro...	15 row(s) returned
✓	39	13:19:50	SELECT transaction.id, transaction.company_id, transaction.amount FROM transaction LEFT JOIN company ON transaction.company_id = ...	100 row(s) returned
✓	40	13:21:02	SELECT company.company_name, company.phone, company.country, DATE(transaction.timestamp) as time, transaction.amount FROM co...	5 row(s) returned

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Exercici 2

```sql
1   /*EXERCICI 2*/
2   SELECT count(transaction.id), transaction.company_id,
3   CASE
4       WHEN count(transaction.id) >= 4 THEN "Té més o igual a 4 transaccions"
5       ELSE "Té menys de 4 transaccions"
6   END as 4_transaccions
7   FROM company
8   LEFT JOIN transaction
9   ON company.id = transaction.company_id
10  GROUP BY 2
11  ;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: $\overline{I}A$

count(transaction.id)	company_id	4_transaccions
2	b-2222	Té menys de 4 transaccions
2	b-2226	Té menys de 4 transaccions
2	b-2230	Té menys de 4 transaccions
2	b-2234	Té menys de 4 transaccions
2	b-2238	Té menys de 4 transaccions
2	b-2242	Té menys de 4 transaccions
2	b-2246	Té menys de 4 transaccions
2	b-2250	Té menys de 4 transaccions

Result 10 ×

Output

Action Output ▾

#	Time	Action	Message
✓ 37	13:16:24	SELECT date(timestamp) as data, sum(amount) as suma_amount FROM transaction WHERE declined=0 group by 1 order by 2 LIMIT 5	5 row(s) returned
✓ 38	13:18:34	SELECT avg(transaction.amount), company.country FROM transaction LEFT JOIN company ON transaction.company_id = company.id gro...	15 row(s) returned
✓ 39	13:19:50	SELECT transaction.id, transaction.company_id, transaction.amount FROM transaction LEFT JOIN company ON transaction.company_id = ...	100 row(s) returned
✓ 40	13:21:02	SELECT company.company_name, company.phone, company.country, DATE(transaction.timestamp) as time, transaction.amount FROM co...	5 row(s) returned
✓ 41	13:22:06	SELECT count(transaction.id), transaction.company_id, CASE WHEN count(transaction.id) >= 4 THEN "Té més o igual a 4 transaccions" ...	100 row(s) returned