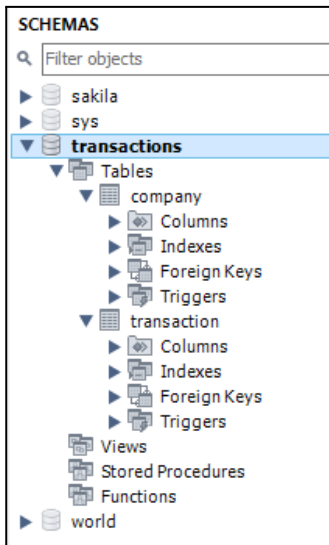


SPRINT 2

Nivel 1

Ejercicio 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.



Características:

El esquema posee dos tablas diferenciadas: company y transaction.

La tabla **company** tiene los campos relativos a datos de la empresa/compañía:

Campos: `id` `company_name` `phone` `email` `country` `website`
PRIMARY KEY (`id`)

La tabla **transaction** tiene los campos relativos a la compra en sí:

Campos: `id` `credit_card_id` `company_id` `user_id` `lat` `longitude`
`timestamp` `amount` `declined`
PRIMARY KEY (`id`),
FOREIGN KEY `company_id` (`company_id`),

Descripción de la tabla Company:

id (clave primaria): identificador único para cada empresa, que permite enlazar esta tabla con otras, en este caso la tabla "transaction".

company_name: el nombre de la empresa.

phone: el número de teléfono de la empresa.

email: la dirección de correo electrónico de la empresa.

country: el país en el que está registrada la empresa.

website: la página web de la empresa.

Descripción de la tabla Transaction:

id (clave primaria): identificador único para cada transacción.

credit_card_id: el número de la tarjeta de crédito utilizada.

company_id: clave foránea (FOREIGN KEY) que enlaza la transacción con una empresa en la tabla "company".

user_id: Identificado de usuario.

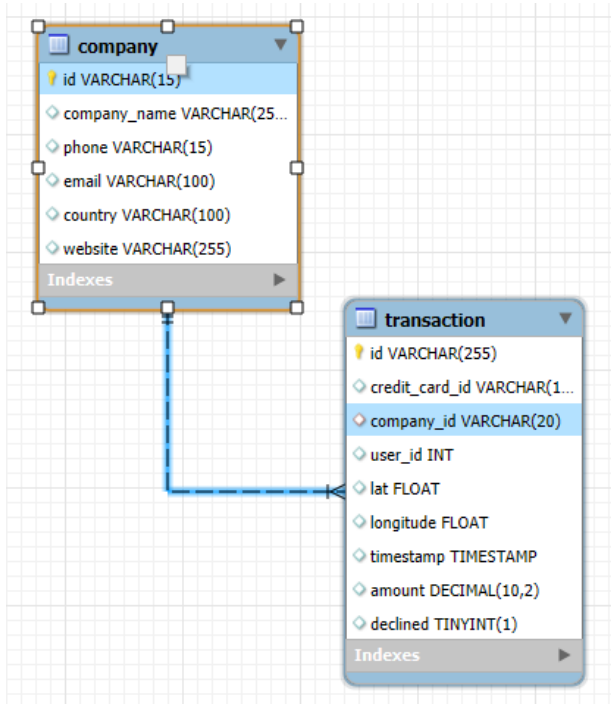
lat y longitude: coordenadas de donde se realizó la transacción.

timestamp: momento preciso de la transacción.

amount: el monto de dinero gastado.

declined: Variable booleana. Valor TRUE or FALSE que indica si la transacción fue rechazada (1) o aprobada (0)

Diagrama:



Una compañía/empresa puede tener muchas transacciones, pero una transacción solo puede estar asociada con una compañía. Esta es la tabla de dimensión.

Las transacciones (transaction) están asociadas con una compañía de la tabla company a través de la FOREIGN KEY. Esta es la tabla de hechos.

Ejercicio 2

Utilitzant JOIN realitzaràs les següents consultes:

Llistat dels països que estan fent compres.

The screenshot shows a SQL IDE interface with a query editor and a results pane. The query editor contains the following SQL code:

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

The results pane displays a list of countries:

country
Germany
Australia
United States
New Zealand
Norway
United Kingdom
Italy
Belgium
Sweden
Ireland
China

The Output pane shows the execution log:

#	Time	Action	Message
1	13:07:44	USE transactions	0 row(s) affected
2	13:07:44	SELECT DISTINCT country FROM company JOIN transaction ON company.id = tra...	15 row(s) returned

Des de quants països es realitzen les compres.

The screenshot shows a SQL IDE interface with a query editor and a results pane. The query editor contains the following SQL code:

```
1 • SELECT COUNT(DISTINCT company.country) AS total_countries
2 FROM transactions.company
3 INNER JOIN transactions.transaction ON transaction.company_id = company.id
4 WHERE transaction.declined = 0
5
```

The results pane displays a single row with the count:

total_countries
15

The Output pane shows the execution log:

#	Time	Action	Message
1	11:38:48	SELECT COUNT(DISTINCT company.country) AS total_countries FROM transactions...	1 row(s) returned

Identifica la companyia amb la mitjana més gran de vendes.

The screenshot shows a SQL query editor with a query window titled 'Ventas_promedio'. The query is as follows:

```
1 • SELECT company_name, AVG(amount) AS ventas_promedio
2 FROM transaction
3 JOIN company ON transaction.company_id = company.id
4 WHERE declined=0
5 GROUP BY company_name
6 ORDER BY ventas_promedio DESC
7 LIMIT 1
```

Below the query, the 'Result Grid' is displayed, showing the results of the query:

company_name	ventas_promedio
Eget Ipsum Ltd	481.860000

At the bottom, the 'Output' window shows the execution details:

#	Time	Action	Message
✓ 1	20:27:15	SELECT company_name, AVG(amount) AS ventas_promedio FROM transaction JOIN ...	1 row(s) returned

Ejercicio 3

Utilitzant només subconsultes (sense utilitzar JOIN):

Mostra totes les transaccions realitzades per empreses d'Alemanya.

estructura_dades Países total_paises Ventas_promedio Germany* company transaction SQL File 17*

Limit to 1000 rows

```

1 • SELECT id, company_id FROM transaction
2 WHERE company_id IN (
3     SELECT id FROM company
4     WHERE country = "Germany")

```

Result Grid

id	company_id
108B1D1D-5B23-A76C-55EF-C568E49A05DD	b-2222
EA2C3281-C9C1-A387-44F8-729FB4B51C76	b-2222
0DD2E608-5C9E-D1B3-4999-B99F43AD735A	b-2234
AB069F53-965E-A2A8-CE06-CA8C4FD92501	b-2234
0466A42E-47CF-8D24-FD01-C0B689713128	b-2302
0A476ED9-0C13-1962-F87B-D3563924B539	b-2302
122DC333-E19F-D629-DCD8-9C54CF1EBB9A	b-2302
135267BA-2E7D-957C-C42C-6450A2B3ED54	b-2302
14CAE5B5-8FB1-3E4A-4C85-0EA4167534F4	b-2302
158A3ACB-541C-DBCC-65BD-6373CC67BF1C	b-2302

transaction 6 x

Output

Action Output

#	Time	Action	Message
1	12:26:07	SELECT id, company_id FROM transaction WHERE company_id IN (SELECT id FRO...	118 row(s) returned

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

estructura_dades Países total_paises Ventas_promedio Germany* Superior_Mediana company transaction

Limit to 1000 rows

```

1 • SELECT *
2 FROM company
3 WHERE id IN (SELECT company_id
4 FROM transaction
5 WHERE amount > (SELECT AVG(amount)
6 FROM transaction));
7

```

Result Grid

id	company_name	phone	email	country	website
b-2222	Ac Fermentum Incorporated	06 85 56 52 33	donec.porttitor.tellus@yahoo.net	Germany	https://instagram.com/site
b-2226	Magna A Neque Industries	04 14 44 64 62	risus.donec.nibh@idoud.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-2238	Ante Iaculis Nec Foundation	08 23 04 99 53	sed.dictum.proin@outlook.ca	New Zealand	https://netflix.com/settings
b-2242	Donec Ltd	01 25 51 37 37	at.iaculis@hotmail.couk	Norway	https://nytimes.com/user/110
b-2246	Sed Nunc Ltd	02 62 64 73 48	nibh@yahoo.org	United Kingdom	https://cnn.com/one
b-2254	Nascetur Ridiculus Mus Inc.	06 26 87 61 84	suspendisse.dui@idoud.net	United States	https://ebay.com/sub
b-2258	Vestibulum Lorem PC	02 02 87 33 40	aenean.massa.integer@aol.net	Belgium	https://pinterest.com/sub/cars
b-2262	Gravida Sagittis LLP	03 81 28 33 97	turpis.vitae@google.ca	Sweden	https://naver.com/site
b-2266	Mus Aenean Eget Foundation	06 25 15 52 43	mi.duis@hotmail.net	Sweden	https://instagram.com/group/9

company 3 x

Output

Action Output

#	Time	Action	Message
1	12:36:19	SELECT * FROM company WHERE id IN (SELECT company_id FROM tran...	70 row(s) returned

Eliminar del sistema las empresas que no tienen transacciones registradas, entrega el listado de estas empresas.

The screenshot shows a data analytics tool interface with a top navigation bar containing tabs: estructura_datos, Países, total_paises, Ventas_promedio, Germany, Superior_Mediana, Eliminadas, and compi. Below the navigation bar is a toolbar with various icons and a 'Limit to 1000 rows' dropdown. The main area displays a SQL query:

```
1 • SELECT company_name, id
2 FROM company
3 WHERE NOT EXISTS (SELECT company_id FROM transaction)
```

Below the query is a 'Result Grid' section with a 'Filter Rows' input field and buttons for 'Edit', 'Export/Import', and 'Wrap Cell Content'. The result grid shows a single row with two columns: 'company_name' and 'id', both containing the value 'NULL'.

Below the result grid is a 'company 5' tab. The 'Output' section shows a table with columns: #, Time, Action, and Message. The table contains one row:

#	Time	Action	Message
1	13:17:36	SELECT company_name, id FROM company WHERE NOT EXISTS (SELECT compa...	0 row(s) returned

Nivel 2

Ejercicio 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.

company transaction Ejemplo_1* SQL File 22* 5_días mas_menos_4* Paisés

Limit to 1000 rows

```

1 • SELECT DATE(timestamp) AS Fecha,
2     SUM(amount) AS Ventas_total
3 FROM transaction
4 WHERE declined = '0'
5 GROUP BY Fecha
6 ORDER BY Ventas_total DESC
7 LIMIT 5;

```

Result Grid

	Fecha	Ventas_total
▶	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

Result 3 x

Output

Action Output

#	Time	Action	Message
✓ 1	13:09:02	SELECT DATE(timestamp) AS Fecha, SUM(amount) AS Ventas_total FROM transacti...	5 row(s) returned

Ejercicio 2

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

company transaction Ejemplo_1* SQL File 22* 5_días mas_menos_4* Paisés Ventas_pais x

Limit to 1000 rows

```

1 /*¿Cuál es el promedio de ventas por país? Presenta los resultados ordenados de mayor a menor promedio.*/
2
3 • SELECT company_name, round(AVG(amount), 2) AS Ventas_promedio
4 FROM transaction
5 JOIN company ON transaction.company_id = company.id
6 WHERE declined = '0'
7 GROUP BY company_name
8 ORDER BY Ventas_promedio DESC;
9
10

```

Result Grid

	company_name	Ventas_promedio
▶	Eget Ipsum Ltd	481.86
	Sed Id Limited	477.51
	Neque Tellus Incorporated	477.10
	Nunc Sit Incorporated	461.83
	Non Magna LLC	458.74

Result 1 x

Output

Action Output

#	Time	Action	Message
✓ 1	13:09:02	SELECT DATE(timestamp) AS Fecha, SUM(amount) AS Ventas_total FROM transacti...	5 row(s) returned
✓ 2	13:10:52	SELECT company_name, round(AVG(amount), 2) AS Ventas_promedio FROM transac...	100 row(s) returned

En tu empresa, se plantea un nuevo proyecto para lanzar algunas campañas publicitarias para competir con la compañía "Non Institute". Para ello, te solicitan la lista de todas las transacciones realizadas por empresas que están situadas en el mismo país que dicha compañía.

Mostra el llistat aplicant JOIN i subconsultes.

The screenshot shows a SQL query editor with a query that joins the 'transaction' table with the 'company' table. The query filters for companies located in Germany. The result grid displays a list of transactions with columns: id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined, id, and company_name. The output shows 10 rows of transaction data.

```

1  /*En tu empresa, se plantea un nuevo proyecto para lanzar algunas campañas publicitarias para competir con la compañía "Non Institute"
2  Para ello, te solicitan la lista de todas las transacciones realizadas por empresas que están situadas en el mismo país que dicha comp
3
4  • SELECT *
5    FROM transactions.transaction
6   JOIN company ON transaction.company_id = company.id
7  WHERE company.country = (
8    SELECT country
9    FROM company
10   WHERE company_name = 'Non Institute');
11

```

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined	id	company_name
2B928E1C-EC14-A760-0A75-871477649D6A	CcU-2980	b-2246	275	-41.0496	161.685	2021-08-10 08:14:49	383.73	0	b-2246	Sed Nunc Ltd
ACD2011A-A2B1-C365-41E1-2AB00C65147A	CcU-2980	b-2246	275	-54.4792	-82.7974	2022-03-05 20:41:20	60.07	1	b-2246	Sed Nunc Ltd
4334349E-CEB0-3D68-A4D4-FEB7718A1ACE	CcU-3092	b-2310	275	-20.4859	150.87	2021-05-03 22:37:23	458.74	0	b-2310	Non Magna LLC
BC2B9A38-77B4-28CD-1FE8-14DED863E773	CcU-3092	b-2310	275	-78.0295	18.5295	2021-10-18 07:27:35	477.95	1	b-2310	Non Magna LLC
1479B3D2-B7BA-C7BB-4CE3-8D7C2DE85ABB	CcU-2994	b-2326	133	66.2672	172.399	2021-08-09 00:58:07	309.45	0	b-2326	Enim Condimentum Ltd
152598C2-029D-D684-4B66-91EDF393EBFF	CcU-2994	b-2326	126	-67.0189	-141.672	2021-07-05 03:10:00	395.43	0	b-2326	Enim Condimentum Ltd
1B636B58-A2E8-7C69-D9C9-C54535DAFD3B	CcU-2994	b-2326	131	70.2543	-13.1336	2021-07-06 08:48:46	195.06	0	b-2326	Enim Condimentum Ltd

Result 19 x

Output

Action Output

#	Time	Action	Message	Duration / Fet
20	15:30:16	SELECT * FROM transactions.transaction JOIN company ON transaction.company_...	100 row(s) returned	0.000 sec / 0
21	15:34:55	SELECT * FROM transactions.transaction JOIN company ON transaction.company...	100 row(s) returned	0.000 sec / 0

Mostra el llistat aplicant solament subconsultes.

The screenshot shows a SQL query editor with a query that uses a subquery to filter transactions based on the company's location. The result grid displays a list of transactions with columns: id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, and declined. The output shows 10 rows of transaction data.

```

1  • SELECT *
2    FROM transaction
3  WHERE company_id IN (
4    SELECT id
5    FROM company
6   WHERE country = (
7    SELECT country
8    FROM company
9   WHERE company_name = "Non Institute"));
10

```

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined
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-C54535DAFD3B	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

transaction 3 x

Output

Action Output

#	Time	Action	Message
1	15:52:58	SELECT * FROM transaction WHERE company_id IN (SELECT id FROM company...	100 row(s) returned

Nivel 3

Ejercicio 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.

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

```

1  /*Presenta el nombre, teléfono, país, fecha y cantidad, de aquellas empresas que realizaron transacciones con un valor comprendido
2  entre 100 y 200 euros y en alguna de estas fechas: 29 de abril de 2021, 20 de julio de 2021 y 13 de marzo de 2022.
3  Ordena los resultados de mayor a menor cantidad.*/
4
5  SELECT company_name, phone, country, timestamp, amount
6  FROM transaction
7  JOIN company ON transaction.company_id = company.id
8  WHERE amount BETWEEN 100 AND 200
9  AND DATE(timestamp) IN ('2021-04-29', '2021-07-20', '2022-03-13')
10 ORDER BY amount DESC;
11

```

The results pane displays the following data:

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

Below the results, the 'Action Output' pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
10	16:23:54	SELECT company_name, phone, country, timestamp, amount FROM transaction JOI...	0 row(s) returned	0.016 sec / 0.000 sec
11	16:27:05	SELECT company_name, phone, country, timestamp, amount FROM transaction JOI...	0 row(s) returned	0.000 sec / 0.000 sec
12	16:27:35	SELECT company_name, phone, country, timestamp, amount FROM transaction JOI...	5 row(s) returned	0.000 sec / 0.000 sec
13	16:28:10	SELECT company_name, phone, country, timestamp, amount FROM transaction JOI...	5 row(s) returned	0.000 sec / 0.000 sec

Ejercicio 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.

The screenshot shows a SQL IDE interface with a query editor and a results pane. The query is written in SQL and uses a CASE statement to classify companies based on the number of transactions. The results pane displays a table with three columns: company_name, numero_transacciones, and Clasificacion_Transacciones. The table contains six rows of data, all of which are classified as 'Más de 4 transacciones'.

```

1  /*listado de las empresas donde especifiques si tienen más de 4 transacciones o menos.*/
2
3  • SELECT company_name, COUNT(amount) AS numero_transacciones,
4     CASE
5         WHEN COUNT(amount) >= 4 THEN 'Más de 4 transacciones'
6         ELSE 'Menos de 4 transacciones'
7     END AS Clasificacion_Transacciones
8  FROM transaction
9  JOIN company ON transaction.company_id = company.id
10 GROUP BY company_name
11 ORDER BY Clasificacion_transacciones;
12

```

company_name	numero_transacciones	Clasificacion_Transacciones
Enim Condimentum Ltd	57	Más de 4 transacciones
Nunc Interdum Incorporated	105	Más de 4 transacciones
Ut Semper Foundation	59	Más de 4 transacciones
Lorem Eu Incorporated	54	Más de 4 transacciones
Arcu LLP	56	Más de 4 transacciones
Malesuada PC	52	Más de 4 transacciones

Result 10 x

Output

Action Output

#	Time	Action	Message
✓ 1	13:31:30	SELECT company_name, COUNT(amount) AS numero_transacciones, CASE WHEN ...	100 row(s) returned