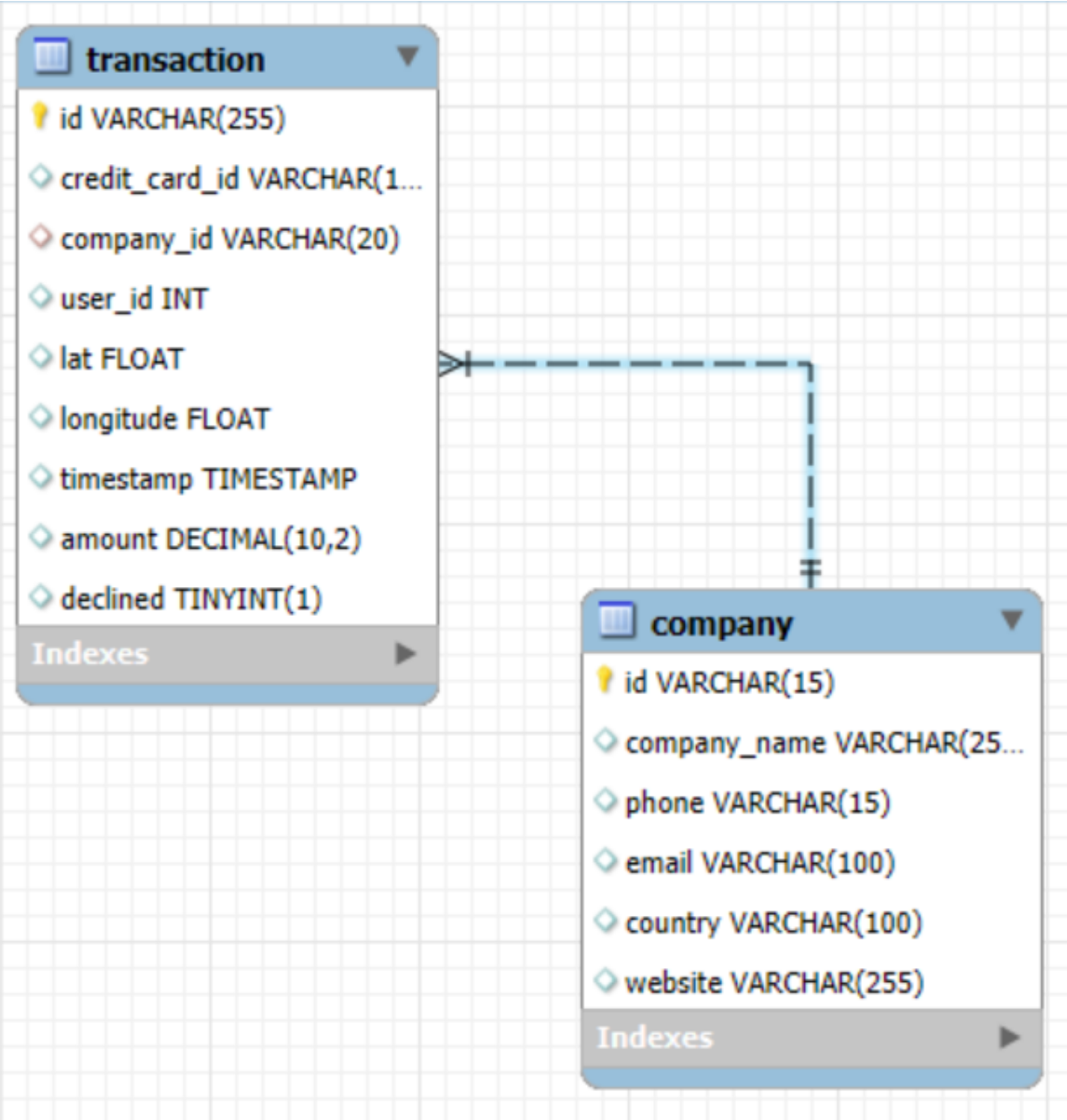
Sprint 2 corregido:

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.



En este diagrama se ven todas las variables incluidas en las dos tablas en cuestión. Una tabla es la referente a las transacciones y la otra referente a la company. Ambas tablas se relacionan entre ellas a través de la PrimaryKey de company , **id**, la

que conecta con **company_id** en la tabla de transacciones con una relación de 1 a muchos. La tabla de transacciones es la tabla de hechos, por lo cual contiene todas las transacciones efectuadas por cada company.
La tabla de company tiene 100 registros con su respectiva id por lo cual existen 100 empresas.
La tabla de transacciones tiene 586 registros, por lo cual se han efectuado esa cantidad de transacciones.

SELECT * FROM company LIMIT 0, 50000	100 row(s) returned
SELECT * FROM transaction LIMIT 0, 50000	586 row(s) returned

- Exercici 2

Utilitzant JOIN realitzaràs les següents consultes:

- Llistat dels països que estan fent compres.

```
SELECT distinct country
FROM company
JOIN transaction
ON company.id = transaction.company_id
WHERE declined = 0;
```

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

country
Germany
Italy
United Kingdom
Sweden
Canada
Ireland

Result 156

Output

Action Output

#	Time	Action	Message
502	12:19:38	SELECT distinct country FROM company JOIN transaction ON company.id = transa...	15 row(s) returned
503	12:19:51	SELECT distinct country FROM company JOIN transaction ON company.id = transa...	15 row(s) returned

Esta consulta devuelve una lista de todos los países (15) de las empresas que también están incluidas en la tabla de transacciones (por lo cual se han realizado compras desde ese país). Se utiliza el JOIN porque la tabla de transacciones no incluye información sobre los países.

- Des de quants països es realitzen les compres.

```
SELECT count(distinct country) as paises
FROM company
JOIN transaction
ON company.id = transaction.company_id
WHERE declined = 0;
```

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

paises
15

Result 157

Output

Action Output

#	Time	Action	Message
503	12:19:51	SELECT distinct country FROM company JOIN transaction ON company.id = transa...	15 row(s) returned
504	12:20:24	SELECT count(distinct country) as paises FROM company JOIN transaction ON co...	1 row(s) returned

Se hacen compras de 15 países diferentes.

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

```
#Opcion 1 con round
SELECT company_name, round(avg(amount),2) mediadeventas
FROM company
JOIN transaction
ON company.id = transaction.company_id
WHERE declined = 0
GROUP BY company_name
ORDER BY avg(amount) DESC
LIMIT 1;
```

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

company_name	mediadeventas
Eget Ipsum Ltd	481.86

Result 153

Output

Action Output

#	Time	Action	Message
499	12:17:30	SELECT company_name, Format(avg(amount),2) mediadeventas FROM company J...	1 row(s) returned
500	12:18:08	SELECT company_name, round(avg(amount),2) mediadeventas FROM company J...	1 row(s) returned

```
#Opcion 2 con Format
SELECT company_name, Format(avg(amount),2) mediadeventas
FROM company
JOIN transaction
ON company.id = transaction.company_id
WHERE declined = 0
GROUP BY company_name
ORDER BY avg(amount) DESC
LIMIT 1;
```

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

company_name	mediadeventas
Eget Ipsum Ltd	481.86

Result 154

Output

Action Output

#	Time	Action	Message
500	12:18:08	SELECT company_name, round(avg(amount),2) mediadeventas FROM company J...	1 row(s) returned
501	12:18:35	SELECT company_name, round(avg(amount),2) mediadeventas FROM company J...	1 row(s) returned

Dado que el amount es un valor monetario se redondea a 2 decimales. Se puede hacer con round o format. Están adjuntadas las dos opciones.

- Exercici 3

Utilitzant només subconsultes (sense utilitzar JOIN):

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

```
#Opcion 1 con Exists
SELECT id
FROM transaction
WHERE EXISTS
(SELECT id FROM company WHERE transaction.company_id = company.id AND country IN ("Germany"))
AND declined = 0;
```

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

id
108B1D1D-5B23-A76C-55EF-C568E49A05DD
AB069F53-965E-A2A8-CE06-CA8C4FD92501
0466A42E-47CF-8D24-FD01-C0B689713128
0A476ED9-0C13-1962-F87B-D3563924B539
122DC333-E19F-D629-DCD8-9C54CF1EBB9A
135267BA-2E7D-957C-C42C-6450A2B3ED54

transaction 151

Output

Action Output

#	Time	Action	Message
497	12:16:17	SELECT id FROM transaction WHERE company_id = ANY (SELECT id FROM co...	111 row(s) returned
498	12:16:46	SELECT id FROM transaction WHERE EXISTS (SELECT id FROM company WH...	111 row(s) returned

```
#Opcion 2 con ANY
SELECT id
FROM transaction
WHERE company_id = ANY (SELECT id FROM company WHERE country = "Germany")
AND declined = 0;
```

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

id
108B1D1D-5B23-A76C-55EF-C568E49A05DD
AB069F53-965E-A2A8-CE06-CA8C4FD92501
0466A42E-47CF-8D24-FD01-C0B689713128
0A476ED9-0C13-1962-F87B-D3563924B539
122DC333-E19F-D629-DCD8-9C54CF1EBB9A
135267BA-2E7D-957C-C42C-6450A2B3ED54

transaction 150

Output

Action Output

#	Time	Action	Message
496	12:15:09	SELECT id FROM transaction WHERE EXISTS (SELECT id FROM company WH...	111 row(s) returned
497	12:16:17	SELECT id FROM transaction WHERE company_id = ANY (SELECT id FROM co...	111 row(s) returned

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

```
SELECT company_id, amount
FROM transaction
HAVING amount > (SELECT avg(amount)
FROM transaction
WHERE declined = 0);
```

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

company_id	amount
b-2618	394.18
b-2346	279.93
b-2386	340.87
b-2298	303.05
b-2302	430.49
b-2338	288.81

transaction 158

Output

Action Output

#	Time	Action	Message
504	12:20:24	SELECT count(distinct country) as paises FROM company JOIN transaction ON co...	1 row(s) returned
505	12:21:33	SELECT company_id, amount FROM transaction HAVING amount > (SELECT avg(...	291 row(s) returned

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

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

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

company_name

company 159

Output

Action Output

#	Time	Action	Message
505	12:21:33	SELECT company_id, amount FROM transaction HAVING amount > (SELECT avg(...	291 row(s) returned
506	12:22:34	SELECT company_name FROM company WHERE id NOT IN (SELECT company_...	0 row(s) returned

Nivell 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.

```
SELECT DATE(timestamp) AS fechasmax, round(SUM(amount),2) AS suma
FROM transaction
WHERE declined = 0
GROUP BY fechasmax
ORDER BY suma DESC
LIMIT 5;
```

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

fechasmax	suma
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 160

Output

Action Output

#	Time	Action	Message
506	12:22:34	SELECT company_name FROM company WHERE id NOT IN (SELECT company_...	0 row(s) returned
507	12:23:30	SELECT DATE(timestamp) AS fechasmax, round(SUM(amount),2) AS suma FROM ...	5 row(s) returned

Aqui se muestran las 5 fechas y se ordenan por el monto descendiente de la suma de las ventas que se han efectuado.

Exercici 2

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

```
SELECT country, round(avg(amount),2) as mediaventas
FROM transaction
JOIN company
ON transaction.company_id = company.id
WHERE declined = 0
GROUP BY country
ORDER BY mediaventas DESC;
```

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

country	mediaventas
United States	287.53
Ireland	285.83
Sweden	276.67
United Kingdom	271.77
Canada	258.28
Belgium	255.22

Result 161

Output

Action Output

#	Time	Action	Message
507	12:23:30	SELECT DATE(timestamp) AS fechasmax, round(SUM(amount),2) AS suma FROM ...	5 row(s) returned
508	12:24:13	SELECT country, round(avg(amount),2) as mediaventas FROM transaction JOIN co...	15 row(s) returned

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 company_name, transaction.id, country, timestamp, amount, phone, email, website, user_id
FROM transaction
JOIN company ON transaction.company_id = company.id
WHERE company_id != "b-2618"
AND country = (SELECT country
FROM company
WHERE id = "b-2618")
AND declined = 0
ORDER BY company_id;
```

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

company_name	id	country	timestamp	amount	phone
Sed Nunc Ltd	2B928E1C-EC14-A760-0A75-871477649D6A	United Kingdom	2021-08-10 08:14:49	383.73	02 62 64 73 4
Non Magna LLC	4334349E-CEB0-3D68-A4D4-FEB7718A1ACE	United Kingdom	2021-05-03 22:37:23	458.74	06 71 73 13 1
Enim Condimentum Ltd	1479B3D2-B7BA-C7BB-4CE3-8D7C2DE85ABB	United Kingdom	2021-08-09 00:58:07	309.45	09 55 51 66 2
Enim Condimentum Ltd	152598C2-029D-D684-4B66-91EDF393EBFF	United Kingdom	2021-07-05 03:10:00	395.43	09 55 51 66 2
Enim Condimentum Ltd	1B636B58-A2E8-7C69-D9C9-C54535DAFD3B	United Kingdom	2021-07-06 08:48:46	195.06	09 55 51 66 2

Result 162

Output

Action Output

#	Time	Action	Message
508	12:24:13	SELECT country, round(avg(amount),2) as mediaventas FROM transaction JOIN co...	15 row(s) returned
509	12:26:20	SELECT company_name, transaction.id, country, timestamp, amount, phone, email,...	63 row(s) returned

Aqui se usa la información que puede ser relevante para el departamento de Marketing,

sin embargo, puede contener todos los datos de ambas tablas (aunque se repiten) con *.

- Mostra el llistat aplicant solament subconsultes.

```
SELECT *
FROM transaction
WHERE company_id IN (SELECT id
FROM company
WHERE id != "b-2618"
AND country IN (SELECT country
FROM company
WHERE id = "b-2618"))
AND declined = 0;
```

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

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	a
2B928E1C-EC14-A760-0A75-871477649D6A	CcU-2980	b-2246	275	-41.0496	161.685	2021-08-10 08:14:49	3
4334349E-CEB0-3D68-A4D4-FEB7718A1ACE	CcU-3092	b-2310	275	-20.4859	150.87	2021-05-03 22:37:23	4
1479B3D2-B7BA-C7BB-4CE3-8D7C2DE85ABB	CcU-2994	b-2326	133	66.2672	172.399	2021-08-09 00:58:07	3
152598C2-029D-D684-4B66-91EDF393EBFF	CcU-2994	b-2326	126	-67.0189	-141.672	2021-07-05 03:10:00	3
1B636B58-A2E8-7C69-D9C9-C54535DAFD3B	CcU-2994	b-2326	131	70.2543	-13.1336	2021-07-06 08:48:46	1

transaction 163

Output

Action Output

#	Time	Action	Message
509	12:26:20	SELECT company_name, transaction.id, country, timestamp, amount, phone, email,...	63 row(s) returned
510	12:27:09	SELECT * FROM transaction WHERE company_id IN (SELECT id FROM company...	63 row(s) returned

Aqui con * solo se pueden ver los datos incluidos en la tabla transferencias, ya que solo se usa la tabla de company para filtrar según el country de la empresa en cuestión, no se accede a más datos de company.

Nivell 3

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, DATE(timestamp) as fecha, amount
FROM company
JOIN transaction
ON company.id = transaction.company_id
WHERE amount between 100 and 200
AND declined = 0
AND DATE(timestamp) IN ("2021-04-29", "2021-07-20", "2022-03-13")
ORDER BY amount DESC;
```

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

company_name	phone	country	fecha	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 164

Output

Action Output

#	Time	Action	Message
510	12:27:09	SELECT * FROM transaction WHERE company_id IN (SELECT id FROM company...	63 row(s) returned
511	12:27:40	SELECT company_name, phone, country, DATE(timestamp) as fecha, amount FRO...	5 row(s) returned

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_name,
IF (COUNT(transaction.id) > 4, 'masque4', 'menosque4') AS etiqueta
FROM company
JOIN transaction
ON company.id = transaction.company_id
WHERE declined = 0
GROUP BY company_name;
```

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

company_name	etiqueta
Nunc Interdum Incorporated	masque4
Amet Nulla Donec Corporation	menosque4
Non Institute	masque4
Ut Semper Foundation	masque4
Ac Fermentum Incorporated	menosque4
Lorem Eu Incorporated	masque4

Result 165

Output

Action Output

#	Time	Action	Message
511	12:27:40	SELECT company_name, phone, country, DATE(timestamp) as fecha, amount FRO...	5 row(s) returned
512	12:28:54	SELECT company_name, IF (COUNT(transaction.id) > 4, 'masque4', 'menosque4') ...	100 row(s) returned