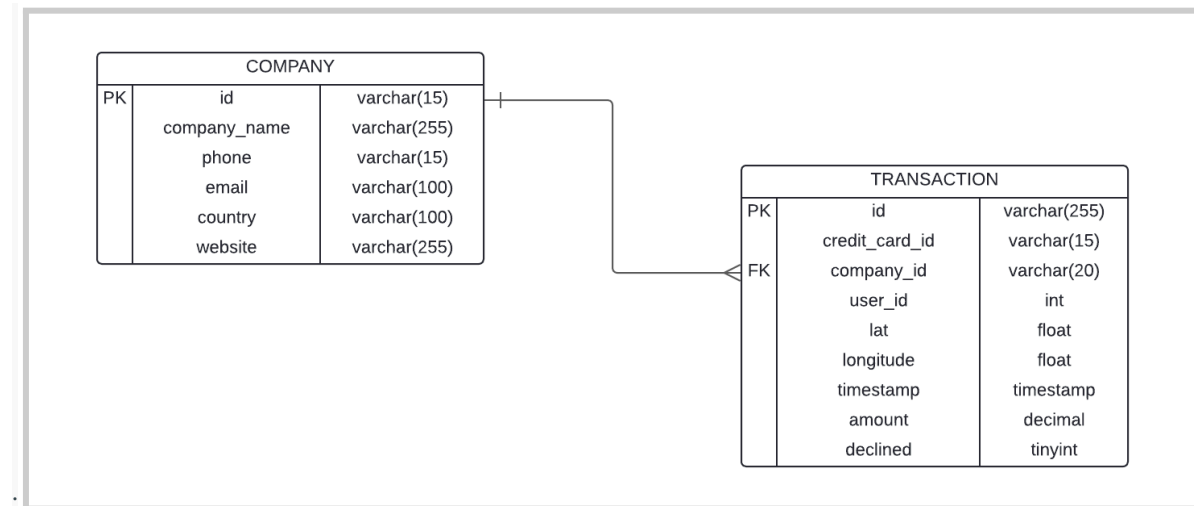


Nivell 1

- 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.

R:



- El modelo nos muestra dos tablas que relacionan transacciones de pago mediante tarjeta de crédito.
- La tabla Company contiene las empresas que entregan el servicio contratado
- La tabla Transacción es una tabla de hechos que almacena cada transacción de compra por parte de un usuario comprador (ID)
- Estas transacciones también pueden estar rechazadas cuando el campo DECLINED = 1 y lo reconocemos como True
- Las tablas se relacionan con el campo ID_COMPANY = ID

- Podríamos identificar a Company como una tabla de dimensión en cierta forma pero no del todo
- El modelo lo identificamos como RELACIONAL

- Exercici 2

Utilitzant JOIN realitzaràs les següents consultes:

- A. 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:

```

7
8  -- EJERCICIO 2
9  -- -----
10
11  -- A PAISES QUE ESTAN REALIZANDO COMPRAS
12  • SELECT DISTINCT COUNTRY
13  FROM COMPANY
14  JOIN TRANSACTION
15  ON TRANSACTION.COMPANY_ID = COMPANY.ID;
16
17  -----

```

The results pane shows a table with the following data:

COUNTRY
Germany
Australia
United States
New Zealand
Norway

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

#	Time	Action	Message
927	12:59:26	SELECT C.COMPANY_NAME NOMBRE, C.PHONE TELEFONO, C.COUNTRY...	5 row(s) returned
928	13:00:10	SELECT C.COMPANY_NAME NOMBRE_EMPRESA, COUNT(T.ID) CANT_TR...	100 row(s) returned
929	13:07:56	SELECT DISTINCT COUNTRY FROM COMPANY JOIN TRANSACTION ON T...	15 row(s) returned

- B. Des de quants països es realitzen les compres.

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

```
16
17  -----
18  -- B DESDE CUANTOS PAISES SE REALIZAN COMPRAS
19  • SELECT COUNT(DISTINCT company.country) CANT_PAISES
20  FROM COMPANY
21      INNER JOIN TRANSACTION
22      ON TRANSACTION.COMPANY_ID = COMPANY.ID;
23
24  -----
25  -- C COMPAÑIA CON LA MAYOR MEDIA DE VENTAS
26  • SELECT C.COMPANY_NAME, ROUND(AVG(T.amount), 2) AS PROMEDIO_MAXIMO_VENTAS
```

The results pane shows a single row for the query:

CANT_PAISES
15

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

#	Time	Action	Message
928	13:00:10	SELECT C.COMPANY_NAME NOMBRE_EMPRESA, COUNT(T.ID) CANT_TR...	100 row(s) returned
929	13:07:56	SELECT DISTINCT COUNTRY FROM COMPANY JOIN TRANSACTION ON T...	15 row(s) returned
930	13:09:01	SELECT COUNT(DISTINCT company.country) CANT_PAISES FROM COMPA...	1 row(s) returned

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

company transaction Sprint2_RodrigoPadilla x SQL File 8*

Limit to 50000 rows

```

24  -----
25  -- C COMPAÑIA CON LA MAYOR MEDIA DE VENTAS
26  • SELECT C.company_name, ROUND(AVG(T.amount), 2) AS PROMEDIO_MAXIMO_VENTAS
27  FROM COMPANY C
28  JOIN TRANSACTION T ON C.id = T.company_id
29  WHERE T.DECLINED = 0
30  GROUP BY 1
31  ORDER BY 2 DESC
32  LIMIT 1;
33
34

```

Result Grid

company_name	PROMEDIO_MAXIMO_VENTAS
Eget Ipsum Ltd	481.86

Result 176 x

Output

Action Output

#	Time	Action	Message
✓ 930	13:09:01	SELECT COUNT(DISTINCT company.country) CANT_PAISES FROM COMPA...	1 row(s) returned
✓ 931	13:09:54	SELECT C.company_name, ROUND(AVG(T.amount), 2) AS PROMEDIO_MAXI...	1 row(s) returned
✓ 932	13:10:06	SELECT C.company_name, ROUND(AVG(T.amount), 2) AS PROMEDIO_MAXI...	1 row(s) returned

- Exercici 3

Utilitzant només subconsultes (sense utilitzar JOIN):

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

company transaction Sprint2_RodrigoPadilla SQL File 8*

Limit to 50000 rows

```

34
35
36 -- EJERCICIO 3
37 -----
38 -- A Muestra todas las transacciones realizadas por empresas de Alemania.
39 • SELECT *
40 FROM TRANSACTION T
41 WHERE T.COMPANY_ID IN
42 (SELECT C.ID FROM COMPANY C
43 WHERE C.COUNTRY = "Germany");

```

Result Grid

	id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined
▶	108B1D1D-5B23-A76C-55EF-C568E49A05DD	CcU-2938	b-2222	275	83.7839	-178.86	2021-07-07 17:43:16	293.57	0
	EA2C3281-C9C1-A387-44F8-729FB4B51C76	CcU-2938	b-2222	275	20.2004	-116.84	2021-05-09 10:25:08	119.36	1
	0DD2E608-5C9E-D1B3-4999-B99F43AD735A	CcU-2959	b-2234	275	9.68811	130.282	2021-04-17 05:30:17	252.47	1
	AB069F53-965E-A2A8-CE06-CA8C4FD92501	CcU-2959	b-2234	275	1.64819	-158.007	2021-04-15 13:37:18	60.99	0
	0466A42E-47CF-8D24-FD01-C0B689713128	CcU-4219	b-2302	170	-43.9695	-117.525	2021-07-26 07:29:18	49.53	0

TRANSACTION 178

Output

Action Output

#	Time	Action	Message
✓ 932	13:10:06	SELECT C.company_name, ROUND(AVG(T.amount), 2) AS PROMEDIO_MAXI...	1 row(s) returned
✓ 933	13:10:59	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C.I...	118 row(s) returned
✓ 934	13:11:03	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C.I...	118 row(s) returned

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

company transaction Sprint2_RodrigoPadilla SQL File 8*

Limit to 50000 rows

```

45 -- B Lista las empresas que han realizado transacciones por un amount superior a la media de todas las transacciones
46 • SELECT DISTINCT C.COMPANY_NAME EMPRESA_MAYOR_PROM
47 FROM COMPANY C, TRANSACTION T
48 WHERE C.ID = T.COMPANY_ID
49 AND T.AMOUNT >
50 (
51     SELECT AVG(T.AMOUNT) MEDIA_MONTO
52     FROM COMPANY C, TRANSACTION T
53     WHERE C.ID = T.COMPANY_ID)
54 ORDER BY 1 ASC;
55

```

Result Grid

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined
10881D1D-5B23-A76C-55EF-C568E49A05DD	CcU-2938	b-2222	275	83.7839	-178.86	2021-07-07 17:43:16	293.57	0
EA2C3281-C9C1-A387-44F8-729FB4B51C76	CcU-2938	b-2222	275	20.2004	-116.84	2021-05-09 10:25:08	119.36	1
0DD2E608-5C9E-D1B3-4999-B99F43AD735A	CcU-2959	b-2234	275	9.68811	130.282	2021-04-17 05:30:17	252.47	1
AB069F53-965E-A2A8-CE06-CA8C4FD92501	CcU-2959	b-2234	275	1.64819	-158.007	2021-04-15 13:37:18	60.99	0
0466A42E-47CF-8D24-FD01-C0B689713128	CcU-4219	b-2302	170	-43.9695	-117.525	2021-07-26 07:29:18	49.53	0

TRANSACTION 179

Output

Action Output

#	Time	Action	Message
✓ 933	13:10:59	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C.I...	118 row(s) returned
✓ 934	13:11:03	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C.I...	118 row(s) returned
✓ 935	13:11:56	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C.I...	118 row(s) returned

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

company transaction Sprint2_RodrigoPadilla x SQL File 8*

Limit to 50000 rows

```

55
56 -- C Empresas que carecen de transacciones registradas, entrega el listado de estas empresas.
57 -----
58 • SELECT C.COMPANY_NAME AS EMPRESA
59 FROM COMPANY C
60 WHERE
61 C.ID NOT IN
62 (SELECT DISTINCT T.COMPANY_ID FROM TRANSACTION T)
63 ;

```

Result Grid Filter Rows: Export: Wrap Cell Content:

EMPRESA

COMPANY 180 x

Output

Action Output

#	Time	Action	Message
934	13:11:03	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C.I...	118 row(s) returned
935	13:11:56	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C.I...	118 row(s) returned
936	13:13:42	SELECT C.COMPANY_NAME AS EMPRESA FROM COMPANY C WHERE C....	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.

company transaction Sprint2_RodrigoPadilla SQL File 8*

Limit to 50000 rows

```

76  -- Muestra la fecha de cada transacción junto con el total de las ventas.
77
78  • SELECT DATE(T.TIMESTAMP) FECHA, SUM(T.AMOUNT) TOTAL_VENTAS
79  FROM TRANSACTION T
80  WHERE T.DECLINED = 0
81  GROUP BY 1
82  ORDER BY TOTAL_VENTAS DESC
83  LIMIT 5;
84

```

Result Grid

	FECHA	TOTAL_VENTAS
▶	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 181 x

Output

Action Output

#	Time	Action	Message
✓ 935	13:11:56	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C.I...	118 row(s) returned
✓ 936	13:13:42	SELECT C.COMPANY_NAME AS EMPRESA FROM COMPANY C WHERE C....	0 row(s) returned
✓ 937	13:14:46	SELECT DATE(T.TIMESTAMP) FECHA, SUM(T.AMOUNT) TOTAL_VENTAS ...	5 row(s) returned

Exercici 2

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

company transaction Sprint2_RodrigoPadilla x SQL File 8*

Limit to 50000 rows

```

87
88 • SELECT C.COUNTRY PAIS, ROUND(AVG(T.AMOUNT),2) AS PROM
89 FROM company C
90 JOIN
91 transaction T ON C.id = T.company_id
92 AND T.declined = 0
93 GROUP BY C.COUNTRY
94 ORDER BY PROM DESC ;
95

```

Result Grid

	PAIS	PROM
▶	United States	287.53
	Ireland	285.83
	Sweden	276.67
	United Kingdom	271.77
	Canada	261.94
	Belgium	255.22
	Norway	251.11

Result 182 x

Output

Action Output

#	Time	Action	Message
✓ 936	13:13:42	SELECT C.COMPANY_NAME AS EMPRESA FROM COMPANY C WHERE C....	0 row(s) returned
✓ 937	13:14:46	SELECT DATE(T.TIMESTAMP) FECHA, SUM(T.AMOUNT) TOTAL_VENTAS ...	5 row(s) returned
✓ 938	13:15:36	SELECT C.COUNTRY PAIS, ROUND(AVG(T.AMOUNT),2) AS PROM FROM c...	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.

company transaction Sprint2_RodrigoPadilla SQL File 8"

Limit to 50000 rows

```

108
109 -- B Join
110
111 • SELECT *
112 FROM TRANSACTION T
113 JOIN COMPANY C ON C.ID = T.COMPANY_ID
114 WHERE C.COUNTRY = ( SELECT C.COUNTRY FROM COMPANY C WHERE C.COMPANY_NAME= 'Non Institute');
115
116 -- JOIN (SELECT C.COUNTRY FROM COMPANY C WHERE C.COMPANY_NAME = 'Non Institute') AUX2 ON C.COUNTRY = AUX2.COUNTRY ;
117
118

```

Result Grid

	id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined	id
▶	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
	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
	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
	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

Result 185 x

Output

Action Output

#	Time	Action	Message
939	13:16:27	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C....	100 row(s) returned
940	13:17:31	SELECT * FROM TRANSACTION T JOIN COMPANY C ON C.ID = T.COMPAN...	100 row(s) returned
941	13:17:34	SELECT * FROM TRANSACTION T JOIN COMPANY C ON C.ID = T.COMPAN...	100 row(s) returned

- Mostra el llistat aplicant solament subconsultes.

company transaction Sprint2_RodrigoPadilla x SQL File 8"

Limit to 50000 rows

```

99 -- A Subconsulta
100 • SELECT *
101 FROM TRANSACTION T
102 WHERE T.COMPANY_ID IN
103     (SELECT C.ID
104      FROM COMPANY C
105      WHERE C.COUNTRY = (SELECT C.COUNTRY
106                        FROM COMPANY C
107                        WHERE C.COMPANY_NAME = 'Non Institute'));
108
109 -- B Join

```

Result Grid

	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
	1479B3D2-87BA-C7BB-4CE3-8D7C2DE85ABB	CcU-2994	b-2326	133	66.2672	172.399	2021-08-09 00:58:07	309.45	0

TRANSACTION 183 x

Output

Action Output

#	Time	Action	Message
✓ 937	13:14:46	SELECT DATE(T.TIMESTAMP) FECHA, SUM(T.AMOUNT) TOTAL_VENTAS ...	5 row(s) returned
✓ 938	13:15:36	SELECT C.COUNTRY PAIS, ROUND(AVG(T.AMOUNT),2) AS PROM FROM c...	15 row(s) returned
✓ 939	13:16:27	SELECT * FROM TRANSACTION T WHERE T.COMPANY_ID IN (SELECT C....	100 row(s) returned

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.

company transaction Sprint2_RodrigoPadilla SQL File 8"

Limit to 50000 rows

```

124 -- y entre fechas: 29 de abril de 2021, 20 de julio de 2021 y 13 de marzo de 2022.
125 • SELECT C.COMPANY_NAME NOMBRE, C.PHONE TELEFONO, C.COUNTRY PAIS, CONVERT(T.TIMESTAMP, date) FECHA, T.AMOUNT AS MONTO
126 FROM COMPANY C
127 JOIN TRANSACTION T
128 ON C.ID = T.COMPANY_ID
129 WHERE CONVERT(T.TIMESTAMP, date) IN ('2021-04-29', '2021-07-20', '2022-03-13')
130 AND T.AMOUNT BETWEEN 100 AND 200
131 ORDER BY T.AMOUNT DESC;
132

```

Result Grid

	NOMBRE	TELEFONO	PAIS	FECHA	MONTO
▶	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 186 x

Output

Action Output

#	Time	Action	Message
✓ 940	13:17:31	SELECT * FROM TRANSACTION T JOIN COMPANY C ON C.ID = T.COMPAN...	100 row(s) returned
✓ 941	13:17:34	SELECT * FROM TRANSACTION T JOIN COMPANY C ON C.ID = T.COMPAN...	100 row(s) returned
✓ 942	13:18:25	SELECT C.COMPANY_NAME NOMBRE, C.PHONE TELEFONO, C.COUNTRY...	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.

company
transaction
Sprint2_RodrigoPadilla
SQL File 8*

Limit to 50000 rows

```

135  -- y quiere un listado de las empresas donde especifique si tienen más de 4 o men
136  •  SELECT C.COMPANY_NAME NOMBRE_EMPRESA, COUNT(T.ID) CANT_TRANSACCIONES,
137         CASE
138             WHEN COUNT(T.ID) > 4 THEN 'Altas transacciones' ELSE 'Bajas transacciones'
139         END NIVEL_TRANSACCIONES
140  FROM COMPANY C
141       JOIN TRANSACTION T ON C.ID = T.COMPANY_ID
142       group by 1
143       ORDER BY 2 DESC;

```

Result Grid
Filter Rows:
Export:
Wrap Cell Content:

	NOMBRE_EMPRESA	CANT_TRANSACCIONES	NIVEL_TRANSACCIONES
▶	Nunc Interdum Incorporated	105	Altas transacciones
	Ut Semper Foundation	59	Altas transacciones
	Enim Condimentum Ltd	57	Altas transacciones
	Arcu LLP	56	Altas transacciones
	Lorem Eu Incorporated	54	Altas transacciones
	Malesuada PC	52	Altas transacciones
	Non Institute	30	Altas transacciones

Result 188

Output

Action Output

#	Time	Action	Message
✓ 942	13:18:25	SELECT C.COMPANY_NAME NOMBRE, C.PHONE TELEFONO, C.COUNTRY...	5 row(s) returned
✓ 943	13:19:11	SELECT C.COMPANY_NAME NOMBRE_EMPRESA, COUNT(T.ID) CANT_TR...	100 row(s) returned
✓ 944	13:19:24	SELECT C.COMPANY_NAME NOMBRE_EMPRESA, COUNT(T.ID) CANT_TR...	100 row(s) returned