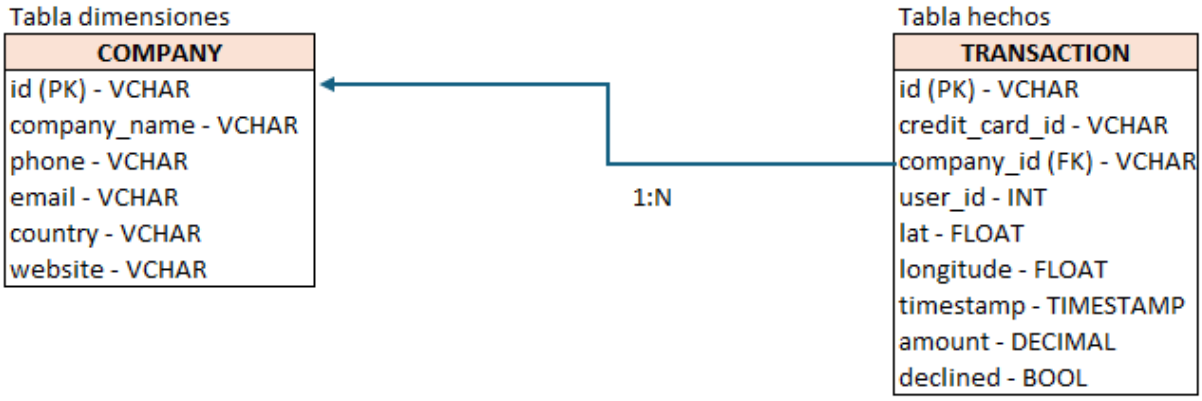
EJERCICIO 1



La FK en la tabla transaction (company_id), apunta hacia el campo id de la tabla Company

Tabla Company: Empresas que realizan las ventas

id (PK)	Identificador único para cada empresa
company_name	Nombre comercial de la empresa
phone	teléfono contacto
email	mail de contacto
country	País de la empresa
website	web de la empresa

TRANSACTION Transacciones de las empresas de la tabla Company

id (PK)	identifica cada transacción (intento de compra-venta)
credit_card_id	Dato que extraería de un tabla 'CreditCards'
company_id (FK)	Dato que extrae de la tabla de Company
user_id	Un usuario puede tener 'N' Tarjetas de Crédito y hacer transacciones con 'N' empresas. Dato que estraería de una tabla de 'Usuarios'
lat	longitud geográfica
longitude	latitud geográfica Un país puede tener 'N' Long+lat (coordenadas de puntos) Cada coordenada corresponde a 1 sólo País
timestamp	Fecha y hora de cada transacción
amount	Importe cada transacción
declined	Booleano: Si aparece 1 (TRUE) la operación **NO** se ha realizado (rechazada). No puede computarse como compra-venta Sólo son compra-ventas la que aparecen como 0 (FALSE) Cada línea (registro) es una transacción.

NIVEL 1

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--------------------------------------------------------------------------------
-- NIVEL 1
--------------------------------------------------------------------------------
-- 2: Consultas con JOIN

    -- 2.1: Listado de los países que están haciendo compras:

        SELECT DISTINCT c.country AS ListadoPaisesComprando
        FROM company c
        INNER JOIN transaction t ON c.id = t.company_id
        WHERE t.declined = 0;
```

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

ListadoPaisesComprando
Canada
Germany
Italy
United Kingdom
Sweden

Result 22

Output

Action Output

#	Time	Action	Message
1	12:21:27	SELECT DISTINCT c.country AS ListadoPaisesComprando FROM company c INNER JOIN transaction t ON c.id = t.company_id WHERE t....	15 row(s) returned

```
    -- 2.2 Desde cuántos países se realizan las compras:

        SELECT count(DISTINCT c.country) AS NumeroDePaisesComprando
        FROM company c
        INNER JOIN transaction t ON c.id = t.company_id
        WHERE t.declined = 0;
```

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

NumeroDePaisesComprando
15

Result 24

Output

Action Output

#	Time	Action	Message
1	12:39:22	SELECT count(DISTINCT c.country) AS NumeroDePaisesComprando FROM company c INNER JOIN transaction t ON c.id = t.company_id ...	1 row(s) returned

```
-- 2.3 Identificar la compañía con la media más grande de ventas:

    SELECT c.company_name AS Empresa, AVG(t.amount) AS VentasMedias
    FROM company c
    JOIN transaction t ON c.id = t.company_id
    WHERE t.declined = 0
    GROUP BY c.company_name
    ORDER BY VentasMedias DESC
    LIMIT 1;
```

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

Empresa	VentasMedias
Eget Ipsum Ltd	481.860000

Result 25

Output

Action Output

#	Time	Action	Message
1	12:42:59	SELECT c.company_name AS Empresa, AVG(t.amount) AS VentasMedias FROM company c JOIN transaction t ON c.id = t.company_id W...	1 row(s) returned

---

```
-- Exercici 3: Utilitzant només subconsultes (sense utilitzar JOIN):

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

        SELECT *
        FROM transaction t
        WHERE t.company_id IN   (
                                SELECT c.id
                                FROM company c
                                WHERE c.country = 'Germany'
                                );
```

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

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
0A476ED9-0C13-1962-F87B-D3563924B539	CcU-4359	b-2302	221	-56.4901	114.801	2022-02-26 20:33:54	430.49	0

transaction 26

Output

Action Output

#	Time	Action	Message
1	12:46:09	SELECT * FROM transaction t WHERE t.company_id IN(SELECT c.id FROM company c WHERE c.country = 'Germany')	118 row(s) returned

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

SELECT c.company_name
FROM company c
WHERE c.id IN   (
                SELECT t.company_id
                FROM transaction t
                WHERE amount > (
                                SELECT AVG(t1.amount) AS MediaPorEmpresa
                                FROM transaction t1
                                )
                );
```

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

company_name
Ac Fermentum Incorporated
Magna A Neque Industries
Fusce Corp.
Ante Iaculis Nec Foundation
Donec Ltd
Sed Nunc Ltd

company 27

Output

Action Output

#	Time	Action	Message
1	12:47:13	SELECT c.company_name FROM company c WHERE c.id IN(SELECT t.company_id FROM transaction t WHERE amount > (SELECT AVG(t1...	70 row(s) returned

---

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

SELECT *
FROM company c
WHERE c.id NOT IN (
                SELECT DISTINCT t.company_id
                FROM transaction t
                ); -- todas las empresas tienen transacciones registradas. No hay empresas a eliminar

-- Ahora podríamos "delete" los registros:
DELETE FROM company
WHERE id NOT IN (
                SELECT t.company_id
                FROM transaction t
                );
```

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

id	company_name	phone	email	country	website
NULL	NULL	NULL	NULL	NULL	NULL

company 38 | Apply

Output

Action Output

#	Time	Action	Message	Duration /
1	13:18:59	SELECT * FROM company c WHERE c.id NOT IN (SELECT DISTIN...	0 row(s) returned	0.000 sec

NIVEL 2

```sql
-- 3.1 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(t.timestamp) AS DiaMayorVenta, SUM(t.amount) AS VentasDelDia
FROM transaction t
WHERE t.declined = 0
GROUP BY DATE(t.timestamp)
ORDER BY VentasDelDia DESC
LIMIT 5;
```

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

DiaMayorVenta	VentasDelDia
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 35

Output

Action Output

#	Time	Action	Message
1	12:56:10	SELECT date(t.timestamp) AS DiaMayorVenta, SUM(t.amount) AS VentasDelDia FROM transaction t WHERE t.declined = 0 GROUP BY DATE(t...	5 row(s) returned

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

SELECT c.country, AVG(t.amount) MediaVentasPais
FROM transaction t
INNER JOIN company c ON t.company_id = c.id
WHERE t.declined = 0
GROUP BY c.country
ORDER BY MediaVentasPais DESC;
```

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

country	MediaVentasPais
United States	287.531111
Ireland	285.825357
Sweden	276.668382
United Kingdom	271.767527
Canada	261.941930

Result 42

Output

Action Output

#	Time	Action	Message
1	13:25:56	SELECT c.country, AVG(t.amount) MediaVentasPais FROM transaction t INN...	15 row(s) returned

```
-- 3.3 En la teva empresa, es planteja un nou projecte per a llançar algunes campanyes publicitàries per a
-- 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.
    -- 3.3.1. Mostra el llistat aplicant JOIN i subconsultes.

        SELECT t.*, c.country AS País, c.company_name AS Empresa
        FROM transaction t
        JOIN company c ON t.company_id = c.id
        WHERE c.country = (
                            SELECT c1.country
                            FROM company c1
                            WHERE c1.company_name = 'Non Institute'
                          );
        -- AND NOT c.company_name = 'Non Institute'; (Excluiríamos los datos registros de 'Non Institute')
```

Result Grid | Filter Rows: | Export: | 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

Result 9

Output

Action Output

#	Time	Action	Message	Duration / Fe
1	12:23:22	SELECT t.*, c.country AS País, c.company_name AS Empresa ...	100 row(s) returned	0.000 sec /

```
        SELECT t.*, c.country AS País, c.company_name AS Empresa
        FROM transaction t, company c
        WHERE t.company_id = c.id
        AND c.country = (
                        SELECT c2.country
                        FROM company c2
                        WHERE c2.company_name = 'Non Institute'
                        );
        -- AND NOT c.company_name = 'Non Institute'; (Excluiríamos los datos registros de 'Non Institute')
```

Result Grid | Filter Rows: | Export: | 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

Result 10

Output

Action Output

#	Time	Action	Message	Duration / Fe
1	12:26:08	SELECT t.*, c.country AS País, c.company_name AS Empresa ...	100 row(s) returned	0.016 sec /

NIVEL 3

```
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-- Nivell 3
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-- 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 DISTINCT company_name AS Empresa, phone AS Teléfono, country AS País, timestamp AS Fecha, amount AS Importe
    FROM company c
    INNER JOIN transaction t ON c.id = t.company_id
    WHERE amount BETWEEN 100 AND 200
    AND DATE(t.timestamp) IN ('2021-04-29', '2021-07-20', '2022-03-13')
    ORDER BY amount DESC;
```

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

Empresa	Teléfono	País	Fecha	Importe
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

Result 45 × Read

Output

Action Output

#	Time	Action	Message	Dura
1	13:29:38	SELECT DISTINCT company_name AS Empresa, phone AS Teléfono, countr...	5 row(s) returned	0.00

Columna con el detalle del transacciones comentada por si se quiere mostrar

```sql
-- 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 c.id, c.company_name AS Empresa, CASE
                                            WHEN COUNT(t.id) > 4 THEN 'Mas de 4 ventas'
                                            ELSE 'Pocas ventas'
                                            END AS NivelVentas-- , COUNT(t.id) AS NumTransacciones
    FROM company c
    INNER JOIN transaction t ON t.company_id = c.id
    GROUP BY c.id, c.company_name
    ORDER BY COUNT(t.id) DESC;
```

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

id	Empresa	NivelVentas
b-2302	Nunc Interdum Incorporated	Mas de 4 ventas
b-2346	Ut Semper Foundation	Mas de 4 ventas
b-2326	Enim Condimentum Ltd	Mas de 4 ventas
b-2278	Arcu LLP	Mas de 4 ventas
b-2362	Lorem Eu Incorporated	Mas de 4 ventas
b-2404	Malesuada PC	Mas de 4 ventas

Result 47

Output

Action Output

#	Time	Action	Message
1	13:33:03	SELECT c.id, c.company_name AS Empresa, CASE WHEN COUNT(t.id) > 4 ...	100 row(s) returned