



### Ejercicio 1:

En este esquema podemos observar la tabla de hechos “Transaction” la cual tiene como Primary Key la columna ID, esta tabla también tiene como Foreign Key la columna Company\_id la cual sirve para conectar la tabla de dimensión “Company”. La relación es de muchos a uno, debido a que muchas transacciones pueden ser solamente de una compañía y cada compañía puede efectuar más de una transacción.

A continuación, se detallan los valores de los campos de cada tabla.

En la tabla de hechos “Transaction” encontramos los siguientes campos:

- Id: Esta columna de tipo VARCHAR tiene el papel de Primary Key para identificar cada registro.
- Credit\_card\_id: esta columna tiene los campos de tipo VARCHAR
- Company\_id: esta columna de tipo VARCHAR funciona como Foreign Key la cuál conecta con la tabla de dimensiones “company”
- User\_id: columna de tipo INT ya que los usuarios se representan solo con números
- Lat: esta columna tiene los campos de tipo FLOAT, ya que representa números aproximados.
- Longitud: columna de tipo FLOAT
- Timestamp: esta columna es de tipo TIMESTAMP ya que expresa las fechas de los registros.
- Amount: Columna de tipo decimal, ya que representa números exactos.
- Declined: Columna de tipo INT que almacena valores enteros

En la tabla de dimensiones “company” encontramos los siguientes campos:

- id: Esta columna de tipo VARCHAR cumple el papel de Primary Key, la cuál hacemos servir para conectar con la tabla de hechos “Transaction”
- company\_name: Columna de tipo VARCHAR donde aparece el nombre de cada compañía.
- Phone: esta columna representa valores de tipo VARCHAR
- Email: columna de tipo VARCHAR donde se detallan los emails de contacto.
- Country: esta columna es de tipo VARCHAR, que representa los países de las compañías.
- Website: columna de tipo VARCHAR, con información de su página web.

## Ejercicio 2:

Utilizando JOIN realizar las siguientes consultas:

```
1 # Llistat dels països que estan fent compres.
2
3 • SELECT DISTINCT country
4 FROM company
5 JOIN transaction ON transaction.company_id = company.id;
```

Result Grid Filter Rows: Search Export: Result Grid Form Editor Field Types Query Stats

country
Germany
Australia
United States
New Zealand
Norway
United Kingdom
Italy
Belgium
Sweden
Ireland
China
Canada
France
Netherlands
Spain

Result 2 Read Only

Action Output Duration / Fetch Time

Time	Action	Response	Duration / Fetch Time
12:13:44	SELECT DISTINCT country FROM company...	15 row(s) returned	0.0014 sec / 0.00001...

```
1 # 2.b. Des de quants països es realitzen les compres.
2
3 SELECT COUNT(DISTINCT country) as Cdt_Paises
4 FROM company
5 JOIN transaction ON transaction.company_id = company.id;
```

Result Grid Filter Rows: Search Export: Result Grid Form Editor Field Types Query Stats

Cdt_Paises
15

Result 4 Read Only

Action Output Duration / Fetch Time

Time	Action	Response	Duration / Fetch Time
12:31:11	SELECT COUNT(DISTINCT country) as Cdt_...	1 row(s) returned	0.0027 sec / 0.00001...

```
1 # 2.b. Des de quants països es realitzen les compres.
2
3 SELECT COUNT(DISTINCT country) as Cdt_Paises
4 FROM company
5 JOIN transaction ON transaction.company_id = company.id;
```

Result Grid Filter Rows: Search Export: Result Grid Form Editor Field Types Query Stats

Cdt_Paises
15

Result 4 Read Only

Action Output Duration / Fetch Time

Time	Action	Response	Duration / Fetch Time
12:31:11	SELECT COUNT(DISTINCT country) as Cdt_...	1 row(s) returned	0.0027 sec / 0.00001...

```

1 # Mostra totes les transaccions realitzades per empreses d'Alemanya.
2
3 SELECT *
4 FROM transaction
5 WHERE company_id IN (
6   SELECT id
7   FROM company
8   WHERE country = "Germany");

```

100% 69:1

**Result Grid** Filter Rows: Search Edit: Export/Import: Result Grid Form Editor Field Types

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined
ED2C207-C0C7-4A01-7141-000000000000	CcU-2959	b-2234	275	9.68811	130.282	2021-04-17 05:30:17	252.47	1
0DD2E608-5C9E-D1B3-49... CcU-2959	b-2234	275	1.64819	-158.007	2021-04-15 13:37:18	60.99	0	
AB069F53-965E-A2A8-CE... CcU-2959	b-2234	275	-43.9695	-117.525	2021-07-26 07:29:18	49.53	0	
0466A42E-47CF-8D24-FD... CcU-4219	b-2302	170	-56.4901	114.801	2022-02-26 20:33:54	430.49	0	
0A476ED9-0C13-1962-F87... CcU-4359	b-2302	221	29.6372	-166.173	2021-06-09 06:04:14	172.01	0	
122DC333-E19F-D629-DC... CcU-4366	b-2302	221	20.6724	14.9732	2021-12-29 20:38:23	17.97	0	
135267BA-2E7D-957C-C4... CcU-4520	b-2302	210	-53.6202	93.0533	2021-12-31 00:29:42	388.04	0	
14CAE5B5-8FB1-3E4A-4C... CcU-4849	b-2302	189	42.5424	-170.347	2022-03-08 05:02:19	240.29	0	
158A3ACB-541C-DBCC-6... CcU-4849	b-2302	183	-69.1381	58.0017	2021-04-11 05:59:18	231.26	0	
162C7E78-2B6B-7971-A1... CcU-4527	b-2302	210	69.4892	-138.411	2021-12-29 16:18:54	249.91	0	
1717FD6B-ADAD-7082-A7... CcU-4219	b-2302	172						

transaction 7 Apply Revert

Action Output

Time	Action	Response	Duration / Fetch Time
12:42:20	SELECT * FROM transaction WHERE compa...	118 row(s) returned	0.0045 sec / 0.0000...

```

1 # Llista les empreses que han realitzat transaccions per un amount superior a la mitjana de totes les transaccions.
2
3 SELECT company_name
4 FROM company
5 WHERE id IN (
6   SELECT company_id
7   FROM transaction
8   WHERE declined = 0 AND amount > (
9     SELECT AVG(amount)
10    FROM transaction));

```

100% 3:1

**Result Grid** Filter Rows: Export: Result Grid Form Editor

company_name
Non Institute
Ut Semper Foundation
Nunc Interdum Incorporated
Ac Fermentum Incorporated
Enim Condimentum Ltd
Tortor Nunc Commodo Company
Malesuada PC

company 8 Read Only

Action Output

Time	Action	Response	Duration / Fetch Time
12:45:01	SELECT company_name FROM company W...	50 row(s) returned	0.0074 sec / 0.00002...

```

1 # Eliminaran del sistema les empreses que no tenen transaccions registrades, entrega el llistat d'aquestes empreses.
2
3 SELECT company_name
4 FROM company
5 WHERE id NOT IN (
6   SELECT company_id
7   FROM transaction);

```

100% 3:1

**Result Grid** Filter Rows: Export: Result Grid Form Editor

company_name
company 9

company 9 Read Only

Action Output

Time	Action	Response	Duration / Fetch Time
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## Nivel 2.

```
1 # Identifica els cinc dies que es va generar la quantitat més gran d'ingressos a l'empresa per vendes.
2 # Mostra la data de cada transacció juntament amb el total de les vendes
3
4 • SELECT DATE(timestamp), sum(amount) AS Total_Ventas
5   FROM transaction
6   WHERE declined = 0
7   GROUP BY 1
8   ORDER BY 2 DESC
9   LIMIT 5;
```

100% 74:2

Result Grid	
Filter Rows: <input type="text" value="Search"/>	
Export:	
DATE(timestamp)	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 10

Action Output

Time	Action	Response	Duration / Fetch Time
12:52:04	SELECT DATE(timestamp), sum(amount) AS...	5 row(s) returned	0.0069 sec / 0.00002...

```
1 # Quina és la mitjana de vendes per país? Presenta els resultats ordenats de major a menor mitjà.
2
3 • SELECT country, AVG(amount) as Mitja_Vendes
4   FROM company as c
5   JOIN transaction as t ON t.company_id = c.id
6   GROUP BY 1
7   ORDER BY 2 DESC;
```

100% 10:1

Result Grid Filter Rows: Search Export:

country	Mitja_Vendas
United States	309.179412
Ireland	277.308387
United Kingdom	270.731700
Canada	269.647869
Sweden	260.615063
Norway	254.216324
Netherlands	253.017778
Germany	244.203220
Australia	232.052500
Belgium	228.147692
China	227.556667
New Zealand	222.277273
Italy	201.590000
France	179.198333
Spain	53.400000

Result 12 Read Only

Action Output

	Time	Action	Response	Duration / Fetch Time
1	12:54:42	SELECT country, AVG(amount) as Mitja_Ven...	15 row(s) returned	0.0057 sec / 0.00001...

```

1  # En la teva empresa, es planteja un nou projecte per a llançar algunes campanyes publicitàries per a fer competència a la companyia "Non Institute".
2  # Per això, et demanen la llista de totes les transaccions realitzades per empreses que estan situades en el mateix país que aquesta companyia.
3
4  # Mostra el llistat aplicant JOIN i subconsultes.
5
6 • SELECT *
7   FROM transaction
8   JOIN (
9     SELECT id
10    FROM company
11   WHERE company_name != 'Non Institute' AND country = (
12       SELECT country
13         FROM company
14        WHERE company_name = 'Non institute')) as subq
15  ON transaction.company_id = subq.id;

```

100% | 148:2 |

Result Grid | Filter Rows: | Search | Export: |

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined	id
ACD2011A-A2B1-C365-41...	CcU-2980	b-2246	275	-54.4792	-82.7974	2022-03-05 20:41:20	60.07	1	b-2246
4334349E-CEB0-3D68-A4...	CcU-3092	b-2310	275	-20.4859	150.87	2021-05-03 22:37:23	458.74	0	b-2310
BC2B9A38-77B4-28CD-1F...	CcU-3092	b-2310	275	-78.0295	18.5295	2021-10-18 07:27:35	477.95	1	b-2310
1479B3D2-B7BA-C7BB-4C...	CcU-2994	b-2326	133	66.2672	172.399	2021-08-09 00:58:07	309.45	0	b-2326
152598C2-029D-D684-4B6...	CcU-2994	b-2326	126	-67.0189	-141.672	2021-07-05 03:10:00	395.43	0	b-2326
1B636B58-A2E8-7C69-D9...	CcU-2994	b-2326	131	70.2543	-13.1336	2021-07-06 08:48:46	195.06	0	b-2326
2041B0E5-B804-BEB9-BD...	CcU-2994	b-2326	126	-79.1145	1.51481	2022-01-03 15:59:29	479.52	0	b-2326
239B8576-6C0E-137A-C2...	CcU-2994	b-2326	126	23.6174	137.222	2021-08-26 06:04:05	43.90	0	b-2326
267C4A86-7B47-1C5E-07...	CcU-2994	b-2326	126	-17.5259	104.915	2021-10-01 21:08:53	122.63	0	b-2326
3142C93E-B3B7-49E4-EE...	CcU-2994	b-2326	126	-67.8476	-119.978	2021-04-06 17:24:44	91.59	0	b-2326
357B688E-7B1D-B887-3B...	CcU-2994	b-2326	126	87.0665	-22.7339	2021-07-26 22:59:24	303.60	0	b-2326
360C7814-F7AF-B43A-094...	CcU-2994	b-2326	116	-7.93005	-79.0733	2021-08-21 10:19:58	494.82	0	b-2326
Result 14									

Result Grid | Form Editor | Field Types |

Action Output | Time | Action | Response | Duration / Fetch Time

1 12:57:35 SELECT \* FROM transaction JOIN ( SELECT id FROM company WHERE company\_name... 70 row(s) returned 0.0024 sec / 0.00003...

1 # En la teva empresa, es planteja un nou projecte per a llançar algunes campanyes publicitàries per a fer competència a la companyia "Non Institute".

2 # Per això, et demanen la llista de totes les transaccions realitzades per empreses que estan situades en el mateix país que aquesta companyia.

3

4 # Mostra el llistat aplicant solament subconsultes.

5

6 • SELECT \*
7 FROM transaction
8 WHERE company\_id IN (
9 SELECT id
10 FROM company
11 WHERE company\_name != 'Non Institute' AND country = (
12 SELECT country
13 FROM company
14 WHERE company\_name = 'Non institute'));

100% | 148:2 |

Result Grid | Filter Rows: | Search | Edit: | Export/Import: |

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined	id
ACD2011A-A2B1-C365-41...	CcU-2980	b-2246	275	-54.4792	-82.7974	2022-03-05 20:41:20	60.07	1	b-2246
4334349E-CEB0-3D68-A4...	CcU-3092	b-2310	275	-20.4859	150.87	2021-05-03 22:37:23	458.74	0	b-2310
BC2B9A38-77B4-28CD-1F...	CcU-3092	b-2310	275	-78.0295	18.5295	2021-10-18 07:27:35	477.95	1	b-2310
1479B3D2-B7BA-C7BB-4C...	CcU-2994	b-2326	133	66.2672	172.399	2021-08-09 00:58:07	309.45	0	b-2326
152598C2-029D-D684-4B6...	CcU-2994	b-2326	126	-67.0189	-141.672	2021-07-05 03:10:00	395.43	0	b-2326
1B636B58-A2E8-7C69-D9...	CcU-2994	b-2326	131	70.2543	-13.1336	2021-07-06 08:48:46	195.06	0	b-2326
2041B0E5-B804-BEB9-BD...	CcU-2994	b-2326	126	-79.1145	1.51481	2022-01-03 15:59:29	479.52	0	b-2326
239B8576-6C0E-137A-C2...	CcU-2994	b-2326	126	23.6174	137.222	2021-08-26 06:04:05	43.90	0	b-2326
267C4A86-7B47-1C5E-07...	CcU-2994	b-2326	126	-17.5259	104.915	2021-10-01 21:08:53	122.63	0	b-2326
3142C93E-B3B7-49E4-EE...	CcU-2994	b-2326	126	-67.8476	-119.978	2021-04-06 17:24:44	91.59	0	b-2326
357B688E-7B1D-B887-3B...	CcU-2994	b-2326	126	87.0665	-22.7339	2021-07-26 22:59:24	303.60	0	b-2326
360C7814-F7AF-B43A-094...	CcU-2994	b-2326	116	-7.93005	-79.0733	2021-08-21 10:19:58	494.82	0	b-2326
391E1CFD-D653-E45B-A7...	CcU-2994	b-2326	118	60.5512	103.904	2021-10-09 00:50:38	271.27	0	b-2326
2C457C0A-A402-B041-62...	CcU-2994	b-2246	117	-22.1627	-10.381	2021-04-25 10:11:50	441.27	0	b-2246
transaction 16									

Result Grid | Form Editor | Field Types |

Action Output | Time | Action | Response | Duration / Fetch Time

1 13:00:12 SELECT \* FROM transaction WHERE company\_id IN ( SELECT id FROM company... 70 row(s) returned 0.0019 sec / 0.00003...

## Nivel 3.

```
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
2  # 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.
3
4 • SELECT company_name, phone, country, subq.timestamp, subq.amount
5   FROM company
6   JOIN (
7     SELECT company_id, amount, timestamp
8       FROM transaction
9      WHERE (amount between 100 and 200) AND DATE(timestamp) IN ('2021-04-29', '2021-07-20', '2022-03-13') AS subq
10  ON company.id = subq.company_id
11  ORDER BY subq.amount DESC;
```

Result Grid | Filter Rows: | Search | Export: | Result Grid | Form Editor | Field Types | Read Only

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
Erim 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 18 | Duration / Fetch Time: 0.0027 sec / 0.00001...

Action Output | Time | Action | Response | Duration / Fetch Time

1 13:02:13	SELECT company_name, phone, country, subq.timestamp, subq.amount FROM company J...	5 row(s) returned	0.0027 sec / 0.00001...
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```
1  # Necessitem optimitzar l'assignació dels recursos i depèndrà de la capacitat operativa que es requereixi,
2  # per la qual cosa et demanen la informació sobre la quantitat de transaccions que realitzen les empreses,
3  # 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.
4
5 • SELECT company_name, subq.Mas_d4_Trans
6   FROM company
7   JOIN (
8     SELECT company_id, COUNT(id),
9       CASE
10      WHEN COUNT(id) >= 4 THEN 'SI'
11      ELSE 'NO'
12    END AS Mas_d4_Trans
13   FROM transaction
14  WHERE declined = 0
15  GROUP BY company_id) AS subq
16  ON company.id = subq.company_id;
```

Result Grid | Filter Rows: | Search | Export: | Result Grid | Form Editor | Field Types | Read Only

company_name	Mas_d4_Trans
Dis Parturient Institute	NO
Sed LLC	NO
Arcu LLP	SI
Pretium Neque Corp.	NO
Fringilla LLC	NO
Quisque Libero LLC	NO
Auctor Mauris Vel LLP	NO
Elit Etiam Laoreet Associates	NO
Nunc Interdum Incorporated	SI
Augue Foundation	NO
Non Magna LLC	NO
A Institute	NO
Quam A Feolis Industries	NO

Result 21 | Duration / Fetch Time: 0.0043 sec / 0.00002...

Action Output | Time | Action | Response | Duration / Fetch Time

1 13:04:08	SELECT company_name, subq.Mas_d4_Trans FROM company JOIN ( SELECT company_i...	100 row(s) returned	0.0043 sec / 0.00002...
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