

Tasca S2.01. Nocions bàsiques SQL

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.

Schemas

1

-- Creamos la base de datos

2

CREATE DATABASE IF NOT EXISTS transactions;

3

USE transactions;

4

5

-- Creamos la tabla company

6

CREATE TABLE IF NOT EXISTS company (

7

id VARCHAR(15) PRIMARY KEY,

8

company_name VARCHAR(255),

9

phone VARCHAR(15),

10

email VARCHAR(180),

11

country VARCHAR(180),

12

website VARCHAR(255)

13

);

14

15

-- Creamos la tabla transaction

16

CREATE TABLE IF NOT EXISTS transaction (

17

id VARCHAR(255) PRIMARY KEY,

18

credit_card_id VARCHAR(15) REFERENCES credit_card(id),

19

company_id VARCHAR(15),

20

user_id INT REFERENCES user(id),

21

lat FLOAT,

22

longitude FLOAT,

23

timestamp TIMESTAMP,

24

amount DECIMAL(16, 2),

25

declined BOOLEAN,

26

FOREIGN KEY (company_id) REFERENCES company(id)

27

);

28

);

AdministrationSchemas

No object selected

Output

Time

Action

Message

Duration / Fetch

27

12:43:51

DESC transaction

5 rows returned

0.000 sec / 0.000 sec

28

12:43:46

DROP DATABASE transactions

2 rows affected

0.031 sec

29

12:46:01

CREATE DATABASE IF NOT EXISTS transactions

1 row affected

0.016 sec

30

12:46:01

USE transactions

0 rows affected

0.000 sec

31

12:46:01

CREATE TABLE IF NOT EXISTS company (id VARCHAR(15) PRIMARY KEY, company_name VARCHAR(255), phone VARCHAR(15), email VARCHAR(180), country VARCHAR(180), website VARCHAR(255));

0 rows affected

0.015 sec

32

12:46:01

CREATE TABLE IF NOT EXISTS transaction (id VARCHAR(255) PRIMARY KEY, credit_card_id VARCHAR(15) REFERENCES credit_card(id), company_id VARCHAR(15), user_id INT REFERENCES user(id), lat FLOAT, longitude FLOAT, timestamp TIMESTAMP, amount DECIMAL(16, 2), declined BOOLEAN, FOREIGN KEY (company_id) REFERENCES company(id));

0 rows affected

0.032 sec

300772

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('720808FA-22FA-43FE-9806-F3E8ED4116EA', 'c5c-4098', 'b-2386', '4137', '39.28831696112333', '-8.165855302117661', '2038E0DC-1F3D-42AE-B0F5', '1 row(s) affected

300773

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('A0F48046-42F9-4FF9-B437-25E89FF2351', 'c5c-6219', 'b-2414', '1638', '68.48059829361341', '18.71076920141904', '1 row(s) affected

300774

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('19162074-708E-4F08-8E93-BAC66E768D00', 'c5c-7766', 'b-2434', '9185', '51.4563745753987', '10.864335354576466', '1 row(s) affected

300775

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('DAF48046-4E78-43DC-BCD1-4E98684F7C56', 'c5c-7532', 'b-2430', '2951', '46.344585968741455', '1.9613542281819526', '1 row(s) affected

300776

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3894A0DC-608E-494C-AD1A-957A84E7802C', 'c5c-4898', 'b-2222', '317', '52.247807954088646', '18.663646520471254', '1 row(s) affected

300777

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('2366D0C8-3570-483C-98AA-293786C3A22', 'c5c-6458', 'b-2330', '1869', '42.124564897728566', '12.737975785179389', '1 row(s) affected

300778

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('CA25584-854E-4880-B6D0-783E90419A99', 'c5c-8398', 'b-2350', '3809', '60.395067878064586', '18.63614289948569', '1 row(s) affected

300779

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('07417985-F42D-4857-9AEA-8A24368B3C3', 'c5c-9023', 'b-2370', '4442', '55.4136994248312', '1.483470888584084', '1 row(s) affected

300800

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('F6665E68-E543-4E80-AE28-C342321A2A65', 'c5c-6307', 'b-2550', '1816', '46.38679795645809', '1.922528632458287', '1 row(s) affected

300801

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('5C0CC822-1EC8-43E5-8538-95428563E580', 'ccu-3020', 'b-2562', '149', '41.88494140812203', '-87.63835408631855', '1 row(s) affected

300802

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('80077626-1186-4973-8BAA-1CB7EA58D086', 'ccu-4261', 'b-2514', '86', '29.41515399463848', '-98.4969127881862', '1 row(s) affected

300803

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('31F6CEB8-96AA-4718-8698-308BC1F80C2', 'c5c-5339', 'b-2602', '758', '41.79346767996216', '12.379910786588962', '1 row(s) affected

300804

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('E6202F62-F637-469B-B464-5AA3080E6082', 'c5c-6571', 'b-2454', '1998', '58.08084018120583', '18.512472786340808', '1 row(s) affected

300805

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('03380680-AE39-4082-A025-A0858A72A694', 'c5c-5963', 'b-2468', '482', '58.67617945483941', '10.577706741280654', '1 row(s) affected

300806

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('C55A2438-EC2E-4086-A8E8-8C0920831CA3', 'c5c-6448', 'b-2422', '1867', '46.81015667713571', '-71.28146499111321', '1 row(s) affected

300807

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('25347465-9778-48E4-80E2-EC3F8D58677F', 'c5c-7004', 'b-2434', '2423', '52.5793231356740', '4.862257078165740', '1 row(s) affected

300808

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('E347639F-EC4D-455A-8682-7A1421841986', 'c5c-5024', 'b-2466', '443', '39.794592328212607', '-8.1834627528892', '1 row(s) affected

300809

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('82343CB7-1408-4247-8B43-572789F083AB', 'c5c-5014', 'b-2434', '433', '60.89444287414693', '-78.119763186604284', '1 row(s) affected

300900

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('5CE87C4D-F2D4-4644-8065-4C15E0D53CB7', 'c5c-8958', 'b-2602', '4377', '52.52362821165495', '13.396697652965658', '1 row(s) affected

300901

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('72546752-C276-4E5A-8868-EAD98064F694', 'c5c-8064', 'b-2406', '3483', '30.71075217569194', '-9.140562721688283', '1 row(s) affected

300902

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('623648C0-AA7E-4879-83F2-2219281415D8', 'c5c-7503', 'b-2406', '2922', '60.28934771247614', '18.76882418580157', '1 row(s) affected

300903

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('298618CD-1886-4E89-ACED-D2E18F244364', 'c5c-6062', 'b-2374', '1481', '59.60641938026106', '16.5592247375924', '1 row(s) affected

300904

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('9898540B-E9E1-4085-8A25-20C81DEB1140', 'c5c-5352', 'b-2350', '771', '40.42375037246781', '-3.718705844778216', '1 row(s) affected

300905

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('77338C0A-5E9F-41A3-90CE-FD74833A7C6A', 'c5c-5087', 'b-2358', '116', '51.839545886639', '1.15917958739884', '1 row(s) affected

300906

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('0F27A001-13A2-4A41-8B55-7A189F16A180', 'c5c-5785', 'b-2558', '1174', '48.4261315551881', '-3.7120998532655775', '1 row(s) affected

300907

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('A0808598-2021-4191-8780-0806075C808A', 'c5c-5537', 'b-2254', '1961', '29.418482285440995', '-98.4848195248285', '1 row(s) affected

300908

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('F9C7857A-E48E-4978-AD14-F51CD14AD07E', 'ccu-4345', 'b-2530', '74', '32.779197390813444', '-96.79150235991872', '1 row(s) affected

300909

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('16C38053-1A6C-4262-9390-C68F95F13C03', 'c5c-6683', 'b-2434', '2102', '51.73306613893375', '5.380877571141355', '1 row(s) affected

301000

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3030E80C-1F90-42AE-80F5-C4350729F81C', 'c5c-7048', 'b-2318', '2467', '55.1650588289413', '-3.07516044173137', '1 row(s) affected

301001

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('E183116A-8B3A-412C-87CE-A1DFD26362B3', 'c5c-9088', 'b-2374', '4499', '39.29927758728517', '-8.287763975762116', '1 row(s) affected

301002

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('65F98A2A-3141-4378-AE6F-78D051A664E', 'c5c-6788', 'b-2538', '2199', '37.330577389780587', '1.121.89087126456544', '1 row(s) affected

301003

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('D7AEAC28-B119-4DCE-8B2A-DEF62CF14065', 'c5c-8141', 'b-2322', '3568', '46.11082717161033', '1.40151297381575', '1 row(s) affected

301004

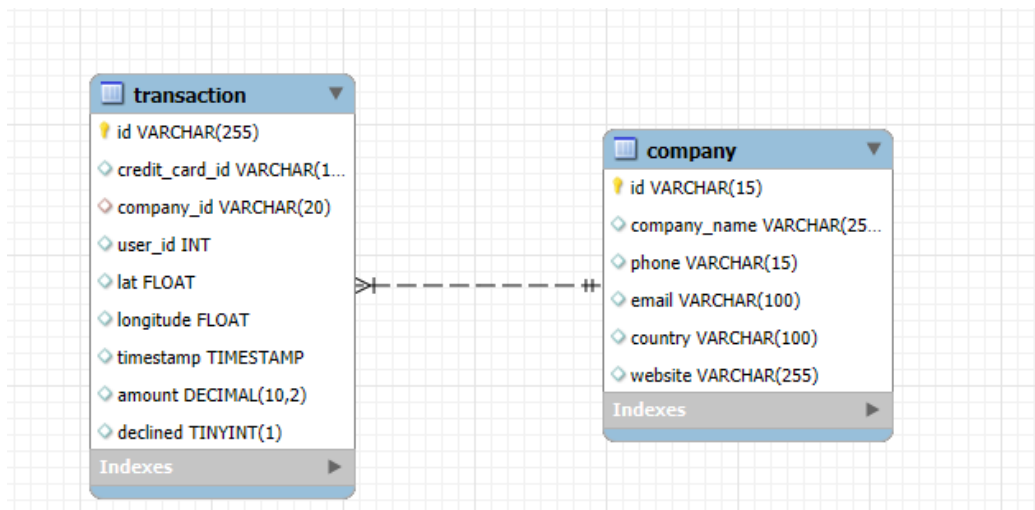
INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('C3126A55-0FCC-4623-AB22-22E265842558', 'c5c-8255', 'b-2406', '3674', '46.41238371019328', '-3.708443737539298', '1 row(s) affected

301005

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3E8F1894-E1FC-4F43-8A9C-4E89AC866885', 'c5c-5277', 'b-2262', '6996', '46.7888587652974', '12.295298427575798', '1 row(s) affected

301006

INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, timestamp, amount, declined) VALUES ('3030E80C-1F90-42AE-80F5-C4350729F81C', 'c5c-7048', 'b-2318', '2467', '55.1650588289413', '-3.07516044173137', '1 row(s) affected



La base de datos sigue un modelo relacional. La tabla principal es *transaction*, que se relaciona con la tabla *company* en una relación de 1=N.

En la tabla *company* se encuentra la información de empresas como el nombre, país y métodos de contacto. Todas las variables son de tipo VARCHAR(*n*), lo que significa que son cadenas de texto con un límite de *n* caracteres. La clave primaria es "id".

En la tabla *transaction* encontramos la información de las propias transacciones como la empresa que las ha realizado, el valor total, la ubicación y la fecha en que se realizaron. Tres variables de tipo VARCHAR(*n*): "id", "credit_card_id" y "company_id". Dos variables de tipo FLOAT, que son números reales con decimales: "lat" y "longitude". Una variable INT, que es un número entero: "user_id". Una variable TIMESTAMP, que almacena una marca de tiempo: "timestamp". Una variable DECIMAL(10,2), que es un número que tiene una parte entera y una decimal con un máximo de 10 caracteres, de los cuales dos son decimales: "amount". Y una variable TINYINT, que es una convención para almacenar un valor booleano: "declined".

***Explicar qué datos hay en cada tabla**

Exercici 2

Utilitzant JOIN realitzaràs les següents consultes:

Llistat dels països que estan generant vendes.

The screenshot shows a SQL query in the query editor:

```
11
12 • SELECT DISTINCT country
13 FROM company AS c
14 JOIN transaction AS t
15 ON c.id = t.company_id
16 WHERE t.declined = 0 ;
17
18 • SELECT COUNT(DISTINCT country)
19 FROM company AS c
20 JOIN transaction AS t
21 ON c.id = t.company_id
```

The results pane shows a list of countries:

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

The output pane shows the execution of the query:

#	Time	Action	Message	Duration / Fetch
1	12:57:48	SELECT DISTINCT country FROM company AS c JOIN transaction AS t O...	15 row(s) returned	0.203 sec / 0.000 sec
2	12:59:17	SELECT DISTINCT country FROM company AS c JOIN transaction AS t O...	15 row(s) returned	0.203 sec / 0.000 sec

Des de quants països es generen les vendes.

The screenshot shows a SQL query in the query editor:

```
17
18 • SELECT COUNT(DISTINCT country) AS 'Total païses'
19 FROM company AS c
20 JOIN transaction AS t
21 ON c.id = t.company_id
22 WHERE t.declined = 0 ;
23
24 • SELECT company_name, ROUND(AVG(amount),2) AS 'Media ventas'
25 FROM company c
26 JOIN transaction t
27 ON c.id = t.company_id
28 GROUP BY c.id
29 ORDER BY AVG(amount) DESC
```

The results pane shows a single row:

Total païses
15

The output pane shows the execution of the query:

#	Time	Action	Message	Duration / Fetch
44	11:19:41	SELECT c.company_name,COUNT(t.id), CASE WHEN COUNT(t.id) < ...	100 row(s) returned	0.047 sec / 0.000 sec
45	11:20:32	SELECT c.company_name,COUNT(t.id) AS transacciones IF transaccion...	Error Code: 1054. Unknown column 'transacciones' in field list	0.000 sec
46	11:20:50	SELECT c.company_name,COUNT(t.id) IF (COUNT(t.id) > 400 , 'Yes','No')...	100 row(s) returned	0.047 sec / 0.000 sec
47	11:21:05	SELECT c.company_name,COUNT(t.id) AS transacciones IF (COUNT(t.id)...	100 row(s) returned	0.046 sec / 0.000 sec
48	11:21:20	SELECT c.company_name,COUNT(t.id) AS transacciones IF (COUNT(t.id)...	100 row(s) returned	0.047 sec / 0.000 sec
49	11:23:54	SELECT COUNT(DISTINCT country) AS 'Total païses' FROM company A...	1 row(s) returned	0.203 sec / 0.000 sec

Identifica la compañía con la mitjana més gran de vendes.

```
-- Ejercicio 2
23
24 • SELECT company_name, ROUND(AVG(amount),2) AS 'Media ventas'
25 FROM company c
26 JOIN transaction t
27 ON c.id = t.company_id
28 GROUP BY c.id
29 ORDER BY AVG(amount) DESC
30 LIMIT 1;
31
32 -- Ejercicio 3
33
34 • SELECT *
35 FROM transaction t
36 WHERE company_id = 10; -- Ejercicio 4
```

Result Grid

company_name	Media ventas
Ac Fermentum Incorporated	284.87

Result 35 x

Output

#	Time	Action	Message	Duration / Fetch
45	11:20:32	SELECT c.company_name,COUNT(t.id) AS transacciones,IF (transaccion...	Error Code: 1054. Unknown column 'transacciones' in field list	0.000 sec
46	11:20:50	SELECT c.company_name,COUNT(t.id),IF (COUNT(t.id) > 400 , 'Yes','No')...	100 row(s) returned	0.047 sec / 0.000 sec
47	11:21:05	SELECT c.company_name,COUNT(t.id) AS transacciones,IF (COUNT(t.id)...	100 row(s) returned	0.046 sec / 0.000 sec
48	11:21:20	SELECT c.company_name,COUNT(t.id) AS transacciones,IF (COUNT(t.id)...	100 row(s) returned	0.047 sec / 0.000 sec
49	11:23:54	SELECT COUNT(DISTINCT country) AS 'Total países' FROM company A...	1 row(s) returned	0.203 sec / 0.000 sec
50	11:24:39	SELECT company_name, ROUND(AVG(amount),2) AS 'Media ventas' FR...	1 row(s) returned	0.203 sec / 0.000 sec

Uso de alias y redondeos. Substituir " con ' para que el código funcione en sql también.

Exercici 3

Utilitzant només subconsultes (sense utilitzar JOIN):

Mostra totes les transaccions realitzades per empreses d'Alemanya.

```
-- Ejercicio 3
32
33
34 SELECT
35 FROM transaction
36 WHERE company_id IN (SELECT id
37 FROM company c
38 WHERE country = "Germany");
39
40 SELECT DISTINCT (SELECT c.company_name
41 FROM company c
42 WHERE c.id = t.company_id AS Company
43 FROM transaction t
44 WHERE t.amount > (SELECT AVG(amount)
45 FROM transaction)
46 )
47
48 SELECT company_name
49 FROM company;
```

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined
00130306-2060-4003-94E7-43A2676B964	CS-8999	b-2222	318	41.3781	12.447	2020-03-25 10:43:43	426.36	0
00130306-2060-4003-94E7-43A2676B964	CS-9070	b-2222	489	41.3814	2.18176	2020-12-17 20:15:37	216.90	0
00201411-2652-44C4-4A4D-10F8C30B7F93	CU-3512	b-2222	193	55.5794	-3.45120	2021-01-22 23:44:27	453.04	0
00235618-0A3C-4049-90CB-83A943D8923	CS-8137	b-2222	3556	59.8421	18.729	2020-09-09 15:43:19	263.14	0
00245A38-8F3A-46C6-4615-625A76C3C38	CS-8998	b-2222	4417	41.1591	-8.62905	2024-05-15 09:10:11	442.01	0
00687139-4B52-4F7A-4E73-82037F04684	CS-8070	b-2222	389	51.1966	10.4669	2018-03-08 10:27:48	524.84	0
0074F4D0-32F1-4827-8758-15896314E23A	CS-8081	b-2222	3500	39.7016	-8.30325	2016-12-26 23:06:57	491.90	0
00A4B6C0-2906-4D28-8A4D-138C73DC0948	CS-6197	b-2222	2216	55.7652	-3.70249	2022-04-25 23:06:59	167.15	0
00E67044-6100-4758-48E9-1C3E2066200	CS-4683	b-2222	402	38.708	-9.12993	2018-02-27 15:05:16	141.66	0
00D40383-ED48-4B77-BED1-3C56C3B9F2F	CS-9223	b-2222	4642	51.1742	10.2027	2019-03-21 11:47:34	325.62	0
00D11EDC-E041-48D1-3A40-1140153A3D5F	CS-7881	b-2222	2100	45.7655	4.03109	2024-01-28 20:20:49	242.53	0
01446C03-98C5-4E55-4610-70C8A0D0E6F	CS-5404	b-2222	843	47.0163	2.26064	2024-03-17 08:37:14	451.71	0
0175EC72-41E4-42DA-AB89-4F24C0F4C0F	CS-7510	b-2222	2929	52.0619	4.29464	2021-08-28 16:29:38	5.46	0
01A8D8A8-0EE2-4246-4313-4EE9FF1B746	CS-5653	b-2222	472	51.7738	5.17479	2020-01-28 01:15:07	368.41	0
01F3C7E0-0032-44D2-4E5E-1143D5004666	CS-6776	b-2222	2195	59.6697	15.6697	2022-11-17 09:40:14	158.79	0
01F4B0C1-18C8-4148-987C-459AA3F06097	CS-5531	b-2222	950	53.3405	-3.3863	2020-04-30 08:57:27	333.45	0
0228714C-50C1-48D3-408E-28638170F418	CS-8183	b-2222	522	55.3362	-2.99108	2018-04-14 08:52:13	155.29	0
02468B12-58F5-4E21-68E9-EDD5190A6678	CS-9328	b-2222	4747	42.0816	12.8326	2016-07-01 01:33:41	268.23	0

#	Time	Action	Message	Duration / Fetch
4	13.02.30	SELECT FROM transaction LIMIT 8, 30000	80000 row(s) returned	0.000 sec / 0.063 sec
5	13.02.30	SELECT DISTINCT country FROM company AS c JOIN transaction AS t ...	15 row(s) returned	0.032 sec / 0.000 sec
6	13.03.05	SELECT DISTINCT country FROM company AS c JOIN transaction AS t ...	15 row(s) returned	0.203 sec / 0.000 sec
7	13.03.29	SELECT COUNT(DISTINCT country) FROM company AS c JOIN transac...	1 row(s) returned	0.203 sec / 0.000 sec
8	13.04.38	SELECT company_name, AVG(amount) FROM company AS c JOIN transac...	1 row(s) returned	0.204 sec / 0.000 sec
9	13.06.31	SELECT FROM transaction WHERE company_id IN (SELECT id ...	13291 row(s) returned	0.000 sec / 0.047 sec

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

```
39
40 SELECT DISTINCT(SELECT c.company_name
41 FROM company c
42 WHERE c.id = t.company_id AS Company, AVG(amount) AS media
43 FROM transaction t
44 WHERE t.amount > (SELECT AVG(amount) AS media
45 FROM transaction)
46 GROUP BY Company
47
```

Company	media
Eget Tirodunt Du Institute	387.233088
Neque Tellus Imperdiet Corp.	378.682911
Aliquam Iaculis Lacus Corp.	396.558250
Lorem Ipsum Dolor Corp.	388.520977
Nulla Integer Vitupitate Corp.	393.106973
Auctor Mauris Corp.	388.432457
Justo Eu Arcu Ltd	394.291607
Nunc Ac PC	393.572006
Mauris Institute	387.074144
Ac Fermentum Incorporated	417.126272
Nunc Interdum Incorporated	392.575562
Non Magna LLC	386.375913
A Institute	375.252732
Turpis Company	395.138594
Cras Vehicula Aliquet Industr...	387.800219
Mecanisms Molossidae Fringill...	384.838654
Erim Conditentum Ltd	394.675354
Tortor Nunc Commodo Comp...	390.548017
Mus Aenean Eget Foundation	388.384807
Tempor Diam Institute	390.868082
Non Ante LLP	393.724174
Neque Tellus Incorporated	393.199680
Amet Lorem LLP	390.162197

#	Time	Action	Message	Duration / Fetch
46	11:20:50	SELECT c.company_name,COUNT(t.id) IF (COUNT(t.id) > 400, 'Yes','No')	100 row(s) returned	0.047 sec / 0.000 sec
47	11:21:05	SELECT c.company_name,COUNT(t.id) AS transacciones IF (COUNT(t.id) ...	100 row(s) returned	0.046 sec / 0.000 sec
48	11:21:20	SELECT c.company_name,COUNT(t.id) AS transacciones IF (COUNT(t.id) ...	100 row(s) returned	0.047 sec / 0.000 sec
49	11:23:54	SELECT COUNT(DISTINCT country) AS 'Total paises' FROM company A...	1 row(s) returned	0.203 sec / 0.000 sec
50	11:24:39	SELECT company_name, ROUND(AVG(amount),2) AS 'Media ventas' FR...	1 row(s) returned	0.203 sec / 0.000 sec
51	11:27:26	SELECT DISTINCT(SELECT c.company_name FROM compan...	100 row(s) returned	0.203 sec / 0.000 sec

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

```
45      FROM transaction)
46  }
47
48
49  • SELECT company_name
50  FROM company
51  WHERE id NOT IN(SELECT DISTINCT company_id
52                  FROM transaction)
53  }
54  -- No me sale ninguna. Entiendo que es porque no hay.--
55
56
57  -- NIVELL 2--
58
```

company_name

company 1 x

Output

#	Time	Action	Message	Duration / Fetch
1	10:09:48	SELECT company_name FROM company WHERE id NOT IN(SELECT DIS...	0 row(s) returned	0.219 sec / 0.000 sec

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.

```
60 -- Ejercicio 1
61
62 • SELECT SUM(amount),DATE(timestamp) AS fecha
63 FROM transaction t
64 WHERE t.deleted=0
65 GROUP BY fecha
66 ORDER BY SUM(amount) DESC
67 LIMIT 5
68
69 -- Ejercicio 2
70
71 • SELECT c.country, ROUND(AVG(amount),2) AS "media de las ventas"
72 FROM company c
73 JOIN transaction t ON c.id=t.company_id
74 WHERE t.deleted=0
75 GROUP BY c.country
76 ORDER BY "media de las ventas" DESC
77 LIMIT 5
```

SUM(amount) fecha

14337.44	2022-12-13
13991.32	2019-11-18
13332.59	2022-02-20
13328.40	2017-12-20
12680.95	2019-03-18

Result 37 x

Output

#	Time	Action	Message	Duration / Fetch
47	11:21:05	SELECT c.company_name,COUNT(t.id) AS transacciones IF (COUNT(id)...	100 row(s) returned	0.046 sec / 0.000 sec
48	11:21:20	SELECT c.company_name,COUNT(t.id) AS transacciones IF (COUNT(id)...	100 row(s) returned	0.047 sec / 0.000 sec
49	11:21:54	SELECT COUNT(DISTINCT country) AS "Total países" FROM company A...	1 row(s) returned	0.203 sec / 0.000 sec
50	11:24:39	SELECT company_name, ROUND(AVG(amount),2) AS "media de las ven...	1 row(s) returned	0.203 sec / 0.000 sec
51	11:27:26	SELECT DISTINCT SELECT c.company_name FROM compan...	100 row(s) returned	0.203 sec / 0.000 sec
52	11:28:44	SELECT SUM(amount),DATE(timestamp) AS fecha FROM transaction t...	5 row(s) returned	0.094 sec / 0.000 sec

Filtrar las transacciones “declined”

Exercici 2

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

```
76
77 SELECT c.country, ROUND(SUM(t.amount),2) AS 'Mèdia de les vendes'
78 FROM company c
79 JOIN transaction t ON c
80 ON c.id = t.company_id
81 WHERE t.declined = 0
82 GROUP BY c.country
83 ORDER BY avg(amount) DESC
84
85 -- Exercici 3
86
```

country	Mèdia de les vendes
Australia	251.54
United States	204.42
Belgium	200.37
Germany	200.83
Ireland	200.78
Spain	200.28
France	200.21
New Zealand	200.59
Norway	201.14
Netherlands	200.34
Italy	200.12
Canada	201.41
Sweden	201.29
United Kingdom	200.68
China	202.60

id	Time	Action	Message	Duration / Patch
48	11:21:20	SELECT company_name COUNT(DISTINCT country) AS 'Total països' FROM company A	1 row(s) returned	0.047 sec / 0.000 sec
49	11:21:24	SELECT COUNT(DISTINCT country) AS 'Total països' FROM company A	1 row(s) returned	0.203 sec / 0.000 sec
50	11:24:39	SELECT company_name, ROUND(SUM(amount),2) AS 'Mèdia vendes' FR	1 row(s) returned	0.203 sec / 0.000 sec
51	11:27:26	SELECT DISTINCT SELECT company_name FROM compan	100 row(s) returned	0.203 sec / 0.000 sec
52	11:28:44	SELECT SUM(amount) DATE(DATEPART(YEAR, GETDATE())) AS 'Mèdia PROFIT transacci	5 row(s) returned	0.094 sec / 0.000 sec
53	11:30:19	SELECT c.country, ROUND(SUM(t.amount),2) AS 'Mèdia de les vendes' F	15 row(s) returned	0.205 sec / 0.000 sec

Redondear y filtrar “declined”

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.

```
90
91 -- Versió amb JOIN i subconsultes
92 SELECT *
93 FROM company c
94 JOIN transaction t
95 ON c.id = t.company_id
96 WHERE c.country = (SELECT country
97 FROM company
98 WHERE company_name = "Non Institute")
99 AND company_name != "Non Institute"
100
101 -- Versió sin join
102 SELECT *
103 FROM company c
104 WHERE c.country = (SELECT country
105 FROM company
106 WHERE company_name = "Non Institute")
107 AND company_name != "Non Institute"
108
```

id	company_name	phone	email	country	website	id	email_send_id	date
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	00852964-0148-400C-A3D2-73F5A49C3146	CS-7963	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	0007284-1442-400E-813F-2535555A1716	CS-8476	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	0170791-10746-4002-4A0D-9F073A4F3C3C	CS-8700	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	0237FCB-6518-4038-8F16-CBF9354FACD2	CS-7936	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	02633881-8F11-4054-1676-00F346246C73	CS-14471	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	03C279E-02F2-4C3F-439A-F478E9F279C3	CS-5682	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	02946C2-434C-47C2-880A-08E207381A1F	CS-61613	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	0306828-8178-4419-934E-0E43D3A1A194	CS-5302	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	0219F65-6B5B-4337-8107-4E782F7A9F91	CS-7674	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	0348B0E-0C07-4B23-9C57-6A4E876C3D9F	CS-6121	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	03CA36C3-889F-409F-8F54-4CC2D44E020B	CS-4836	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	0441412-99C5-432B-82FE-8F92C310317	CS-6476	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	04A4AC16-FF81-49F8-8DCA-E57D3031386A	CS-5383	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	046F04C-06A4-404E-854E-6A277338AC4C	CS-7296	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	0490C3A4-4012-43D2-8138-80E3AC8C0C6	CS-7639	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	046A84C2-F3C3-4E7F-400E-84E67038A1D3	CS-4673	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	05121932-863A-49FE-61P2-4580B409FD	CS-4681	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	05031111-6559-400E-800C-80688F7412C1	CS-6382	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	056A48C7-4131-4101-8E5C-9C7830A111	CS-4885	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	0570E9F-ED4D-4C7C-ACT8-04962794E9	CS-4695	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	058A4D3A-8266-4264-42C9-0FF8F41A107B	CS-7382	b-2
1-2-296	Sed Nunc Ltd	02 62 64 72 48	nbh@yahoo.org	United Kingdom	https://enr.com/bone	058E411-695C-4F3F-86F4-06F700343E7E	CS-7991	b-2

id	Time	Action	Message	Duration / Patch
48	11:20:54	SELECT COUNT(DISTINCT country) AS 'Total països' FROM company A	1 row(s) returned	0.203 sec / 0.000 sec
50	11:24:39	SELECT company_name, ROUND(SUM(amount),2) AS 'Mèdia vendes' FR	1 row(s) returned	0.203 sec / 0.000 sec
51	11:27:26	SELECT DISTINCT SELECT company_name FROM compan	100 row(s) returned	0.203 sec / 0.000 sec
52	11:28:44	SELECT SUM(amount) DATE(DATEPART(YEAR, GETDATE())) AS 'Mèdia PROFIT transacci	5 row(s) returned	0.094 sec / 0.000 sec
53	11:30:19	SELECT c.country, ROUND(SUM(t.amount),2) AS 'Mèdia de les vendes' F	15 row(s) returned	0.205 sec / 0.000 sec
54	11:31:30	SELECT * FROM company c JOIN transaction t ON c.id = t.company_id	12233 row(s) returned	0.000 sec / 0.047 sec

Mostra el llistat aplicant solament subconsultes.

```
92 -- version sql join--
93 SELECT *
94 FROM transaction t
95 WHERE company_id IN (SELECT c.id
96 FROM company c
97 WHERE country =(SELECT country
98 FROM company
99 WHERE company_name = "Non Institute")
100 AND company_name != "Non Institute")
101
102
103 -- NIVELL 3--
104
105
```

id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount	declined
00602804C3A340C43D27F7D4A9C34C	C5-7903	b-2246	2402	45.7666	4.83046	2015-07-30 12:12:42	406.44	0
008738A45A4340E613F7D57535AA17A	C5-8475	b-2246	3894	55.6212	-3.7546	2017-10-26 22:08:26	414.96	0
01070914704640D4A0977D7A4F9C	C5-8700	b-2246	4119	55.856	-1.15783	2018-01-27 11:44:36	203.73	0
023F7C8E61840E8F56C0F805604D0	C5-7816	b-2246	3235	46.3568	1.82755	2016-12-19 11:53:45	218.28	0
02638EBE9F9140449176C0F1662487C1	C5-9471	b-2246	4890	42.1332	12.396	2017-01-10 21:09:29	326.87	0
02C2706C8F34C4E45A4F4686F706C2	C5-9482	b-2246	4901	39.4662	-0.377246	2020-05-24 01:17:29	155.72	0
02F4680C40C40C28B7A81AF	C5-6913	b-2246	2332	52.175	19.3508	2023-03-17 18:36:27	305.35	0
0306E1841764449434E4E49291A104	C5-5302	b-2246	721	51.9233	18.926	2021-12-02 23:06:02	299.98	0
0347F9E4855187E1874C7E8F208F	C5-7474	b-2246	3953	45.766	4.84271	2021-12-30 08:46:24	172.93	0
03AD800C0C9740D39C75A0D670D9D	C5-6121	b-2246	1340	50.8113	10.3145	2018-11-11 11:38:49	114.77	0
03CA26D389F40F40F44C4A4EED0B	C5-8036	b-2246	3405	52.5179	11.4111	2017-02-23 15:38:21	440.27	0
04491621860C43E818F59C3310337	C5-6791	b-2246	2210	61.9562	14.4607	2018-05-17 12:33:33	241.59	0
045AC7F4F834F8F40E4E673065336A	C5-5363	b-2246	782	39.2464	-7.90454	2018-08-09 22:12:54	188.58	0
04892AC458446D195E9A272128C4C	C5-7396	b-2246	2715	51.1647	10.7248	2023-03-20 04:29:22	355.45	0
0490C36A48024CDD81384083AC6C6C3	C5-7139	b-2246	2958	46.4281	1.64603	2023-05-20 19:28:00	424.64	0
04A0ADEF8224E594A014887038A33	C5-4871	b-2246	290	52.0589	5.5327	2022-11-04 05:35:08	461.34	0
05121181613A40FE8F74550840F9D	C5-6651	b-2246	2070	36.684	-8.57302	2024-02-08 02:51:18	62.15	0
052311218559486548054696F4AEC	C5-8392	b-2246	3811	46.2212	1.99333	2023-02-02 11:21:26	132.86	0
05A46C7C174115151515151515151515	C5-4880	b-2246	304	51.8547	19.1269	2015-01-18 08:53:57	31.94	0
0570E9F4C4D24C7C40754F462754E1	C5-4895	b-2246	314	52.0796	4.30053	2023-04-01 18:28:43	209.79	0
05F4A0D8430843284328432843284328	C5-7082	b-2246	2001	46.138	2.37954	2025-01-15 17:35:10	122.73	0
05B8E4418FEC44F54F54F54F54F54F54	C5-7991	b-2246	2110	46.3368	3.36072	2023-08-05 18:57:23	136.94	0
06002FEAC7B04B7C49FE49FE49FE49FE49	C5-6071	b-2246	1490	52.3959	19.5064	2022-12-03 20:04:59	114.09	0

transaction 40 x

Output

#	Time	Action	Message	Duration / Fetch
50	11:24:39	SELECT company_name, ROUND(VG(amount),2) AS 'Meda ventas' FR...	1 row(s) returned	0.203 sec / 0.000 sec
51	11:27:26	SELECT DISTINCT(SELECT c company_name FROM compan...	100 row(s) returned	0.203 sec / 0.000 sec
52	11:28:44	SELECT SUM(amount),DATE(timestamp) AS fecha FROM transaction W...	5 row(s) returned	0.094 sec / 0.000 sec
53	11:30:19	SELECT c country, ROUND(VG(amount),2) AS 'Meda de las ventas' F...	15 row(s) returned	0.250 sec / 0.000 sec
54	11:31:30	SELECT * FROM company c JOIN transaction t ON t.id = c company_id...	12233 row(s) returned	0.000 sec / 0.047 sec
55	11:32:01	SELECT * FROM transaction t WHERE company_id IN (SELECT c id FR...	12233 row(s) returned	0.000 sec / 0.047 sec

Añadir “ AND company_name !='Non Institute'” para filtrar la empresa a la que queremos comparar

Nivell 3

Exercici 1

Presenta el nom, telèfon, país, data i amount, d'aquelles empreses que van realitzar transaccions amb un valor comprès entre 350 i 400 euros i en alguna d'aquestes dates: 29 d'abril del 2015, 20 de juliol del 2018 i 13 de març del 2024. Ordena els resultats de major a menor quantitat.

108 -- Ejercicio 1--
109
110 • SELECT c.company_name,c.phone ,c.country, CAST(timestamp AS DATE) AS fecha, amount
111 FROM company c
112 JOIN transaction t
113 ON c.id = t.company_id
114 WHERE CAST(timestamp AS DATE) IN ("2015-04-29","2018-06-20","2024-03-13") AND t.amount BETWEEN 350 AND 400
115 ORDER BY amount DESC
116 ;
117
118 -- Ejercicio 2 --
119 -- Lo he ordenado por nombre porque me parece mas practico para encontrar alguna empresa en concreto--
120
121 • SELECT c.company_name,COUNT(t.id),
122

Result Grid

company_name	phone	country	fecha	amount
Aliquam PC	01 45 73 52 16	Germany	2024-03-13	399.84
Tristique Neque Venenatis Institute	04 34 85 12 85	Sweden	2018-06-20	398.98
Nunc Interdum Incorporated	05 18 15 48 13	Germany	2018-06-20	397.86
Nunc Interdum Incorporated	05 18 15 48 13	Germany	2018-06-20	392.97
At Pede Corp.	06 14 48 33 15	Italy	2015-04-29	390.69
Aliquam PC	01 45 73 52 16	Germany	2024-03-13	388.29
Erat LLP	03 18 88 77 79	Netherlands	2018-06-20	376.15
Fringilla LLC	08 29 15 93 57	New Zealand	2015-04-29	367.62
Amet Faucibus Ut Foundation	03 21 62 47 12	United Kingdom	2018-06-20	367.12
Aliquet Sem Limited	03 75 57 02 01	Netherlands	2018-06-20	359.19
Auctor Mauris Vel LLP	08 09 28 74 14	United States	2024-03-13	353.75

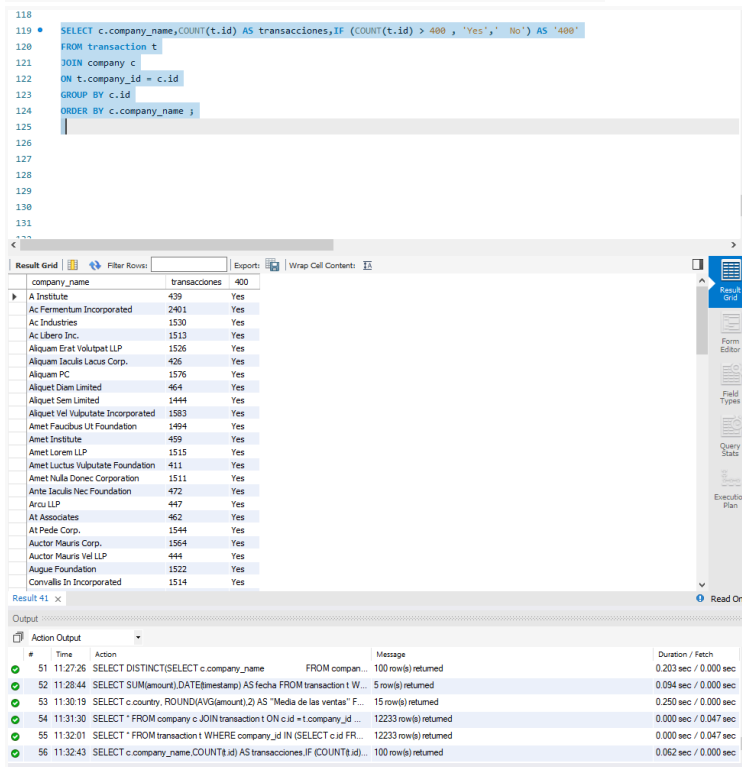
Result 25 x

Output

#	Time	Action	Message	Duration / Fetch
20	13:17:57	SELECT c.country, AVG(amount) AS "Media de las ventas" FROM compa...	15 row(s) returned	0.234 sec / 0.000 sec
21	13:19:05	SELECT * FROM company c JOIN transaction t ON c.id = t.company_id ...	13776 row(s) returned	0.000 sec / 0.047 sec
22	13:19:46	SELECT * FROM transaction t WHERE company_id IN (SELECT id FRO...	13776 row(s) returned	0.000 sec / 0.047 sec
23	13:20:30	SELECT * FROM company c JOIN transaction t ON c.id = t.company_id ...	13776 row(s) returned	0.000 sec / 0.063 sec
24	13:20:59	SELECT * FROM transaction t WHERE company_id IN (SELECT id FRO...	13776 row(s) returned	0.000 sec / 0.047 sec
25	13:22:16	SELECT c.company_name,c.phone ,c.country, CAST(timestamp AS DAT...	11 row(s) returned	0.062 sec / 0.000 sec

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 400 transaccions o menys.



```
118
119 • SELECT c.company_name,COUNT(t.id) AS transacciones,IF ((COUNT(t.id) > 400 , "Yes", " No") AS '400'
120 FROM transaction t
121 JOIN company c
122 ON t.company_id = c.id
123 GROUP BY c.id
124 ORDER BY c.company_name ;
125
126
127
128
129
130
131
```

company_name	transacciones	400
A Institute	439	Yes
Ac Femerhum Incorporated	2401	Yes
Ac Industries	1530	Yes
Ac Libero Inc.	1513	Yes
Alquam Erat Volupat LLP	1526	Yes
Alquam Jaculis Lacus Corp.	426	Yes
Alquam PC	1576	Yes
Alquet Diam Limited	464	Yes
Alquet Sem Limited	1444	Yes
Alquet Vel Vulputate Incorporated	1583	Yes
Amet Faucibus Ut Foundation	1494	Yes
Amet Institute	459	Yes
Amet Lorem LLP	1515	Yes
Amet Luctus Vulputate Foundation	411	Yes
Amet Nulla Donec Corporation	1511	Yes
Ante Jaculis Nec Foundation	472	Yes
Arcu LLP	447	Yes
At Associates	462	Yes
At Pede Corp.	1544	Yes
Auctor Mauris Corp.	1564	Yes
Auctor Mauris Vel LLP	444	Yes
Augue Foundation	1522	Yes
Convallis In Incorporated	1514	Yes

Result 41 x

Read On

Output

#	Time	Action	Message	Duration / Fetch
51	11:27:26	SELECT DISTINCT(SELECT c.company_name	FROM compan...	100 row(s) returned
52	11:28:44	SELECT SUM(amount),DATE(timestamp) AS fecha FROM transaction t W...	5 row(s) returned	0.203 sec / 0.000 sec
53	11:30:19	SELECT c.country, ROUND(AVG(amount),2) AS "Media de las ventas" F...	15 row(s) returned	0.094 sec / 0.000 sec
54	11:31:30	SELECT * FROM company c JOIN transaction t ON c.id = t.company_id ...	12233 row(s) returned	0.250 sec / 0.000 sec
55	11:32:01	SELECT * FROM transaction t WHERE company_id IN (SELECT c.id FR...	12233 row(s) returned	0.000 sec / 0.047 sec
56	11:32:43	SELECT c.company_name,COUNT(t.id) AS transacciones,IF (COUNT(t.id) ...	100 row(s) returned	0.000 sec / 0.047 sec

Cambiar el CASE por un IF porque es más práctico con pocos casos.

rafael fons