

BOOTCAMP ANALISIS DE DATOS
IT ACADEMY – BARCELONA ACTIVA

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DESCRIPCIÓN

Realizarás distintos scripts para mostrar la información que se te solicita desde la base de datos que usaste en el sprint anterior.

NIVEL 1

- **Ejercicio 1**

Muestra todas las transacciones realizadas por empresas de Alemania.

```
10
11 •  SELECT transaction.id transaction_ID, company_name, credit_card_id, DATE(timestamp) date, amount, declined, country
12   FROM company
13   JOIN transaction
14     ON company.id = transaction.company_id
15   WHERE company_id IN (SELECT id
16     FROM company
17     WHERE country = 'Germany');
18
19
20 •  SELECT id, (SELECT company_name FROM company WHERE transaction.company_id = company.id) AS company,
21       credit_card_id, DATE(timestamp), amount, declined,
22       (SELECT country FROM company WHERE transaction.company_id = company.id) AS country
23   FROM transaction
24   WHERE company_id IN (
25     SELECT id
26     FROM company
27     WHERE country = 'Germany');
28
```

El presente ejercicio lo realizó con JOIN y también con SUBQUERIES el resultado es el mismo, como se observa a continuación. (118 rows).

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

id	company	credit_card_id	DATE(timestamp)	amount	declined	country
▶ 108B1D1D-5B23-A76C-55EF-C568E49A05DD	Ac Fermentum Incorporated	CcU-2938	2021-07-07	293.57	0	Germany
EA2C3281-C9C1-A387-44F8-729FB4B51C76	Ac Fermentum Incorporated	CcU-2938	2021-05-09	119.36	1	Germany
0DD2E608-5C9E-D1B3-4999-B99F43AD735A	Convallis In Incorporated	CcU-2959	2021-04-17	252.47	1	Germany
AB069F53-965E-A2A8-CE06-CA8C4FD92501	Convallis In Incorporated	CcU-2959	2021-04-15	60.99	0	Germany
0466A42E-47CF-8D24-FD01-C0B689713128	Nunc Interdum Incorporated	CcU-4219	2021-07-26	49.53	0	Germany
0A476ED9-0C13-1962-F87B-D3563924B539	Nunc Interdum Incorporated	CcU-4359	2022-02-26	430.49	0	Germany
122DC333-E19F-D629-DCD8-9C54CF1EB89A	Nunc Interdum Incorporated	CcU-4366	2021-06-09	172.01	0	Germany
135267BA-2E7D-957C-C42C-6450A2B3ED54	Nunc Interdum Incorporated	CcU-4520	2021-12-29	17.97	0	Germany
14CAE5B5-8FB1-3E4A-4C85-0EA4167534F4	Nunc Interdum Incorporated	CcU-4849	2021-12-31	388.04	0	Germany
158A3ACB-541C-DBCC-65BD-6373CC67BF1C	Nunc Interdum Incorporated	CcU-4849	2022-03-08	240.29	0	Germany
162C7E78-2B6B-7971-A1E4-D2124E732451	Nunc Interdum Incorporated	CcU-4527	2021-04-11	231.26	0	Germany
1717FD6B-ADAD-7082-A748-9112BE892CCC	Nunc Interdum Incorporated	CcU-4219	2021-12-29	249.91	0	Germany
1753A288-9FC1-52E6-5C39-A1FFB97B0D3A	Nunc Interdum Incorporated	CcU-4345	2021-08-17	497.84	0	Germany

Result 7 ×

Output:

Action Output

#	Time	Action	Message
1	09:49:14	SELECT transaction.id transaction_ID, company_name, credit_card_id, DATE(timestamp) date, amount, declin...	118 row(s) returned
2	09:49:21	SELECT id, (SELECT company_name FROM company WHERE transaction.company_id = company.id) AS co...	118 row(s) returned

- **Ejercicio 2**

Marketing está preparando algunos informes de cierres de gestión, te piden que les pases un listado de las empresas que han realizado transacciones por una suma superior a la media de todas las transacciones.

```

36 •   SELECT company.id, company_name, phone, email, country, website, SUM(amount) average_amount
37   FROM company
38   JOIN transaction
39   ON company.id = transaction.company_id
40   GROUP BY company.id, company_name, phone, email, country, website
41   HAVING SUM(amount) >
42   (SELECT ROUND(AVG(amount),2)
43   FROM transaction)
44   ORDER BY average_amount DESC;
45

```

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

	id	company_name	phone	email	country	website	average_amount
▶	b-2302	Nunc Interdum Incorporated	05 18 15 48 13	non@outlook.com	Germany	https://wikipedia.org/en-us	25622.65
	b-2346	Ut Semper Foundation	01 60 36 33 06	consectetuer@google.ca	Sweden	https://ebay.com/settings	16150.24
	b-2494	Malesuada PC	01 74 85 68 70	cras.lorem.lorem@outlook.com	Ireland	https://yahoo.com/fr	15013.93
	b-2326	Enim Condimentum Ltd	09 55 51 66 25	imperdiet.non.vestibulum@yahoo.net	United Kingdom	https://cnn.com/group/9	14616.05
	b-2278	Arcu LLP	06 46 04 41 45	dui@aol.ca	Norway	https://yahoo.com/sub	14116.04
	b-2362	Lorem Eu Incorporated	01 83 66 62 07	enim.gravida.sit@hotmail.net	Canada	https://baidu.com/en-ca	13813.73
	b-2618	Non Institute	06 77 15 31 14	amet.metus@protonmail.co.uk	United Kingdom	https://guardian.co.uk/settings	8911.24
	b-2398	Eget Ipsum Ltd	03 67 44 56 72	lacinia.at.iaculis@hotmail.net	United States	https://whatsapp.com/settings	946.15
	b-2310	Non Magna LLC	06 71 73 13 17	nisl.quisque.fringilla@hotmail.ca	United Kingdom	https://whatsapp.com/site	936.69
	b-2410	Sed Id Limited	07 28 18 18 13	iaculis.enim@outlook.net	United States	https://netflix.com/sub/cars	922.42
	b-2454	Justo Eu Arcu Ltd	08 42 56 71 52	ac.facilisis@icloud.co.uk	Italy	https://nytimes.com/group/9	887.27
	b-2458	Eget Tincidunt Dui Institute	05 35 93 32 44	eget.laoreet@hotmail.org	Netherlands	https://wikipedia.org/user/110	885.04
	b-2522	Viverra Donec Foundation	03 33 12 32 73	dictum.eu@outlook.net	United Kingdom	https://nytimes.com/site	884.56
	b-2258	Vestibulum Lorem PC	02 02 87 33 40	aenean.massa.integer@aol.net	Belgium	https://pinterest.com/sub/cars	868.12
	b-2510	Maecenas Malesuada Fringili...	09 38 53 76 61	id.ante@yahoo.ca	Netherlands	https://zoom.us/en-us	817.24
	b-2406	Non Ante LLP	08 89 47 65 08	at.augue.id@aol.net	Sweden	https://nytimes.com/group/9	815.58
	b-2490	Nunc Sit Incorporated	07 28 42 63 63	pede.ultrices@icloud.net	Norway	https://naver.com/en-ca	810.71
	b-2226	Magna A Neque Industries	04 14 44 64 62	risus.donec.nibh@icloud.org	Australia	https://whatsapp.com/group/9	792.63
	b-2526	Amet Luctus Vulpitate Fou...	03 18 54 24 19	nulla@outlook.com	Canada	https://netflix.com/en-ca	780.65
	b-2566	Aliquam PC	01 45 73 52 16	scelerisque.mollis@icloud.org	Germany	https://yahoo.com/en-ca	770.53
	b-2382	Neque Tellus Incorporated	04 43 18 34 19	ultrices.iaculis.odo@aol.ca	Ireland	https://ooodle.com/site	728.01

Result 10 ×

Output

Action Output

#	Time	Action	Message
1	09:58:26	SELECT company.id, company.name, phone, email, country, website, SUM(amount) average_amount FROM ...	83 row(s) returned

- **Ejercicio 3**

El departamento de contabilidad perdió la información de las transacciones realizadas por una empresa, pero no recuerdan su nombre, sólo recuerdan que su nombre iniciaba con la letra c. ¿Cómo puedes ayudarles? Coméntelo acompañándolo de la información de las transacciones.

```

51
52 •   SELECT company_name, country, DATE(timestamp), ROUND(amount, 1) amount, declined
53     FROM company
54     JOIN transaction
55       ON company.id = transaction.company_id
56     WHERE company_name IN (
57       SELECT company_name
58         FROM company
59           WHERE company_name LIKE 'C%')
60     ORDER BY company_name;
61

```

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

	company_name	country	DATE(timestamp)	amount	declined
▶	Convallis In Incorporated	Germany	2021-04-17	252.5	1
	Convallis In Incorporated	Germany	2021-04-15	61.0	0
	Cras Consulting	Belgium	2021-03-18	60.9	0
	Cras Consulting	Belgium	2021-11-28	230.4	1
	Cras Vehicula Aliquet Industries	Netherlands	2021-07-23	158.1	1
	Cras Vehicula Aliquet Industries	Netherlands	2021-10-27	181.9	0

Result 13 x

Output

Action Output

#	Time	Action	Message
1	10:03:56	SELECT company_name, country, DATE(timestamp), ROUND(amount, 1) amount, declined FROM company J...	6 row(s) returned

- **Ejercicio 4**

Eliminaron del sistema a las empresas que no tienen transacciones registradas, entrega el listado de estas empresas.

```
66 •  SELECT id
67   FROM company
68   WHERE NOT EXISTS  (SELECT company_id
69     FROM transaction);
70
```

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

	id
*	HULL

company 29 x

Output

Action Output

#	Time	Action	Message
1	10:36:42	SELECT id FROM company WHERE NOT EXISTS(SELECT company_id FROM transaction)	0 row(s) returned

La consulta vuelve las id de empresas que al menos tienen una transacción registrada en la tabla transaction, sin embargo, debido a que todas las empresas tienen al menos una transacción, esta consulta no devuelve ningún id como resultado.

NIVEL 2

• Ejercicio 1

En tu empresa se plantea un nuevo proyecto para lanzar algunas campañas publicitarias para hacer competencia a la compañía Non Institute. Para ello, te piden la lista de todas las transacciones realizadas por empresas que están ubicadas en el mismo país que esta compañía.

```
81 •  SELECT company.id, company_name, phone, email, country, website, transaction.id, DATE(timestamp) date, amount, declined
82   FROM company
83   JOIN transaction
84   ON company.id = transaction.company_id
85   WHERE (country = (SELECT country
86     FROM company
87     WHERE company_name = 'Non Institute'));
```

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

id	company_name	phone	email	country	website	id	date	amount	declined
b-2246	Sed Nunc Ltd	02 62 64 73 48	nibh@yahoo.org	United Kingdom	https://cnn.com/one	2B928E1C-EC14-A760-0A75-871477649D6A	2021-08-10	383.73	0
b-2246	Sed Nunc Ltd	02 62 64 73 48	nibh@yahoo.org	United Kingdom	https://cnn.com/one	ACD2011A-A2B1-C365-41E1-2A800C65147A	2022-03-05	60.07	1
b-2310	Non Magna LLC	06 71 73 13 17	nisl quisque.fringilla@hotmail.ca	United Kingdom	https://whatsapp.com/site	4334349E-CEB0-3D68-A4D1-FEB7718A1ACE	2021-05-03	458.74	0
b-2310	Non Magna LLC	06 71 73 13 17	nisl quisque.fringilla@hotmail.ca	United Kingdom	https://whatsapp.com/site	BC2B9A38-77B4-28CD-1F68-14ED863E773	2021-10-18	477.95	1
b-2326	Enim Condimentum Ltd	09 55 51 66 25	imperdiet.non.vestibulum@yahoo.net	United Kingdom	https://cnn.com/group/9	147983D-2-B7A-C7B8-4CE3-8D7C2DE85ABF	2021-08-09	309.45	0
b-2326	Enim Condimentum Ltd	09 55 51 66 25	imperdiet.non.vestibulum@yahoo.net	United Kingdom	https://cnn.com/group/9	152598C8-2-02D-0684-4B66-91EDF393EBFF	2021-07-05	395.43	0
b-2326	Enim Condimentum Ltd	09 55 51 66 25	imperdiet.non.vestibulum@yahoo.net	United Kingdom	https://cnn.com/group/9	1B636858-A2E8-7C69-D9C9-C5453DAFD3B	2021-07-06	195.06	0
b-2326	Enim Condimentum Ltd	09 55 51 66 25	imperdiet.non.vestibulum@yahoo.net	United Kingdom	https://cnn.com/group/9	204180E5-B804-BE98-BD7A-A95C1BFDBF5C	2022-01-03	479.52	0
b-2326	Enim Condimentum Ltd	09 55 51 66 25	imperdiet.non.vestibulum@yahoo.net	United Kingdom	https://cnn.com/group/9	23988576-6-C0E-137A-C2F-3180A188A2D3	2021-08-26	43.90	0
b-2326	Enim Condimentum Ltd	09 55 51 66 25	imperdiet.non.vestibulum@yahoo.net	United Kingdom	https://cnn.com/group/9	267C4A86-7BA7-C15E-0718-2824983C87D0	2021-10-01	122.63	0
b-2326	Enim Condimentum Ltd	09 55 51 66 25	imperdiet.non.vestibulum@yahoo.net	United Kingdom	https://cnn.com/group/9	31427019E-BB7-40F4-FF70-707A92d1080	2021-10-06	91.50	0

Result 35 X

Output:

Action Output

#	Time	Action	Message
1	10:58:14	SELECT company.id, company_name, phone, email, country, website, transaction.id, DATE(timestamp) date, ...,	100 row(s) returned

Non Institute está ubicada en United Kingdom, en la consulta anterior se generó un listado de las transacciones realizadas por todas las compañías en dicho país para enfocar las campañas publicitarias.

- **Ejercicio 2**

El departamento de contabilidad necesita que encuentres a la empresa que ha realizado la transacción de mayor "amount" en la base de datos.

```
93 •   SELECT company.id, company_name, phone, email, country, website, amount
94     FROM company
95     JOIN transaction
96       ON company.id = transaction.company_id
97     WHERE amount = (SELECT MAX(amount)
98                   FROM transaction);
```

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

	id	company_name	phone	email	country	website	amount
▶	b-2302	Nunc Interdum Incorporated	05 18 15 48 13	non@outlook.com	Germany	https://wikipedia.org/en-us	499.23

Result 37 ×

Output:

Action Output

#	Time	Action	Message
1	11:32:27	SELECT company.id, company_name, phone, email, country, website, amount FROM company JOIN transaction WHERE amount = (SELECT MAX(amount) FROM transaction);	1 row(s) returned

NIVEL 3

- **Ejercicio 1**

Se están estableciendo los objetivos de la empresa para el siguiente trimestre, por lo que necesitan una sólida base para evaluar el rendimiento y medir el éxito en los diferentes mercados. Para ello, necesitan el listado de los países cuya media de transacciones sea superior a la media general.

```
112 •  SELECT country, ROUND(AVG(amount),2) AVG_Country  
113   FROM company  
114   JOIN transaction  
115     ON company.id = transaction.company_id  
116   GROUP BY country  
117   HAVING AVG_Country > (SELECT AVG(amount)  
118           FROM transaction)  
119   ORDER BY AVG_Country DESC;
```

The screenshot shows a database query results grid. The grid has two columns: 'country' and 'AVG_Country'. The data rows are:

country	AVG_Country
United States	309.18
Ireland	277.31
United Kingdom	270.73
Canada	266.36
Sweden	260.62

The screenshot shows a database query log titled 'Result 39'. It displays the executed SQL statement and its execution details. The log table has columns: #, Time, Action, and Message.

#	Time	Action	Message
1	11:36:01	SELECT country, ROUND(AVG(amount),2) AVG_Country FROM company JOIN transaction ON company.id = ...	5 row(s) returned

- **Ejercicio 2**

Necesitamos optimizar la asignación de los recursos y dependerá de la capacidad operativa que se requiera, por lo que te piden la información sobre la cantidad de transacciones que realizan las empresas, pero el departamento de recursos humanos es exigente y quiere un listado de las empresas donde especifiques si tienen más de 4 o menos transacciones.

```

132 •   SELECT company.id, company_name, COUNT(transaction.id) no_transactions,
133     CASE -- Crea una nueva columna y su valores dependerán de las condiciones [WHEN (condición) THEN (resultado)] utilizadas
134       WHEN COUNT(transaction.id) > 4 THEN '> 4 transactions'
135       WHEN COUNT(transaction.id) BETWEEN 0 AND 4 THEN '< = 4 transactions'
136       ELSE 'Any transactions'
137     END AS 'groups' -- Finaliza el CASE y asigna un nombre a dicha columna que en este caso es groups.
138   FROM transaction
139   JOIN company
140   ON company.id = transaction.company_id
141   GROUP BY company_id
142   ORDER BY no_transactions DESC;

```

The screenshot shows a database query results interface. At the top, there is a code editor window displaying the SQL query. Below it is a 'Result Grid' table with four columns: id, company_name, no_transactions, and groups. The table contains 41 rows of data. A message log at the bottom shows one entry: a successful SELECT query execution.

id	company_name	no_transactions	groups
b-2302	Nunc Interdum Incorporated	105	> 4 transactions
b-2346	Ut Semper Foundation	59	> 4 transactions
b-2326	Enim Condimentum Ltd	57	> 4 transactions
b-2278	Arcu LLP	56	> 4 transactions
b-2362	Lorem Eu Incorporated	53	> 4 transactions
b-2494	Malesuada PC	52	> 4 transactions
b-2618	Non Institute	30	> 4 transactions
b-2222	Ac Fermentum Incorporated	2	< = 4 transactions

Result 41 ×

Output:

Action Output

#	Time	Action	Message
1	11:43:27	SELECT company.id, company_name, COUNT(transaction.id) no_transactions, CASE -- Crea una nueva colu...	101 row(s) returned