

☆☆ Nivell 1

Descàrrega els arxius CSV, estudia'ls i dissenya una base de dades amb un esquema d'estrella que contingui, almenys 4 taules de les quals puguis realitzar les següents consultes:

Anàlisis exploratori previ a la creació de la base de dades:

- Tipus d'arxiu: csv amb una quantitat de 7 en total.
- Estructura: 6 taules de dimensions i una de fets amb les següents característiques:
 - Users: 3 arxius en total corresponent a 3 països: USA, Canada i UK. Les 3 són taules de dimensions i tenen 10 columnes cadascuna. La taula USA té 150 registres, la de Canada té 75 i la de UK té 50 . Aquestes 3 taules es fusionaran amb 1 sola.

users_usa.csv

Origen de archivo			Delimitador		Detección del tipo de datos				
1252: Europeo occidental (Windows)			Coma		Basado en las primeras 200 filas				
id	name	surname	phone	email	birth_date	country	city	postal_code	address
1	Zeus	Gamble	1-282-581-0551	interdum.enim@protonmail.edu	17/11/1985	United States	Lowell	73544	348-7818 Sagittis St.
2	Garrett	Mcconnell	(718) 257-2412	integer.vitae.nibh@protonmail.org	23/08/1992	United States	Des Moines	59464	903 Sit Ave
3	Claran	Harrison	(522) 598-1365	interdum.feugiat@aol.org	29/04/1998	United States	Columbus	56518	736-2063 Tellus St.
4	Howard	Stafford	1-411-740-3269	ornare.egestas@icloud.edu	18/02/1989	United States	Kailua	77417	Ap #545-2244 Erat. Rd.
5	Hayfa	Pierce	1-554-541-2077	et.malesuada.fames@hotmail.org	26/09/1998	United States	Sandy	31564	341-2821 Ultrices Av.

users_uk.csv

Origen de archivo			Delimitador		Detección del tipo de datos				
1252: Europeo occidental (Windows)			Coma		Basado en las primeras 200 filas				
id	name	surname	phone	email	birth_date	country	city	postal_code	address
151	Meghan	Hayden	0800 746 6747	arcu.vel@hotmail.ca	02/07/1980	United Kingdom	Tullibody	A1Y 3TC	Ap #432-4493 Aliquet Rd.
152	Hakeem	Alford	(0111) 367 0184	adipiscing.ligula@google.edu	30/09/1979	United Kingdom	Kettering	O21 7JV	551-8930 Lobortis Street
153	Keegan	Pugh	(016977) 3851	sodales.nisi@aol.org	27/07/1994	United Kingdom	Whitehaven	HQ8V 7YP	Ap #312-5898 Consectetuer St.
154	Cooper	Bullock	(021) 2521 6627	et@outlook.net	02/11/1986	United Kingdom	Presteigne	U18 0DN	872-1866 Pede Rd.
155	Joshua	Russell	055 4409 5286	justo.nec.ante@outlook.edu	23/01/1984	United Kingdom	Hatfield	B5H 5CS	Ap #285-4727 Auctor. Av.

users_ca.csv

Origen de archivo			Delimitador		Detección del tipo de datos				
65001: Unicode (UTF-8)			Coma		Basado en las primeras 200 filas				
id	name	surname	phone	email	birth_date	country	city	postal_code	address
201	Iola	Powers	018-139-4717	ante.blandit@outlook.edu	20/03/2000	Canada	Rigolet	V6T 6M7	154-5415 Auctor St.
202	Maxwell	Holden	045-402-7693	donec@hotmail.edu	02/12/1986	Canada	Murdochville	S7E 6E0	Ap #880-6372 Ultrices. St.
203	Jarrold	Fields	010-741-8105	sit.amet@google.couk	06/01/1982	Canada	Baddeck	K3X 6Z5	441-8969 Rhoncus Road
204	Emerson	Sharp	068-138-9383	ante.iaculis@outlook.ca	15/10/1994	Canada	Maple Creek	Y2C 9E6	517-6759 Ut, Av.
205	Sonya	McKee	041-151-9737	magna.phasellus.dolor@google.ca	07/05/1983	Canada	Dieppe	E7S 4P8	Ap #916-8051 A St.

- Transactions: taula de fets amb 587 registres i 10 columnes

id	card_id	business_id	timestamp	amount	declined	product_ids	user_id	lat	longitude
108B1D1D-5B	CcU-2938	b-2222	07/07/2021 17:43	293.57	0	59	275	837.839.152.128	-178.860.353.536
7DC26247-20	CcU-2945	b-2226	04/02/2022 15:52	312.5	0	71, 41	275	589.367.181.312	-768.171.099.136
72997E96-DC	CcU-2952	b-2230	30/01/2022 15:16	239.87	0	97, 41, 3	275	433.584.055.296	-176.579.677.184
AB069F53-96	CcU-2959	b-2234	15/04/2021 13:37	60.99	0	11, 13, 61, 29	275	16.481.916.928	-1.580.065.729.536

- Products: taula de dimensions amb 6 columnes i 100 registres

products.csv

Origen de archivo

Delimitador

1252: Europeo occidental (Windows)

Coma

id	product_name	price	colour	weight	warehouse_id
1	Direwolf Stannis	\$161.11	#7c7c7c	1	WH-4
2	Tarly Stark	\$9.24	#919191	2	WH-3
3	duel tourney Lannister	\$171.13	#d8d8d8	15	WH-2
4	warden south duel	\$71.89	#111111	3	WH-1
5	skywalker ewok	\$171.22	#dbdbdb	32	WH-0

- Credit_cards: taula de dimensions amb 9 columnes i 275 registres.

credit_cards.csv

Origen de archivo

Delimitador

Detección del tipo de datos

1252: Europeo occidental (Windows)

Coma

Basado en las primeras 200 filas

id	user_id	iban	pan	pin	cvv	track1	track2	expiring_date
CcU-2938	275	TR301950312213576817638661	5424465566813633	3257	984	%B8383712448554646^WovsxejDpwiev^8604114277	%B7653863056044187=800716333673	10/30/22
CcU-2945	274	DO26854763748537475216568689	5142423821948828	9080	887	%B4621311609958661^UftuyfsSeimxn^061062824177	%B4149568437843501=510714033071	08/24/23
CcU-2952	273	BG45IVQL52710525608255	4556 453 55 5287	4598	438	%B2183285104307501^CddytcUxwfdq^590795543079	%B6778580257827162=6906859740077	06/29/21
CcU-2959	272	CR7242477244335841535	372461377349375	3583	667	%B7281111956795320^XocddjBckecd^0901625373	%B4246154489281853=280522391678	02/24/23
CcU-2966	271	BG72LKTQ15627628377363	448566 886747 7265	4900	130	%B4728932322756223^JhlgvsuFbmwgj^7202289494377	%B2318571115599881=890821578475	10/29/24

- Companies: taula de dimensions amb 6 columnes i 275 registres. Al visualitzar el csv veiem que els encapçalats es llegeixen com a primera línia. Abans de fer la càrrega a mysql modificaré aquesta peculiaritat.

companies.csv

Origen de archivo

Delimitador

Detección del tipo de datos

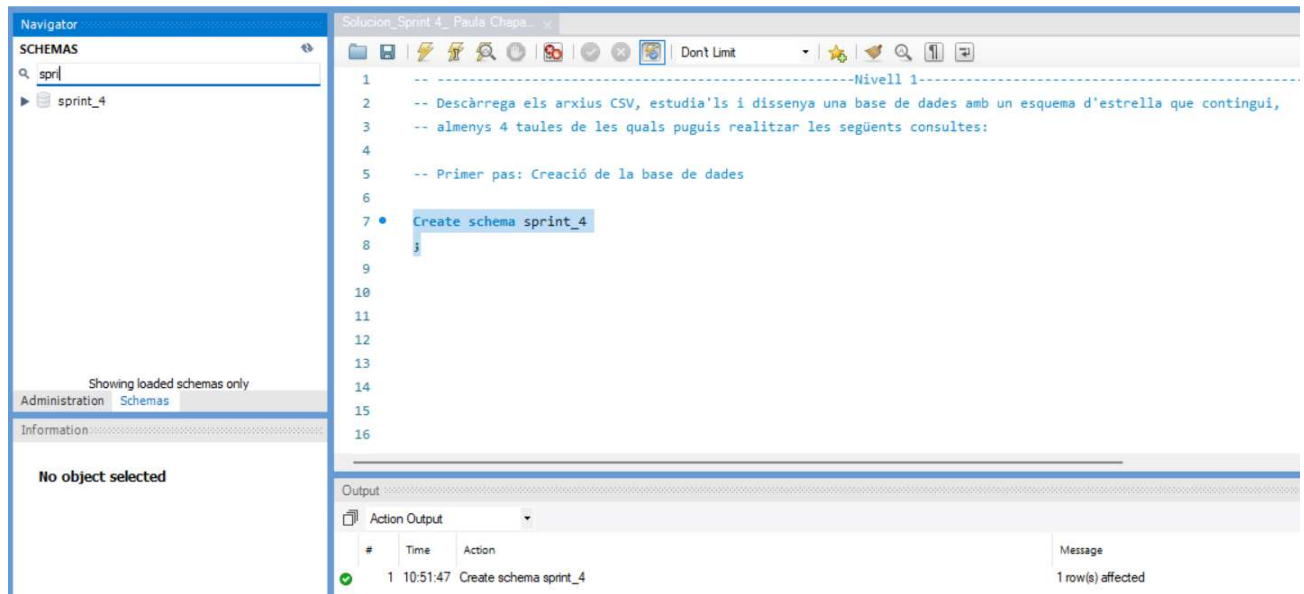
1252: Europeo occidental (Windows)

Coma

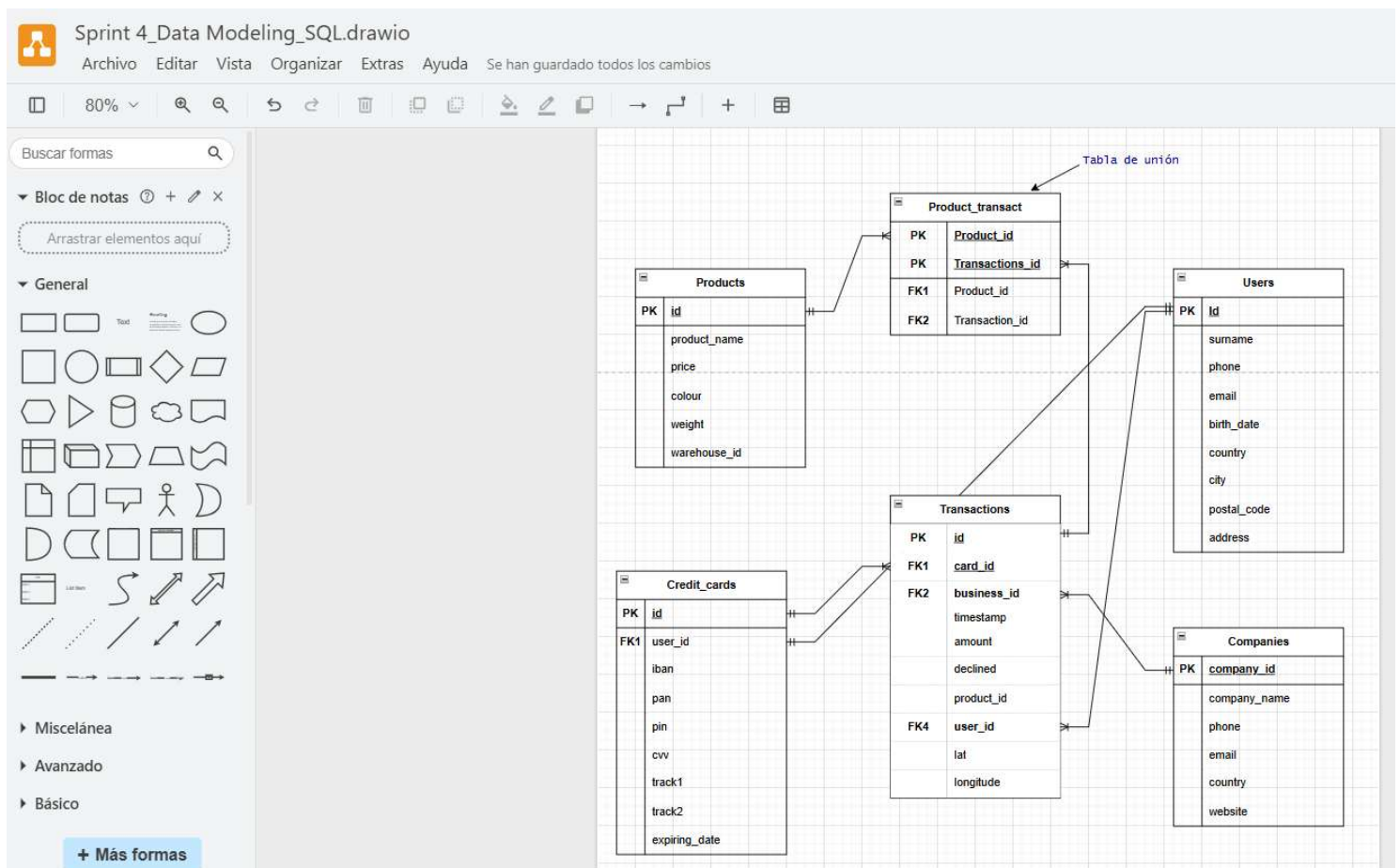
Basado en las primeras 200 filas

Column1	Column2	Column3	Column4	Column5	Column6
company_id	company_name	phone	email	country	website
b-2222	Ac Fermentum Incorporated	06 85 56 52 33	donec.porttitor.tellus@yahoo.net	Germany	https://instagram.com/site
b-2226	Magna A Neque Industries	04 14 44 64 62	risus.donec.nibh@icloud.org	Australia	https://whatsapp.com/group/9
b-2230	Fusce Corp.	08 14 97 58 85	risus@protonmail.edu	United States	https://pinterest.com/sub/cars
b-2234	Convallis In Incorporated	06 66 57 29 50	mauris.ut@aol.couk	Germany	https://cnn.com/user/110
b-2238	Ante Iaculis Nec Foundation	08 23 04 99 53	sed.dictum.proin@outlook.ca	New Zealand	https://netflix.com/settings

Creació de la base de dades i les seves taules:



Abans de crear les taules he fet servir draw.io per dissenyar un esborrany de l'esquema per tal de visualitzar com quedarien e identificar les seves connexions:



Solucio Sprint 4_ Paula Chapa_ x

Don't Limit

```
10 -- Segon pas creació de les taules
11
12 -- Taula Users
13
14 • create table users (
15     id int not null,
16     name varchar(100) null,
17     surname varchar(100) null,
18     phone varchar(150) null,
19     personal_email varchar(150) null,
20     birth_date varchar(100) null,
21     country varchar(150) null,
22     city varchar(150) null,
23     postal_code varchar(100) null,
24     address varchar(255) null,
25     primary key (id)
26 )
27 ;
28
```

Output

Action Output

#	Time	Action	Message
✓ 1	10:16:04	create table users (id int not null, name varchar(100) null, surname varchar(100) null, phone varchar(...	0 row(s) affected

Solucio Sprint 4_ Paula Chapa_ x

Don't Limit

```
41 -- taula credit_cards
42 • create table credit_cards (
43     id varchar(15) not null,
44     user_id int default null,
45     iban varchar(45) default null,
46     pan varchar(30) default null,
47     pin varchar(4) default null,
48     cvv int default null,
49     track1 varchar(255) default null ,
50     track2 varchar(255) default null,
51     expiring_date varchar(20) default null,
52     primary key (id)
53 )
54 ;
```

Output

Action Output

#	Time	Action	Message
✓ 1	10:17:40	create table credit_cards (id varchar(15) not null, user_id int default null, iban varchar(45) default null, pan...	0 row(s) affected

Solucion_Sprint 4_ Paula Chapa_ x

Don't Limit

```
56 -- taula companies
57 • create table companies (
58     company_id varchar(20) not null,
59     company_name varchar(255) default null,
60     phone varchar(20) default null,
61     email varchar(100) default null,
62     country varchar(100) default null,
63     website varchar(255) default null,
64     primary key (company_id)
65 )
66 ;
67
```

Output

Action Output

#	Time	Action	Message
1	10:19:00	create table companies (company_id varchar(20) not null, company_name varchar(255) default null, pho...	0 row(s) affected

Solucion_Sprint 4_ Paula Chapa_ x

Don't Limit

```
56 -- Taula transactions
57 • create table transactions (
58     id varchar(255) not null,
59     card_id varchar(15) default null,
60     business_id varchar(20) default null,
61     timestamp timestamp default null,
62     amount decimal(10,2) default null,
63     declined tinyint(1) default null,
64     product_id varchar(15) default null,
65     user_id int default null,
66     lat float default null,
67     longitude float default null,
68     primary key (id),
69     constraint FK_card_id foreign key (card_id) references credit_cards(id),
70     constraint FK_business_id foreign key (business_id) references companies(company_id),
71     constraint FK_user_id foreign key (user_id) references users(id)
72 )
73 ;
```

Action Output

#	Time	Action	Message
1	10:25:56	create table transactions (id varchar(255) not null, card_id varchar(15) default null, business_id varchar(20) default null, timestamp timestamp default null, amount decimal(10,2) default null, declined tinyint(1) default null, product_id varchar(15) default null, user_id int default null, lat float default null, longitude float default null, primary key (id), constraint FK_card_id foreign key (card_id) references credit_cards(id), constraint FK_business_id foreign key (business_id) references companies(company_id), constraint FK_user_id foreign key (user_id) references users(id)	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be removed in a future re...

Càrrega de dades des de CSV: Exercici corregit → faltaven captures de pantalla de les càrregues de les taules transactions, crèdit_cards i companyies.

Al carregar les dades la primera vegada dona error així que vaig haver de modificar la configuració de mysql:

Primer a l'arxiu my.ini vaig deshabilitar l'opció secure_file_priv

```
# This variable is used to limit the effect of data import and export operations, such as
# those performed by the LOAD DATA and SELECT ... INTO OUTFILE statements and the
# LOAD_FILE() function. These operations are permitted only to users who have the FILE privilege.
#secure-file-priv="C:/ProgramData/MySQL/MySQL Server 8.0/Uploads"
secure_file_priv = ""
```

Després vaig activar l'opció de lectura de local file:

```
set global local_infile = TRUE; --
SHOW VARIABLES LIKE 'local_infile'
;
```

A continuació carrego els csv:

The screenshot shows a MySQL command-line interface with a query window titled 'Query 1'. The window contains the following SQL commands:

```
-- càrrega de dades des de cvs
76
77 * set global local_infile = TRUE; -- con esto habilito la opción de poder subir local file
78 * SHOW VARIABLES LIKE 'local_infile'
79 ;
80
81 * load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4/users_usa.csv" -- tengo que cambiar la dirección que tienen las barras en
82 into table users
83 fields terminated by ','
84 enclosed by '"'
85 lines terminated by '\r\n'
86 ignore 1 rows -- > ignora la línea de encabezado
87 ;
88
89 * load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4/users_uk.csv"
90 into table users
91 fields terminated by ','
92 enclosed by '"'
93 lines terminated by '\r\n'
94 ignore 1 rows -- > ignora la línea de encabezado
95 ;
96
97 * load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4/users_co.csv"
98 into table users
99 fields terminated by ','
100 enclosed by '"'
101 lines terminated by '\r\n'
102 ignore 1 rows -- > ignora la línea de encabezado
```

Below the query window, the 'Output' tab is selected, showing the results of the commands:

#	Time	Action	Message
1	12:43:44	load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4/users_uk.csv"	50 row(s) affected Records: 50 Deleted: 0 Skipped: 0 Warnings: 0
2	12:43:52	load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4/users_co.csv"	75 row(s) affected Records: 75 Deleted: 0 Skipped: 0 Warnings: 0
3	12:43:56	SELECT * FROM sprint_4.users	275 row(s) returned

Solucion_Sprint_4_ Paula Chapa... users

1 • SELECT * FROM sprint_4.users;

Result Grid

	id	name	surname	phone	personal_email	birth_date	country	city	postal_code	address
1	Zeus	Gamble		1-282-581-0551	interdum.enim@protonmail.edu	Nov 17, 1985	United States	Lowell	73544	348-7818 Sagittis St.
2	Garrett	Mcconnell		(718) 257-2412	integer.vitae.nbh@protonmail.org	Aug 23, 1992	United States	Des Moines	59464	903 Sit Ave
3	Caran	Harrison		(522) 598-1365	interdum.feugiat@aol.org	Apr 29, 1998	United States	Columbus	56518	736-2063 Tellus St.
4	Howard	Stafford		1-411-740-3269	omare.egestas@icloud.edu	Feb 18, 1989	United States	Kailua	77417	Ap #545-2244 Erat. Rd.
5	Hayfa	Pierce		1-554-541-2077	et.malesuada.fames@hotmail.org	Sep 26, 1998	United States	Sandy	31564	341-2821 Ultrices Av.
6	Joel	Tyson		(718) 288-8020	gravida.nunc.sed@yahoo.ca	Oct 15, 1989	United States	Nashville	96838	888-2799 Amet Street
7	Rafael	Jimenez		(817) 689-0478	eget@outlook.ca	Dec 4, 1981	United States	Hillsboro	29874	8627 Malesuada Rd.
8	Nissim	Franks		(692) 157-3469	egestas.aliquam.fringilla@google.ca	Aug 1, 1993	United States	Jackson	61750	Ap #251-7144 Integer St.
9	Mannix	Mcclain		(590) 883-2184	aliquam.nisl@outlook.com	Jan 24, 1987	United States	Richmond	35987	647-3080 Lacus. St.
10	Robert	McCarthy		(324) 746-6771	fermentum@protonmail.com	Apr 30, 1984	United States	Eugene	85526	P.O. Box 773, 3594 Omare St.
11	Joan	Baird		(981) 429-8106	et@outlook.net	Feb 25, 1990	United States	Lincoln	35211	P.O. Box 687, 8917 Ligula St.

users 1 x

Output

Action Output

#	Time	Action	Message
1	17:27:23	SELECT * FROM sprint_4.users	275 row(s) returned

Query 1 Solucion_Sprint_4_ Paula Chapa...

106 • load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4_Creación bases de datos MYSQL/transactions.csv"
 107 into table transactions
 108 fields terminated by ';'
 109 enclosed by ''
 110 lines terminated by '\n'
 111 ignore 1 rows
 112 ;

115 • load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4_Creación bases de datos MYSQL/credit_cards.csv"
 116 into table credit_cards
 117 fields terminated by ','
 118 enclosed by ''
 119 lines terminated by '\n'
 120 ignore 1 rows
 121 ;

123 • load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4_Creación bases de datos MYSQL/companies.csv"
 124 into table companies
 125 fields terminated by ','
 126 enclosed by ''
 127 lines terminated by '\n'
 128 ignore 1 rows
 129 ;

Output

Action Output

#	Time	Action	Message
1	11:07:26	load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4_Creación base...	587 row(s) affected Records: 587 Deleted: 0 Skipped: 0 Warnings: 0
2	11:03:05	load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4_Creación bas...	275 row(s) affected Records: 275 Deleted: 0 Skipped: 0 Warnings: 0
3	11:03:11	load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4_Creación bas...	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0

Solucion_Sprint_4_ Paula Chapa... transactions

1 • SELECT * FROM sprint_4.transactions;

Result Grid

	id	card_id	business_id	timestamp	amount	declined	product_id	user_id	lat	longitude
▶	02C6201E-D90A-1859-B4EE-88D2986D3B...	CcU-2938	b-2362	2021-08-28 23:42:24	466.92	0	71, 1, 19	92	81.9185	-12.5276
	0466A42E-47CF-8D24-FD01-C0B689713128	CcU-4219	b-2302	2021-07-26 07:29:18	49.53	0	47, 97, 43	170	-43.9695	-117.525
	063F8A79-99EC-66F8-29F7-25726D1764A5	CcU-2987	b-2250	2022-01-06 21:25:27	92.61	0	47, 67, 31, 5	275	-81.2227	-129.05
	0668296C-CDB9-A883-76BC-2E4C4F8C8AE	CcU-3743	b-2618	2022-01-26 02:07:14	394.18	0	89, 83, 79	265	-34.3593	-100.556
	06CD9AA5-9842-D684-DDDD-A5E394FEB...	CcU-2959	b-2346	2021-10-26 23:00:01	279.93	0	43, 31	92	33.7381	158.298
	07A46D48-31A3-7E87-65B9-0DA902AD1...	CcU-3225	b-2386	2021-06-28 21:11:42	340.87	1	47, 23	272	38.8342	92.1905
	09DE92CE-6F27-2B87-1385-9385B2B388E2	CcU-3071	b-2298	2021-05-11 20:40:06	303.05	1	67, 7	275	71.1706	10.5757
	0A476ED9-0C13-1962-F87B-D35639248539	CcU-4359	b-2302	2022-02-26 20:33:54	430.49	0	29, 41, 11	221	-56.4901	114.801
	0BEB80B7-9D66-1707-CE48-9DC7E7191485	CcU-3141	b-2338	2022-03-04 14:54:35	288.81	1	19, 41, 29, 3	272	23.3264	-13.6037
	0C7C3A33-9947-3BC1-846D-7BE3D0D175...	CcU-3309	b-2434	2021-04-10 20:58:41	103.44	1	89, 31	272	63.3615	-68.6667
	0CE957A6-CCAA-2B7A-6839-8A4B18324...	CcU-3435	b-2506	2022-02-02 07:29:36	428.69	1	83, 43, 73, 61	269	-69.3537	-10.26

transactions 1 x

Output

Action Output

#	Time	Action	Message
1	17:30:39	SELECT * FROM sprint_4.transactions	587 row(s) returned

Solucion_Sprint_4_ Paula Chapa... credit_cards

1 • SELECT * FROM sprint_4.credit_cards;

Result Grid

	id	user_id	iban	pan	pin	cvv	track1	track2	expiring_date
▶	CcU-2938	275	TR301950312213576817638661	5424465566813633	3257	984	%88383712448554646^WovsxjDpwiev...	%87653863056044187=800716333673	10/30/22
	CcU-2945	274	DO26854763746537475216568689	5142423821948828	9080	887	%84621311609958661^UftuysfSermn^...	%84149568437843501=510714033071	08/24/23
	CcU-2952	273	BG45IVQL52710525608255	4556 453 55 5287	4598	438	%82183285104307501^CddytcUxwfdg...	%86778580257827162=6906859740077	06/29/21
	CcU-2959	272	GR7242477244335841535	372461377349375	3583	667	%87281111956795320^XocddjBcked^...	%84246154489281853=280522391678	02/24/23
	CcU-2966	271	BG72LKTQ15627628377363	448566 886747 7265	4900	130	%84728932322756223^JhlgvsuFrmwgj...	%82318571115599881=890821578475	10/29/24
	CcU-2973	270	PT87806228135092429456346	544 58654 54343 384	8760	887	%84761405253275637^HjnnipoBlejrf^71...	%87816169831446746=1310277279	01/30/25
	CcU-2980	269	DE3924188188306277136	402400 7145845969	5075	596	%87320483593870549^OokzqxHpsed...	%82474313962214151=041221913175	07/24/22
	CcU-2987	268	GE89681434837748781813	3763 747687 76666	2298	797	%84750646345146674^PjrnlyfGwwtrf^...	%85441935173418615=410370453677	10/31/23
	CcU-2994	267	BH62714428368066765294	344283273252593	7545	595	%81583759784015674^GmqoyhUtoqm...	%84141467473024349=6506800955074	02/28/22
	CcU-3001	266	CY49087426654774581266832110	511722 924833 2244	9562	867	%86227288756728648^AwxdicFmgvdy^...	%83429355750963453=530526830573	09/16/22
	CcU-3008	265	LU507216693616119230	4485744464433884	1856	740	%87182449430529226^MkoutyhTfdvpo...	%86235123731781366=940563816678	04/05/25

credit_cards 1 x

Output

Action Output

#	Time	Action	Message	Duration /
1	17:31:56	SELECT * FROM sprint_4.credit_cards	275 row(s) returned	0.000 sec.

Solucion_Sprint_4_ Paula Chapa... companies

1 • SELECT * FROM sprint_4.companies;

Result Grid

	company_id	company_name	phone	email	country	website
▶	b-2222	Ac Fermentum Incorporated	06 85 56 52 33	donec.porttitor.tellus@yahoo.net	Germany	https://instagram.com/site
	b-2226	Magna A Neque Industries	04 14 44 64 62	risus.donec.nibh@icloud.org	Australia	https://whatsapp.com/group/9
	b-2230	Fusce Corp.	08 14 97 58 85	risus@protonmail.edu	United States	https://pinterest.com/sub/cars
	b-2234	Convalis In Incorporated	06 66 57 29 50	mauns.ut@aol.couk	Germany	https://cnn.com/user/110
	b-2238	Ante Jaculis Nec Foundation	08 23 04 99 53	sed.dictum.proin@outlook.ca	New Zealand	https://netflix.com/settings
	b-2242	Donec Ltd	01 25 51 37 37	at.jaculis@hotmail.couk	Norway	https://nytimes.com/user/110
	b-2246	Sed Nunc Ltd	02 62 64 73 48	nibh@yahoo.org	United Kingdom	https://cnn.com/one
	b-2250	Amet Nulla Donec Corporation	07 15 25 14 74	mattis.integer.eu@protonmail.net	Italy	https://netflix.com/sub/cars
	b-2254	Nascetur Ridiculus Mus Inc.	06 26 87 61 84	suspendisse.dui@icloud.net	United States	https://ebay.com/sub
	b-2258	Vestibulum Lorem PC	02 02 87 33 40	aenean.massa.integer@aol.net	Belgium	https://pinterest.com/sub/cars
	b-2262	Gravida Sagittis LLP	03 81 28 33 97	turpis.vitae@google.ca	Sweden	https://naver.com/site

companies 1 x

Output

Action Output

#	Time	Action	Message
1	17:33:14	SELECT * FROM sprint_4.companies	100 row(s) returned

Apartat afegit amb la correcció → Modifico les columnes birth_date i expiring_date a tipus DATE de les taules user i crèdit:cards:

```

134
135 -- Apartado añadido en la corrección: Modifico columnas birth_date y expiring_date de la columna credit_cards
136
137 • update sprint_4.credit_cards
138   set expiring_date = STR_TO_DATE(expiring_date, '%m/%d/%Y') -- con esto me pone el string en formato fecha
139   ;
140 • alter table sprint_4.credit_cards
141   modify column expiring_date date -- con esto modifico el tipo de dato a fecha
142   ;
143
144 • update sprint_4.users
145   set birth_date = STR_TO_DATE(birth_date, '%b %d, %Y')
146   ;
147 • alter table sprint_4.users
148   modify column birth_date date
149   ;

```

#	Time	Action	Message
1	18:31:47	update sprint_4.credit_cards set expiring_date = STR_TO_DATE(expiring_date, '%m/%d/%Y')	275 row(s) affected Rows matched: 275 Changed: 275 Warnings: 0
2	18:34:05	alter table sprint_4.credit_cards modify column expiring_date date -- con esto modifico el tipo de dato a f...	275 row(s) affected Records: 275 Duplicates: 0 Warnings: 0
3	18:36:12	update sprint_4.users set birth_date = STR_TO_DATE(birth_date, '%b %d, %Y')	275 row(s) affected Rows matched: 275 Changed: 275 Warnings: 0
4	18:36:16	SELECT * FROM sprint_4.users	275 row(s) returned
5	18:36:33	SELECT * FROM sprint_4.credit_cards	275 row(s) returned
6	18:37:27	alter table sprint_4.users modify column birth_date date	275 row(s) affected Records: 275 Duplicates: 0 Warnings: 0

Solucion_Sprint 4_ Paula Chapa...

users

credit_cards

1 • SELECT birth_date FROM sprint_4.users;

Result Grid

birth_date
1985-11-17
1992-08-23
1998-04-29
1989-02-18
1998-09-26
1989-10-15
1981-12-04
1993-08-01

users 3 x

Output

#	Time	Action	Message
1	18:38:21	SELECT birth_date FROM sprint_4.users	

Solucion_Sprint 4_ Paula Chapa...

credit_cards

1 • SELECT expiring_date FROM sprint_4.credit_cards;

Result Grid

expiring_date
2022-10-30
2023-08-24
2021-06-29
2023-02-24
2024-10-29

credit_cards 2 x

Output

#	Time	Action	Message
1	18:38:53	SELECT expiring_date FROM sprint_4.credit_cards	275 row(s) returned

Solucion_Sprint 4_ Paula Chapa...

sprint_4.credit_cards

sprint_4.users

DDL for sprint_4.credit_cards

```

1 CREATE TABLE `credit_cards` (
2   `id` varchar(15) NOT NULL,
3   `user_id` int DEFAULT NULL,
4   `iban` varchar(45) DEFAULT NULL,
5   `pan` varchar(30) DEFAULT NULL,
6   `pin` varchar(4) DEFAULT NULL,
7   `cvv` int DEFAULT NULL,
8   `track1` varchar(255) DEFAULT NULL,
9   `track2` varchar(255) DEFAULT NULL,
10  `expiring_date` date DEFAULT NULL,
11  PRIMARY KEY (`id`)
12 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci

```

Solucion_Sprint 4_ Paula Chapa...

sprint_4.credit_cards

sprint_4.users

DDL for sprint_4.users

```

1 CREATE TABLE `users` (
2   `id` int NOT NULL,
3   `name` varchar(100) DEFAULT NULL,
4   `surname` varchar(100) DEFAULT NULL,
5   `phone` varchar(150) DEFAULT NULL,
6   `personal_email` varchar(150) DEFAULT NULL,
7   `birth_date` date DEFAULT NULL,
8   `country` varchar(150) DEFAULT NULL,
9   `city` varchar(150) DEFAULT NULL,
10  `postal_code` varchar(100) DEFAULT NULL,
11  `address` varchar(255) DEFAULT NULL,
12  PRIMARY KEY (`id`)
13 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci

```

Exercici 1

Realitza una subconsulta que mostri tots els usuaris amb més de 30 transaccions utilitzant almenys 2 taules. **Exercici corregit** → fet amb join en comptes de subconsulta. Modifico codi:

The screenshot shows a SQL IDE window titled "Solucion_Sprint 4_ Paula Chapa". The query editor contains the following SQL code:

```
146 -- 1) Realitza una subconsulta que mostri tots els usuaris amb més de 30 transaccions utilitzant almenys 2 taules.
147 -- Corrección con subconsulta:
148
149 • select *
150   from users
151  where users.id in (select transactions.user_id
152                    from transactions
153                    group by transactions.user_id
154                    having COUNT(transactions.id) > 30
155                    )
156
```

The "Result Grid" shows the following data:

	id	name	surname	phone	personal_email	birth_date	country	city	postal_code	address
▶	92	Lynn	Riddle	1-387-885-4057	vitae.aliquet@outlook.edu	Sep 21, 1984	United States	Bozeman	61871	P.O. Box 712, 7907 Est St.
	267	Ocean	Nelson	079-481-2745	aenean@yahoo.com	Dec 26, 1991	Canada	Charlottetown	85X 3P4	Ap #732-8357 Pede, Rd.
	272	Hedwig	Gilbert	064-204-8788	sem.eget@icloud.edu	Apr 16, 1991	Canada	Tuktoyaktuk	Q4C 3G7	P.O. Box 496, 5145 Sapient Road
	275	Kenyon	Hartman	082-871-7248	convallis.ante.lectus@yahoo.com	Aug 3, 1982	Canada	Richmond	R8H 2K2	8564 Facilisi. St.

The "Output" section shows the following message:

```
1 17:40:31 select * from users where users id in (select transactions user_id from transactions group by transactions... 4 row(s) returned
```

Exercici 2

Mostra la mitjana d'amount per IBAN de les targetes de crèdit a la companyia Donec Ltd, utilitza almenys 2 taules. **Exercici corregit** → Canvio like per =

The screenshot shows a SQL IDE window titled "Solucion_Sprint 4_ Paula Chapa". The query editor contains the following SQL code:

```
158 -- 2) Mostra la mitjana d'amount per IBAN de les targetes de crèdit a la companyia Donec Ltd, utilitza almenys 2 taules.
159 -- Ejercicio corregido: quito el like y pongo = en where clause:
160
161 • select CO.company_name,
162        CO.company_id,
163        T.card_id,
164        C.iban,
165        round(avg(T.amount),2) as importe_promedio
166   from transactions T
167  left join credit_cards C
168    on T.card_id = C.id
169  left join companies CO
170    on T.business_id = CO.company_id
171  where company_name = 'Donec Ltd'
172  group by CO.company_name, C.iban, CO.company_id, T.card_id
173
```

The "Result Grid" shows the following data:

	company_name	company_id	card_id	iban	importe_promedio
▶	Donec Ltd	b-2242	CcU-2973	PT87806228135092429456346	203.72

The "Output" section shows the following message:

```
1 17:50:04 select CO.company_name, CO.company_id, T.card_id, C.iban, round(avg(T.amount),2) as importe_prom... 1 row(s) returned
```

☆☆ Nivell 2

Crea una nova taula que reflecteixi l'estat de les targetes de crèdit basat en si les últimes tres transaccions van ser declinades i genera la següent consulta:

🚦 Exercici 1

Quantes targetes estan actives? Totes les targetes estan actives, en total són 275.

The screenshot shows a SQL IDE window titled "Solucion_Sprint 4_ Paula Chapa...". The active tab is "card_status". The SQL editor contains the following query:

```
1 • SELECT count(*) counter
2 FROM card_status
3 where card_status = 'active'
```

Below the editor, the "Result Grid" shows a single row with the value 275 under the column "counter".

The "Output" pane shows the "Action Output" for the query execution:

#	Time	Action	Message
1	10:41:22	SELECT count(*) counter FROM card_status where card_status = 'active'	1 row(s) returned

A continuació mostraré el pas a pas que he seguit per resoldre la pregunta:

The screenshot shows a SQL IDE window titled "Solucion_Sprint 4_ Paula Chapa...". The active tab is "transactions". The SQL editor contains the following query:

```
157 -----Nivell 2-----
158
159 -- Crea una nova taula que reflecteixi l'estat de les targetes de crèdit basat en si les últimes tres transaccions van ser declinades
160 -- i genera la següent consulta:
161 -- 1) Quantes targetes estan actives? --> totes targetes estan actives i en total són 275.
162
163
164 -- Para poder crear la taula, primero debo identificar las tres últimas transacciones de cada tarjeta y luego verificar si alguna operación está decl
165
166 -- a.) Calculo las transacciones más recientes de cada tarjeta:
167
168 • select card_id,
169 timestamp,
170 row_number() over(partition by card_id order by date(timestamp)desc) as row_num
171 from transactions
172 order by card_id, timestamp desc
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```

Solucion_Sprint 4_ Paula Chapa... transactions credit_cards

```

175
176 -- b.) Agrupo por tarjeta y les asigno un estado en función de si tienen 3 operaciones declinadas. En este punto no tengo en cuenta la fecha.
177 -- La consulta indica que todas las tarjetas siguen activas
178
179 • select card_id,
180 case
181 when sum(case when declined = 1 then 'declinada' else 0 end) = 3 then 'deactivated'
182 else 'active'
183 end as card_status
184 from transactions
185 group by card_id
186 ;
187
188 -- compruebo cuántas tarjetas hay en la tabla transactions (hay 275 tarjetas)
189
190 • select distinct card_id
191 from transactions

```

Result Grid

card_id	card_status
CcU-2938	active
CcU-2945	active
CcU-2952	active
CcU-2959	active
CcU-2966	active

Result 39 x

Output

Action Output

#	Time	Action	Message
1	18:07:02	select card_id, case when sum(case when declined = 1 then 'declinada' else 0 end) = 3 then 'deactivat...	275 row(s) returned

Solucion_Sprint 4_ Paula Chapa... transactions credit_cards

```

187
188 -- compruebo cuántas tarjetas hay en la tabla transactions (hay 275 tarjetas)
189
190 • select distinct card_id
191 from transactions
192 ;
193
194 -- voy a ver en general cuántas transacciones hay declinadas: hay 87 transacciones declinadas
195
196 • select count(*),
197 card_id
198 from transactions
199 where declined = 1
200 group by card_id
201 ;
202

```

Result Grid

count(*)	card_id
1	CcU-2938
1	CcU-2945
1	CcU-2952
1	CcU-2959
1	CcU-2966

Result 41 x

Output

Action Output

#	Time	Action	Message
1	18:07:30	select distinct card_id from transactions	275 row(s) returned
2	18:07:33	select count(*), card_id from transactions where declined = 1 group by card_id	87 row(s) returned

Solucion_Sprint 4_Paula Chapa... transactions credit_cards

```

202
203 -- reviso si hay alguna tarjeta que tenga varias operaciones declinadas. La consulta indica que no.
204
205 • select (card_id),
206 count(*) as veces_repe
207 from transactions
208 where declined = 1
209 group by card_id
210 having count(*) > 0
211 ;
212
213 -- c.) Ahora junto todo y teniendo en cuenta solo las últimas 3 transacciones, agrupamos por tarjeta y verificamos si hay alguna que tenga las 3 operaciones
214 -- más recientes declinadas y creo la tabla:
215
216 -- Create table card_status (
217 • select card_id,

```

Result Grid

card_id	veces_repe
CcU-2938	1
CcU-2945	1
CcU-2952	1
CcU-2959	1
CcU-2966	1

Result 42 x

Output

Action Output

#	Time	Action	Message	Duration / Fr
1	18:12:22	select (card_id), count(*) as veces_repe from transactions where declined = 1 group by card_id having ...	87 row(s) returned	0.000 sec /

Ara després de l'anàlisi creo la taula amb el següent codi: **codi corregit** → canvio parèntesi per **as** segons feedback mentor per a evitar errors en altres motors.

Solucion_Sprint 4_Paula Chapa...

```

231 -- c.) Ahora junto todo y teniendo en cuenta solo las últimas 3 transacciones, agrupamos por tarjeta y verificamos si hay alguna que tenga las 3 operaciones
232 -- más recientes declinadas y creo la tabla:
233 -- Ejercicio corregido: quito el paréntesis y pongo as (feedback del mentor para evitar errores en otros motores. Es más óptimo)
234
235 • Create table card_status as
236 select card_id,
237 case
238 when sum(case when declined = 1 then 1 else 0 end) = 3 then 'deactivated'
239 else 'active'
240 end as card_status
241 from (select card_id,
242 timestamp,
243 declined,
244 row_number() over(partition by card_id order by date(timestamp) desc) as row_num
245 from transactions
246 order by card_id, timestamp desc) subquery
247 where row_num <= 3
248 group by card_id

```

Output

Action Output

#	Time	Action	Message	Duration / Fr
1	17:53:35	Create table card_status as select card_id, case when sum(case when declined = 1 then 1 else 0 end) = ...	275 row(s) affected Records: 275 Duplicates: 0 Warnings: 0	0.0471

I la nova taula quedaria així:

The screenshot shows a database IDE window titled 'Solucion_Sprint 4_ Paula Chapa...'. The active tab is 'card_status'. The SQL editor contains the query: `SELECT * FROM sprint_4.card_status;`. Below the editor, the 'Result Grid' displays the table structure with columns 'card_id' and 'card_status'. The data shows six rows, all with 'active' status. The 'Output' pane at the bottom shows a successful execution of the query, returning 275 rows.

card_id	card_status
CcU-2938	active
CcU-2945	active
CcU-2952	active
CcU-2959	active
CcU-2966	active
CcU-2973	active

Creo la relació amb la taula crèdit card:

The screenshot shows the same database IDE window. The SQL editor now contains commands to alter the 'card_status' table to add a primary key and a foreign key relationship with the 'credit_cards' table. The 'Output' pane shows the successful execution of these commands, affecting 275 rows. Below the IDE, a diagram illustrates the relationship between the two tables. The 'credit_cards' table has columns: id (VARCHAR(15)), user_id (INT), iban (VARCHAR(45)), pan (VARCHAR(30)), pin (VARCHAR(4)), cvv (INT), track1 (VARCHAR(255)), track2 (VARCHAR(255)), and expiring_date (VARCHAR(255)). The 'card_status' table has columns: card_id (VARCHAR(15)) and card_status (VARCHAR(15)). A line connects the 'id' column of 'credit_cards' to the 'card_id' column of 'card_status', indicating a foreign key relationship.

```
-- d) Creo la relación con la tabla credit_card
alter table card_status
add primary key(card_id,card_status),
add foreign key(card_id) references credit_cards(id);
```

credit_cards

- id VARCHAR(15)
- user_id INT
- iban VARCHAR(45)
- pan VARCHAR(30)
- pin VARCHAR(4)
- cvv INT
- track1 VARCHAR(255)
- track2 VARCHAR(255)
- expiring_date VARCHAR(255)

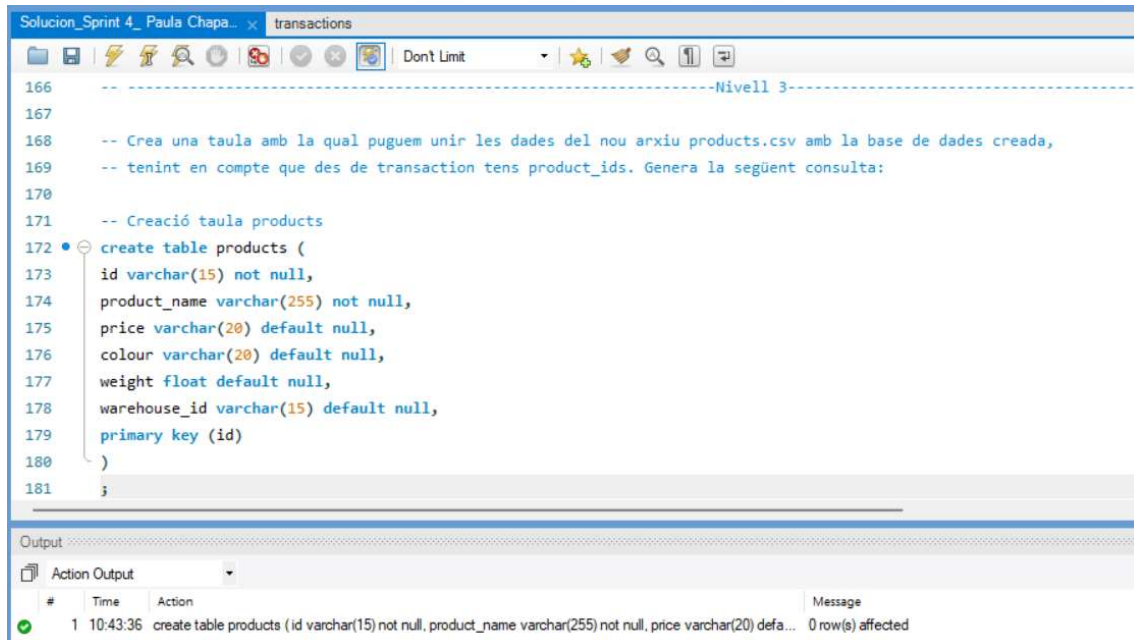
card_status

- card_id VARCHAR(15)
- card_status VARCHAR(15)

☆☆☆☆ Nivell 3

Crea una taula amb la qual puguem unir les dades del nou arxiu products.csv amb la base de dades creada, tenint en compte que des de transaction tens product_ids. Genera la següent consulta:

Creació taula productes: Exercici corregit → faltava captura de pantalla de la càrrega de dades

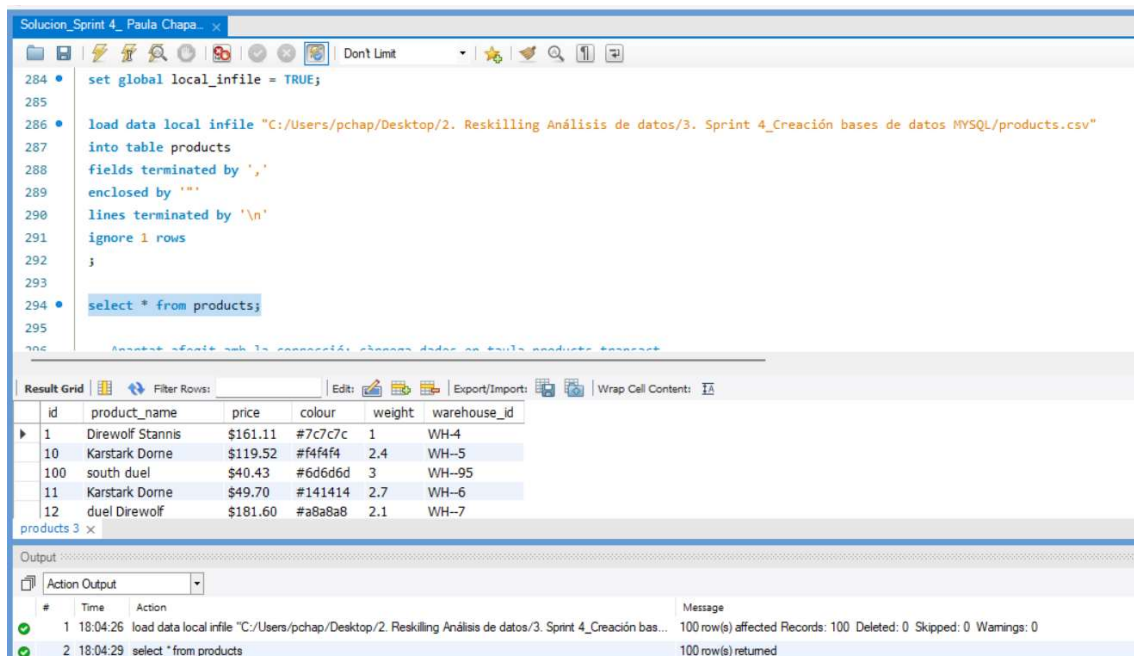


The screenshot shows a SQL IDE window titled 'Solucion_Sprint 4_Paula Chapa...' with a tab for 'transactions'. The SQL editor contains the following code:

```
166 -----Nivell 3-----
167
168 -- Crea una taula amb la qual puguem unir les dades del nou arxiu products.csv amb la base de dades creada,
169 -- tenint en compte que des de transaction tens product_ids. Genera la següent consulta:
170
171 -- Creació taula products
172 • create table products (
173   id varchar(15) not null,
174   product_name varchar(255) not null,
175   price varchar(20) default null,
176   colour varchar(20) default null,
177   weight float default null,
178   warehouse_id varchar(15) default null,
179   primary key (id)
180 )
181 ;
```

The Output pane shows the execution result:

#	Time	Action	Message
1	10:43:36	create table products (id varchar(15) not null, product_name varchar(255) not null, price varchar(20) defa...	0 row(s) affected



The screenshot shows the same SQL IDE window with the following code:

```
284 • set global local_infile = TRUE;
285
286 • load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4_Creación bases de datos MySQL/products.csv"
287 into table products
288 fields terminated by ','
289 enclosed by '"'
290 lines terminated by '\n'
291 ignore 1 rows
292 ;
293
294 • select * from products;
```

The Result Grid shows the data loaded from the CSV file:

id	product_name	price	colour	weight	warehouse_id
1	Direwolf Stannis	\$161.11	#7c7c7c	1	WH-4
10	Karstark Dome	\$119.52	#f4f4f4	2.4	WH-5
100	south duel	\$40.43	#6d6d6d	3	WH-95
11	Karstark Dome	\$49.70	#141414	2.7	WH-6
12	duel Direwolf	\$181.60	#a8a8a8	2.1	WH-7

The Output pane shows the execution results:

#	Time	Action	Message
1	18:04:26	load data local infile "C:/Users/pchap/Desktop/2. Reskilling Análisis de datos/3. Sprint 4_Creación bases de datos MySQL/products.csv" into table products	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0
2	18:04:29	select * from products;	100 row(s) returned

Creació taula unió: com la taula transactions té una relació N a N amb la taula products, hem de crear una taula intermitja ja que els sistemes de bases de dades relacionals no permeten implementar una relació directa de molts a molts entre dues taules.

```

181 ;
182 -- com la taula transactions té una relació N a N amb la taula products, hem de crear una taula intermitja
183
184 CREATE TABLE products_transact (
185     transactions_id varchar(255),
186     products_id varchar(255),
187     PRIMARY KEY (products_id, transactions_id),
188     FOREIGN KEY (products_id) REFERENCES products(id),
189     FOREIGN KEY (transactions_id) REFERENCES transactions(id)
190 )
191 ;
192

```

Output

#	Time	Action	Message
1	10:48:04	CREATE TABLE products_transact (transactions_id varchar(255), products_id varchar(255), PRI...	0 row(s) affected

Apartat afegit amb la correcció → càrrega dades en taula products_transact

```

299 -- Apartat afegit amb la correcció: càrrega dades en taula products_transact
300
301 insert into products_transact (transactions_id, products_id)
302 select
303     T.id as transactions_id,
304     JT.product_id
305 from transactions T,
306 json_table(
307     concat(
308         '["',
309         replace(t.product_id, ',', ''),
310         '"]',
311     ),
312     '$[*]' columns (product_id varchar(15) path '$')
313 ) as JT
314 join products P ON P.id = JT.product_id;
315 ;
316
317

```

```

1 SELECT * FROM sprint_4.products_transact;

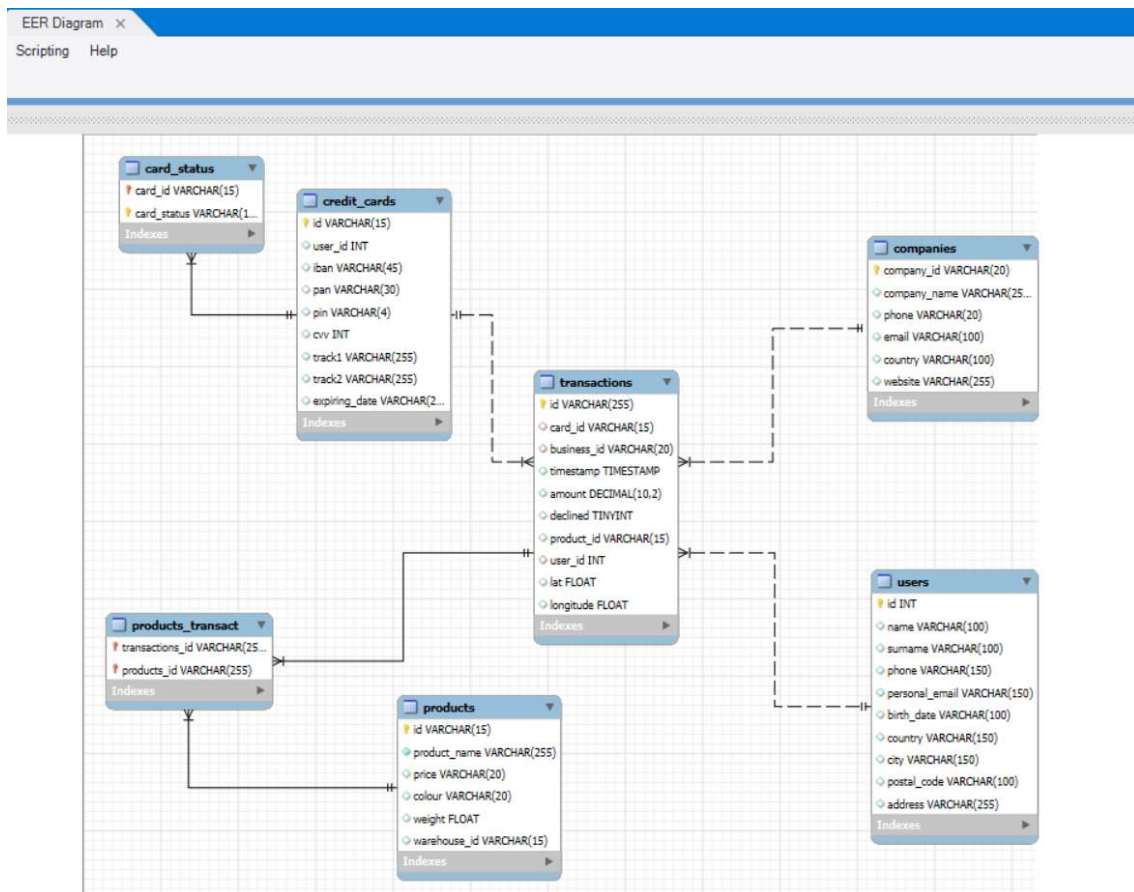
```

Result Grid

transactions_id	products_id
1788C881-EE67-9BAB-377A-4C78E772160B	7
17843AB2-DD7D-96C4-2C7D-1989F119A...	29
1822A630-486E-DABC-2576-6EC107FA15...	23
18528B27-1888-93DA-988C-31635C536D...	83
185C9F2C-67A2-8EC0-0886-93789CC59F05	11
186F53DE-DE27-B1FE-882F-15861CEB7726	17
1881AD88-F155-45B7-D2EA-4738407435...	7
1882472B-DAB8-36F7-80F2-7DDA688873...	59
18C4E2DD-1E4C-F35E-2198-C6608081DC...	61
18CCBA7C-ABCI-813D-FAF3-48AB974293...	83
18D648AB-7D54-A3E8-2D8A-2D802991C...	89

Output

#	Time	Action	Message	Duration / Fetch
1	19:49:36	insert into products_transact (transactions_id, products_id) select T.id as transactions_id, JT.product_i...	587 row(s) affected Records: 587 Duplicates: 0 Warnings: 0	0.047 sec
2	19:50:45	SELECT * FROM sprint_4.products_transact	587 row(s) returned	0.000 sec / 0.000 sec



Exercici 1

Necessitem conèixer el nombre de vegades que s'ha venut cada producte.

Solucion_Sprint 4_Paula Chapa

```

275 -- 1) Necessitem conèixer el nombre de vegades que s'ha venut cada producte.
276
277 -- Para resolver este ejercicio uso like teniendo en cuenta los diferentes formatos en que aparece el código en el csv:
278 -- Nota: si los datos de origen tuvieran N formatos diferentes, lo que se debería hacer es un paso previo que me armonice el formato (una herramienta de ETL)
279 -- investigué también la función REGEXP_SUBSTR pero mi versión de Mysql aunque está actualizada no la tiene incluida.
280
281 • select P.id,
282       P.product_name,
283       count(T.product_id) as counter
284 from products P
285 left join transactions T
286 on T.product_id like P.id -- aquí me busca que el producto esté solo
287 or T.product_id like concat('%', P.id, '%') -- aquí me busca que esté entre otros números
288 or T.product_id like concat(P.id, '%') -- este busca que el producto esté en la primera posición de varias
289 or T.product_id like concat('%', P.id) -- este busca la última posición de varios números
290 where declined = 0 -- > solo contemplo las ventas facturadas y pagadas.
291 group by P.id
  
```

Result Grid

#	id	product_name	counter
1	Direwolf Stannis	51	
11	Karstark Dome	40	
13	palpatine chewbacca	51	
17	skywalker ewok sith	54	
19	dooku solo	44	

Result 10

Output

Action Output

#	Time	Action	Message	Duration / Fe
1	10:30:03	select P.id, P.product_name, count(T.product_id) as counter from products P left join transactions T o...	26 row(s) returned	0.047 sec / 0

Solucion_Sprint 4_ Paula Chapa_ x

Don't Limit

```
300 ;
301
302 -- compruebo el product_id 11 que en la consulta anterior se repitió 40 veces:
303 • select id
304   from transactions
305  where ( product_id like '11'
306         or product_id like concat('%', '11,%')
307         or product_id like concat('11', ',%')
308         or product_id like concat('%', ',11')
309       )
310  and declined = 0
311  group by id -- efectivamente esta consulta indica que hay 40 registros del producto 11
312 ;
313
314
```

Result Grid

id
0A476ED9-0C13-1962-F87B-D3563924B539
1026DA24-8929-31F1-8250-D78AB05C13...
135267BA-2E7D-957C-C42C-6450A2B3ED...
1742D72D-6EC3-1B42-A1B2-24AA75A6A...
17B43AB2-DD7D-96C4-2C7D-1989F119A...

transactions 3 x

Output

Action Output

#	Time	Action	Message
✓ 1	18:11:03	select id from transactions where (product_id like '11' or product_id like concat('%', '11,%') or product_id...	40 row(s) returned