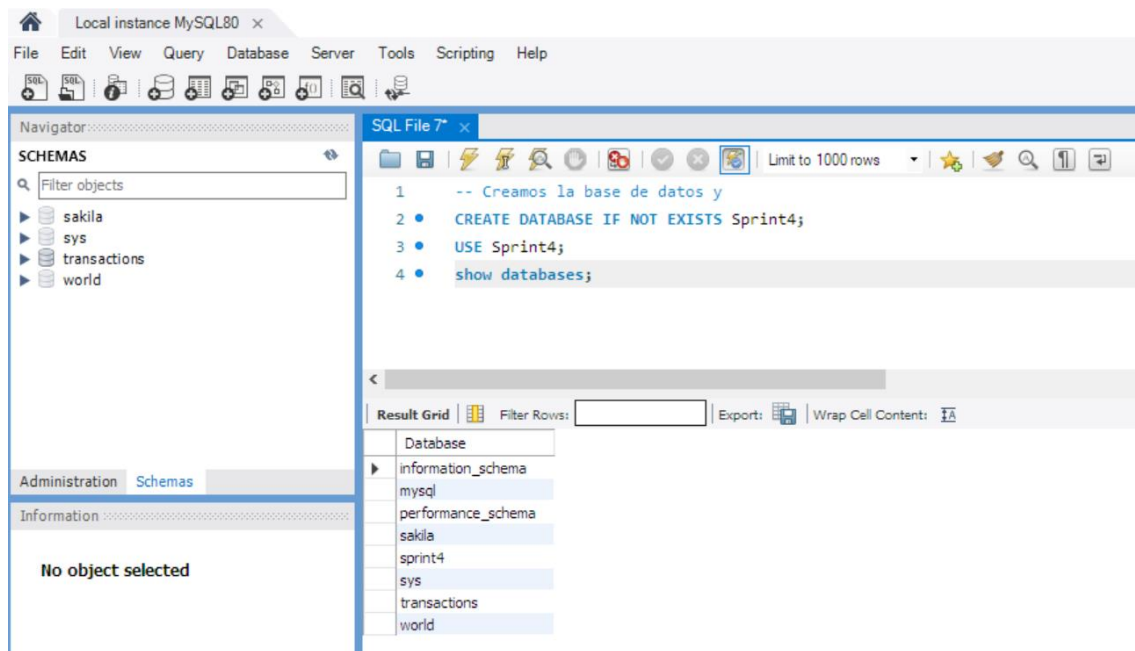


NIVEL1-EXERCICI 1

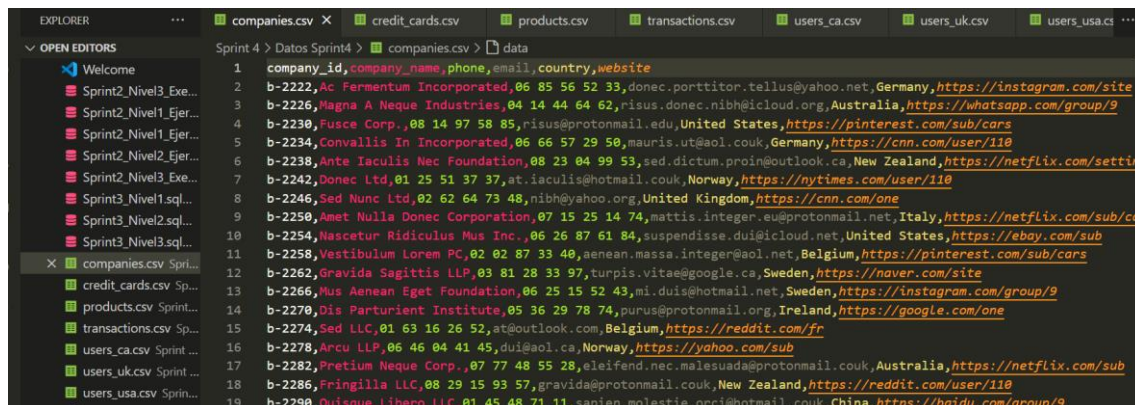
Descàrrega els arxius CSV, estudia'ls i dissenya una base de dades amb un esquema d'estrella que contingui, almenys 4 taules de les quals puguis realitzar les següents consultes:

Creemos la BBDD con nombre 'Sprint4', ejecutamos USE para asegurarnos que estamos en la BBDD 'Sprint 4' y ejecutamos SHOW DATABASES para visualizar que está creada



Descargo los archivos y los visualizo uno a uno en Visual Studio.

Companies, muestra datos sobre distintas compañías.

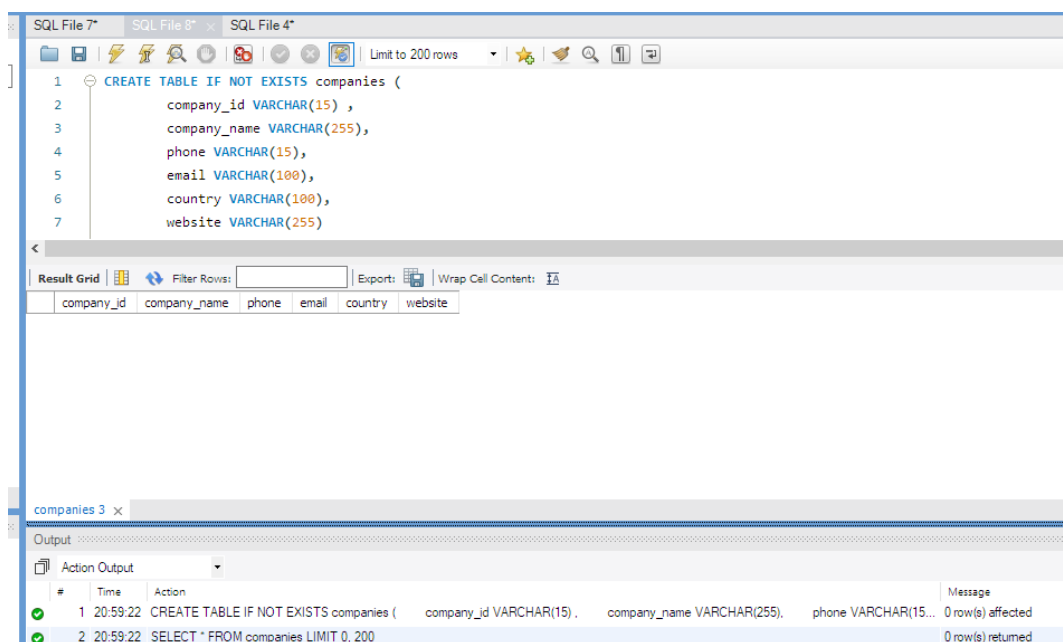


Son archivos csv donde cuentan con los siguientes campos separados por comas (100 registros)

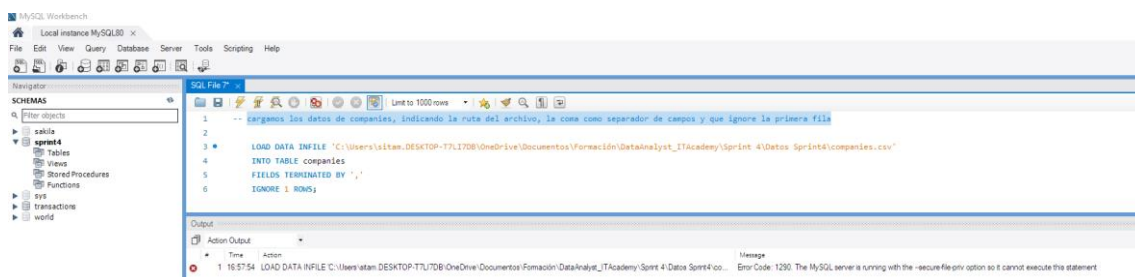
- Companies.csv
 - Company_id
 - Company_name
 - Phone-
 - Email
 - Country
 - Website

La estructura de los campos es igual al Sprint 3 por tanto creo la tabla 'companies'

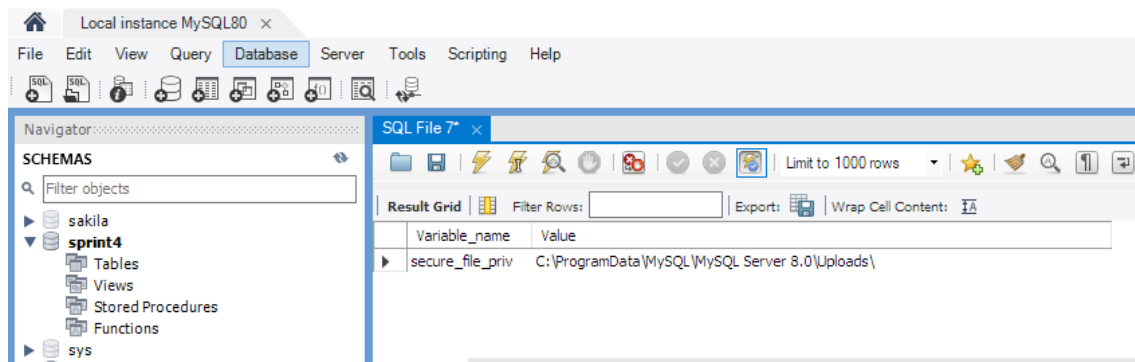
```
id VARCHAR(15) PRIMARY KEY,
company_name VARCHAR(255),
phone VARCHAR(15),
email VARCHAR(100),
country VARCHAR(100),
website VARCHAR(255)
```



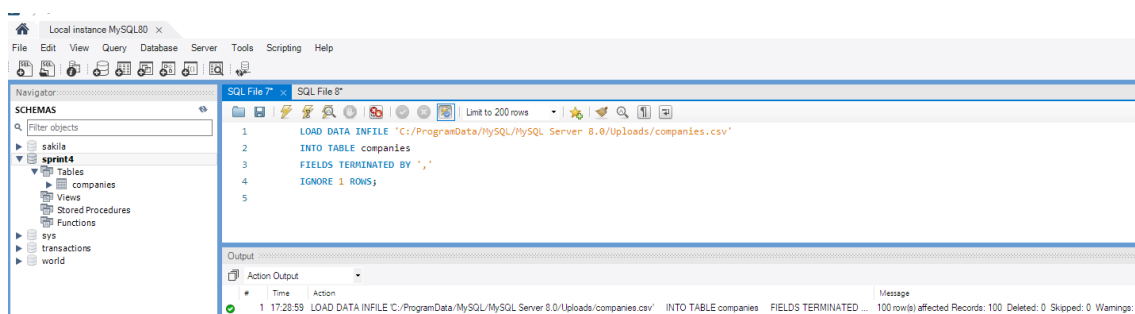
cargamos los datos de companies, indicando la ruta del archivo, la coma como separador de campos y que ignore la primera fila.



Me genera un output de error 1290, que indica problema de acceso a esa carpeta, busco entonces la carpeta de carga de archivos en mysql mediante el comando `show variables like "secure_file_priv"` mostrando que la ruta es `C:\ProgramData\MySQL\MySQL Server 8.0\Uploads\`



por tanto cargamos el archivo `companies.csv` en esta carpeta de uploads y le indico esta nueva ruta para acceder a `companies`, se debe cambiar la barra `'\'` por la `'/'` para que la ruta sea correcta



Realizamos un select para ver que se han cargado las 100 filas del archivo

Local instance MySQL80 x

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sprint4

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companies

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Functions

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SQL File 7 x SQL File 8*

1 SELECT *FROM companies;

2

Result Grid

id	company_name	phone	email	country	website
b-2222	Ac Fermentum Incorporated	06 85 56 52 33	donec.porrtort.tellus@yahoo.net	Germany	https://instagram.com/site
b-2226	Magna A Neque Industries	04 14 44 64 62	nisi.donec.nibh@cloud.org	Australia	https://whatsapp.com/group/9
b-2230	Fusce Corp.	08 14 97 58 85	nisi@protonmail.edu	United States	https://pinterest.com/sub/cars
b-2234	Convallis In Incorporated	06 66 57 29 50	mauris.ut@aol.co.uk	Germany	https://cn.com/user/110
b-2238	Ante Iaculis Nec Foundation	08 23 04 99 53	sed.dictum.pron@outlook.ca	New Zealand	https://netflix.com/settings
b-2242	Donec Ltd	01 25 51 37 37	at.laculis@hotmail.co.uk	Norway	https://nytimes.com/user/110
b-2246	Sed Nunc Ltd	02 62 64 73 48	nibh@yahoo.org	United Kingdom	https://cn.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@cloud.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 Sanctis LLP	01 81 28 33 97	turris.vitae@nonnull.ca	Sweden	https://naver.com/site

companies 2 x

Output

Action Output

#	Time	Action	Message
1	17:33:43	SELECT *FROM companies LIMIT 0, 200	100 row(s) returned

Repetimos el proceso para el archivo ‘credit_cards.csv’ visualizándolo por visual studio

Welcome companies.csv Sprint4_Nivel1.sql credit_cards.csv x products.csv transactions.csv users_ca.csv users_uk.csv users_usa.csv

Sprint 4 > Datos Sprint4 > credit_cards.csv x data

```
1 id,user_id,iban,pan,pin,cvv,track1,track2,expiring_date
2 CcU-2938,275,TR301950312213576817638661,5424465566813633,3257,984,%B8383712448554646%WovsxjeDpwiev%8604114277,%B87653863056044187-800716333673,10/30/22
3 CcU-2945,274,DO26854763748537475216568689,5142423821948828,9080,887,%B4621311609958661%UftuyfsSeimxn%061062824177,%B4149568437843501-510714033071,08/24/23
4 CcU-2952,273,BG45IVQL52710525608255,4556 453 55 5287,4598,438,%B2183285104307501%CddytcUxwfdq%590795543079,%B6778580257827162-690685974007,06/29/21
5 CcU-2959,272,CR7242477244335841535,372461377349375,3583,667,%B7281111956795320%XocddiJbckecd%0901625373,%B4246154489281853-280522391678,02/24/23
6 CcU-2966,271,BG72LTKQ15627628377363,448566 886747 7265,4900,130,%B4728932322756223%JhlgvsuFbmwig%7202289494377,%B2318571115599881-8908821578475,10/29/24
7 CcU-2973,270,PT87806228135092429456346,544 58654 54343 384,8760,887,%B4761405253275637%Hjnnip081ejr1%710851563271,%B7816169831446746-1310277229,01/30/25
8 CcU-2980,269,DE39241881883086277136,402400 7145845969,5075,595,%B7320483593870549%OokzqxHrPased%4901739473,%B2474313962214151-041221913125,07/24/22
9 CcU-2987,268,GE89681434837748781813,3763 747687 76666,2298,797,%B4750646345146674%PjnlYrFGwtrf%8305171276,%B5441935173418615-410370453677,10/31/23
10 CcU-2994,267,BH62714428368066765294,344283273252593,7545,595,%B1583759784015674%GmqyhtUtoqrm%2507851177,%B4141467473024349-6506800955074,02/28/22
11 CcU-3001,266,CY49087426654774581266832110,511722 924833 2244,9562,867,%B6227288756728648%AwoclfcFmgvdy%280880461178,%B3429355750963453-530526830573,09/16/22
12 CcU-3008,265,LU507216693616119230,4485744464433884,1856,740,%B7182449430529226%KkoutyhtFdvpo%170817547375,%B6235123731781366-940563816678,04/05/25
13 CcU-3015,264,PS119398216295715968342456821,3784 662233 17389,3246,822,%B5776250106724742%QvvzkrCwrovM%5305842489774,%B3561372148267521-190547316677,01/31/22
14 CcU-3022,263,GT9169516285056977423121857,5164 1379 4842 3951,5610,342,%B8456622214332875%XmoxhenXwoxbt%050829573875,%B7761154174374063-230423342974,04/25/25
15 CcU-3029,262,AZ62317413982441418123739746,3429 279566 77631,9708,505,%B9882354238385082%HrmhgsnRorjpm%190270866873,%B4377026757181186-580245381926,09/02/23
16 CcU-3036,261,AZ39336002925842865843941994,3768 451556 48766,2232,565,%B4814576454466431%IcstszwFogqfk%920591418678,%B7259434322726515-530546049523,10/27/25
17 CcU-3043,260,TN6488143310514852179535,455676 6437463635,5969,196,%B652485361888394%VjjkpyyCbiopy%440679571174,%B5469323811685837-2403868577,06/07/25
18 CcU-3050,259,FR516774436917583681894477,4024007123722,4834,126,%B7784177223537930%NhuwoziExciwa%910574385778,%B2727867073512632-740369024475,10/09/23
```

MySQL Workbench

Local instance MySQL80 x

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SQL File 7* x SQL File 8*

```
8 pin int,
9 cvv int,
10 track1 varchar(255),
11 track2 varchar(255),
12 expiring_date varchar(8)
13 );
14 -- cargamos los datos del archivo
15 LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/credit_cards.csv'
16 INTO TABLE credit_cards
17 FIELDS TERMINATED BY ','
18 ENCLOSED BY '"'
19 LINES TERMINATED BY '\n'
20 IGNORE 1 ROWS;
21 -- añadimos un select para visualizar la tabla
22 SELECT * FROM credit_cards;
```

Result Grid

id	user_id	iban	pan	pin	cvv	track1	track2	expiring_date
CcU-2938	275	TR301950312213576817638661	5424465566813633	3257	984	%B8383712448554646%WovsxjeDpwiev%8604...	%B7653863056044187-800716333673	10/30/22
CcU-2945	274	DO26854763748537475216568689	5142423821948828	9080	887	%B4621311609958661%UftuyfsSeimxn%06106...	%B4149568437843501-510714033071	08/24/23
CcU-2952	273	BG45IVQL52710525608255	4556 453 55 5287	4598	438	%B2183285104307501%CddytcUxwfdq%5907...	%B6778580257827162-690685974007	06/29/21
CcU-2959	272	CR7242477244335841535	372461377349375	3583	667	%B7281111956795320%XocddiJbckecd%09016...	%B4246154489281853-280522391678	02/24/23
CcU-2966	271	BG72LTKQ15627628377363	448566 886747 7265	4900	130	%B4728932322756223%JhlgvsuFbmwig%7202...	%B2318571115599881-8908821578475	10/29/24

credit_cards 6 x

Output

Action Output

#	Time	Action	Message
1	18:10:05	CREATE TABLE IF NOT EXISTS credit_cards (id varchar(20), user_id int, iban varchar(50), pan varchar(30), pin int, cvv int, track1 varchar(255), track2 varchar(255), expiring_date varchar(8))	0 row(s) affected
2	18:10:05	LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/credit_cards.csv' INTO TABLE credit_cards FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;	275 row(s) affected Records: 275 Deleted: 0 Skipped: 0 Warnings: 0
3	18:10:05	SELECT * FROM credit_cards LIMIT 0, 200	200 row(s) returned

Repetimos los mismos pasos para Products

```
print 4 > Datos Sprint4 > products.csv > data
1 id,product_name,price,colour,weight,warehouse_id
2 1,Direwolf Stannis,$161.11,#7c7c7c,1,WH-4
3 2,Tarly Stark,$9.24,#919191,2,WH-3
4 3,duel tourney Lannister,$171.13,#d8d8d8,1.5,WH-2
5 4,warden south duel,$71.89,#111111,3,WH-1
6 5,skywalker ewok,$171.22,#dbdbdb,3.2,WH-0
7 6,dooku solo,$136.60,#c4c4c4,0.8,WH--1
8 7,north of Casterly,$63.33,#b7b7b7,0.6,WH--2
9 8,Winterfell,$32.37,#383838,1.4,WH--3
10 9,Winterfell,$76.40,#b5b5b5,1.2,WH--4
11 10,Karstark Dorne,$119.52,#f4f4f4,2.4,WH--5
12 11,Karstark Dorne,$49.70,#141414,2.7,WH--6
13 12,duel Direwolf,$181.60,#a8a8a8,2.1,WH--7
14 13,palpatine chewbacca,$139.59,#2b2b2b,1,WH--8
15 14,Direwolf,$147.53,#c4c4c4,2,WH--9
16 15,Stannis warden,$194.29,#dbdbdb,1.5,WH--10
17 16,the duel warden,$180.91,#666666,3,WH--11
18 17,skywalker ewok sith,$91.89,#7c7c7c,3.2,WH--12
19 18,Karstark warden,$148.91,#c4c4c4,0.8,WH--13
20 19,dooku solo,$60.33,#3f3f3f,0.6,WH--14
21 20,warden Karstark,$91.96,#b5b5b5,1.4,WH--15
22 21,duel Direwolf,$96.90,#e2e2e2,1.2,WH--16
23 22,chewbacca mustafar,$150.02,#fcfcfc,2.4,WH--17
24 23,riverlands north,$169.96,#545454,2.7,WH--18
25 24,south duel tourney,$48.99,#aaaaaa,2.1,WH--19
26 25,skywalker ewok,$157.53,#2b2b2b,1,WH--20
27 26,Stark Karstark,$53.01,#898989,2,WH--21
28 27,Stannis riverlands,$172.93,#7a7a7a,1.5,WH--22
29 28,chewbacca mustafar,$127.44,#efefef,3,WH--23
30 29,Tully maester Tarly,$167.20,#111111,3.2,WH--24
31 30,Karstark warden,$79.53,#606060,0.8,WH--25
32 31,Lannister,$85.02,#3f3f3f,0.6,WH--26
33 32,north,$178.28,#0f0f0f,1.4,WH--27
```

Creamos la tabla 'products' y cargamos los datos del archivo 'products.csv' y viendo el resultado mediante un select

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following code:

```
1 CREATE TABLE IF NOT EXISTS products (
2   id int,
3   product_name varchar(100),
4   price varchar(9),
5   colour varchar(7),
6   weight float,
7   warehouse_id varchar(6)
8 );
9 -- cargamos los datos del archivo
10 LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/products.csv'
11 INTO TABLE products
12 FIELDS TERMINATED BY ','
13 ENCLOSED BY '"'
14 LINES TERMINATED BY '\n'
15 IGNORE 1 ROWS;
16
17 SELECT * FROM products;
18
```

The Result Grid shows the first 10 rows of the data loaded from the CSV file:

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	1.5	WH-2
4	warden south duel	\$71.89	#111111	3	WH-1
5	skywalker ewok	\$171.22	#dbdbdb	3.2	WH-0
6	dooku solo	\$136.60	#c4c4c4	0.8	WH--1
7	north of Casterly	\$63.33	#b7b7b7	0.6	WH--2
8	Winterfell	\$32.37	#383838	1.4	WH--3
9	Winterfell	\$76.40	#b5b5b5	1.2	WH--4
10	Karstark Dorne	\$119.52	#f4f4f4	2.4	WH--5

The Output tab shows the execution of the SQL statements:

```
1 18:27:41 CREATE TABLE IF NOT EXISTS products ( id int, product_name varchar(100), price varchar(9), colour varchar(7), weight float, warehouse_id varchar(6))
2 18:27:41 LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/products.csv' INTO TABLE products FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS; 100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0
3 18:27:41 SELECT * FROM products LIMIT 0, 200 100 row(s) returned
```

Realizamos el análisis para la tabla ‘transactions’ pero ya observamos una diferencia y es que ahora es ‘;’ el símbolo que separa los distintos campos

```

1 id;card_id;business_id;timestamp;amount;declined;product_ids;user_id;lat;longitude
2 10881D1D-5B23-A76C-55EF-C568E49A050D;CcU-2938;b-2222;2021-07-07 17:43:16;293.57;0;59;275;83.7839152128;-178.860353536
3 7DC26247-20EC-53FE-E555-B6C2E55CA5D5;CcU-2945;b-2226;2022-02-04 15:52:56;312.5;0;71, 41;275;58.9367181312;-76.8171099136
4 72997E96-DC2C-A4D7-7C24-66C302F8AESA;CcU-2952;b-2230;2022-01-30 15:16:36;239.87;0;97, 41, 3;275;43.3584055296;-17.6579677184
5 AB069F53-965E-A2A8-CE06-CAB8C4FD92501;CcU-2959;b-2234;2021-04-15 13:37:18;60.99;0;11, 13, 61, 29;275;1.6481916928;-158.0065729536
6 2F3B6AB6-147D-EB08-FE8D-9AAE2EA9D0D5;CcU-2966;b-2238;2021-10-18 06:12:03;33.81;0;47, 37, 11, 1;275;-43.4811227136;16.6025207808
7 5B0EEF86-B8A1-EFAA-5EE1-27E7DC8F54A4;CcU-2973;b-2242;2022-01-06 01:44:48;42.82;0;23, 19, 71;275;-64.1136375808;85.2490600448
8 2B928E1C-EC14-A760-0A75-871477649D6A;CcU-2980;b-2246;2021-08-10 08:14:49;383.73;0;59, 13, 23;275;-41.049559552;161.6848917504
9 063FBA79-99EC-66FB-29F7-25726D1764A5;CcU-2987;b-2250;2022-01-06 21:25:27;92.61;0;47, 67, 31, 5;275;-81.222680576;-129.049879552
10 D33B21EB-A61E-B08C-5DE7-1DA4AC210AE6;CcU-2994;b-2254;2022-03-02 13:29:50;20.35;0;17, 13, 73;275;5.2730230784;5.061312512
11 841AC1A0-9CA6-2A7F-EB2C-BC9C77C1E8B8;CcU-3001;b-2258;2021-12-28 02:01:10;428.4;0;47;275;-39.6528282624;88.7919108096
12 D3470F3E-96B3-799A-A0F1-E42C143BAC5A;CcU-3008;b-2262;2021-11-29 19:06:42;379.14;0;1;275;-62.8359631872;-17.71266816
13 D6F37D7A-A07E-01AA-DE27-476CB9D26A8E;CcU-3015;b-2266;2021-11-25 19:06:32;419.97;0;61, 13, 7, 71;275;-83.7747781632;179.885781504
14 DE684792-5DEE-5E12-D0B5-C5661D48F42A;CcU-3022;b-2270;2021-06-23 17:07:22;71.55;0;59;275;61.227753472;13.3562263552
15 4832166E-E11C-B8C3-41D0-B879468687A3;CcU-3029;b-2274;2022-01-18 16:12:47;416.66;0;41, 83;275;-72.4205815808;-168.1795437568
16 1788C8B1-EE67-98AB-377A-4C78E7721608;CcU-3036;b-2278;2022-01-16 08:19:44;486.83;0;7, 2, 79;275;55.913455104;110.5549494272
17 483FF0B5-1547-801E-D5B0-44ED02F62210;CcU-3043;b-2282;2021-12-04 23:00:20;63.12;0;83;275;48.9972803584;-50.5497547776
18 2C709B65-2629-4A61-5010-77BD1A74ADA6;CcU-3050;b-2286;2021-07-08 22:54:31;258.18;0;53;275;-15.6687583232;-70.1488001024
19 71983A22-79E9-4843-60E8-B935637FFAA4;CcU-3057;b-2290;2022-01-10 13:04:11;155.44;0;7, 3, 17;275;-80.9933531136;52.5998742528
20 91C71934-D65D-B4A1-005E-670AA7D4C93C;CcU-3064;b-2294;2022-01-22 22:09:08;179.4;0;79, 47;275;83.6934478848;114.2644864
21 79B621A9-3FAA-41E4-2845-3D6E532C743D;CcU-3071;b-2298;2021-05-09 01:19:22;400.63;0;11, 37, 43;275;60.7640276992;-6.0305291264
22 6328BE9-4725-E15C-7FC4-5B5D7EC58D29;CcU-3078;b-2302;2021-08-27 22:13:25;203.23;0;89, 3;275;45.8950729728;-58.7070354432
23 C798971A-76A1-9A57-A0DF-D8CAD4C9168A;CcU-3085;b-2306;2022-01-04 08:21:53;15.05;0;83;275;28.4279876608;96.7118838784
24 4334349E-CEB0-3D68-A4D4-FEB7718A1ACE;CcU-3092;b-2310;2021-05-03 22:37:23;450.74;0;67;275;-20.4858958848;150.8698927104
25 E643981C-C8F4-15B5-36D0-71848226631;CcU-3099;b-2314;2021-12-22 05:31:42;266.09;0;83;275;47.7981473792;-27.6321056768
26 4915FB62-6A6C-9ACA-E92E-B3D94E774161;CcU-3106;b-2318;2022-01-03 20:51:56;376.41;0;97, 43;274;52.3774137344;-176.6384135168
27 CDF1E4E5-1A4D-54CD-8734-D48AC4C3E5E6;CcU-3113;b-2322;2021-04-24 15:25:29;261.35;0;37, 43, 31, 5;274;-13.227096064;-55.1560356864
28 4E562A28-99E9-8C82-2340-B66238C9FE2F;CcU-3120;b-2326;2021-03-23 15:43:37;409.68;0;1, 59;273;-65.8033184768;158.0998510592
29 2139A647-D965-AA81-3915-55DADA16CD3F;CcU-3127;b-2330;2022-03-07 10:53:46;119.68;0;79, 71;273;9.5045337088;128.8788835328
30 55B161FA-A6E4-7783-11A3-AB8B938198E3;CcU-3134;b-2334;2021-06-08 00:12:08;412.48;0;43, 83;272;-47.3147159552;135.2381384704
31 598EA316-9623-BDA9-6D24-529A830AD995;CcU-3141;b-2338;2021-11-08 17:41:00;227.44;0;79, 19, 71;272;28.3061554176;-84.78810112
32 C0E79971-4E7D-C876-ABE5-5402A7162951;CcU-3148;b-2342;2022-01-26 17:28:29;354.28;0;37, 17, 5;272;-2.2297613312;-7.4983288832
```

Al igual que antes creamos la tabla y cargamos los datos del archivo ‘transactions.csv’.

SQL File 7" x SQL File 8"

Limit to 200 rows

1

-- analizamos el archivo 'transactions' y creamos la tabla con sus campos

2

CREATE TABLE IF NOT EXISTS transactions (

3

id VARCHAR(255),

4

card_id VARCHAR (15),

5

business_id VARCHAR (20),

6

timestamp TIMESTAMP,

7

amount DECIMAL (10,2),

8

declined BOOLEAN,

9

product_ids VARCHAR (20),

10

user_id INT,

11

lat FLOAT,

12

longitude FLOAT

13

);

14

-- cargamos los datos del archivo

15

LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/transactions.csv'

16

INTO TABLE transactions

17

FIELDS TERMINATED BY ';' ,

18

ENCLOSED BY ''

19

LINES TERMINATED BY '\n'

20

IGNORE 1 ROWS;

21

-- visualizamos con select el resultado

22

SELECT * FROM transactions;

23

Result Grid

Filter Rows: Exports Wrap Cell Contents Fetch rows

	id	card_id	business_id	timestamp	amount	declined	product_ids	user_id	lat	longitude
▶	10881D1D-5B23-A76C-55EF-C568E49A050D	CcU-2938	b-2222	2021-07-07 17:43:16	293.57	0	59	275	83.7839	-178.86
	7DC26247-20EC-53FE-E555-B6C2E55CA5D5	CcU-2945	b-2226	2022-02-04 15:52:56	312.50	0	71, 41	275	58.9367	-76.8171
	72997E96-DC2C-A4D7-7C24-66C302F8AESA	CcU-2952	b-2230	2022-01-30 15:16:36	239.87	0	97, 41, 3	275	43.3584	-17.6579
	AB069F53-965E-A2A8-CE06-CAB8C4FD92501	CcU-2959	b-2234	2021-04-15 13:37:18	60.99	0	11, 13, 61, 29	275	1.64819	-158.0065
	2F3B6AB6-147D-EB08-FE8D-9AAE2EA9D0D5	CcU-2966	b-2238	2021-10-18 06:12:03	33.81	0	47, 37, 11, 1	275	-43.4811	16.6025
	5B0EEF86-B8A1-EFAA-5EE1-27E7DC8F54A4	CcU-2973	b-2242	2022-01-06 01:44:48	42.82	0	23, 19, 71	275	-64.1136	85.2491
	2B928E1C-EC14-A760-0A75-871477649D6A	CcU-2980	b-2246	2021-08-10 08:14:49	383.73	0	59, 13, 23	275	-41.0496	161.685
	063FBA79-99EC-66FB-29F7-25726D1764A5	CcU-2987	b-2250	2022-01-06 21:25:27	92.61	0	47, 67, 31, 5	275	-81.2227	-129.05
	D33B21EB-A61E-B08C-5DE7-1DA4AC210AE6	CcU-2994	b-2254	2022-03-02 13:29:50	20.35	0	17, 13, 73	275	5.27302	5.06131
	841AC1A0-9CA6-2A7F-EB2C-BC9C77C1E8B8	CcU-3001	b-2258	2021-12-28 02:01:10	428.4	0	47	275	-39.6528	88.7919
transactions 11 x										

Output

Action Output

#	Time	Action	Message
2	10:56:38	LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/transactions.csv' INTO TABLE transactions FIELDS TERMINA...	587 row(s) affected Records: 587 Deleted: 0 Skipped: 0 Warnings: 0
3	10:56:38	SELECT * FROM transactions LIMIT 0, 200	200 row(s) returned

Analizamos los archivos 'users_ca', 'users_usa', 'users_uk' vemos que tienen la misma estructura de datos con un campo id que es entero y cada archivo tiene un tramo de valores de 1 a 150, 151 a 200, 200 en adelante.

Luego creo las tablas que heredan los nombres de los archivos csv con la misma estructura y les voy cargando los datos de los archivos en cada una de ellas.

```

1 id,name,surname,phone,email,birth_date,country,city,postal_code,address
2 1,Zeus,Gamble,1-282-581-0551,interdum.enim@protonmail.edu,"Nov 17, 1985",United States,Lowell,73544,348-7818 Sagittis
3 2,Garrett,Mcconnell,(718) 257-2412,integer.vitae.nibh@protonmail.org,"Aug 23, 1992",United States,Des Moines,59464,903
4 3,Ciaran,Harrison,(522) 598-1365,interdum.feugiat@aol.org,"Apr 29, 1998",United States,Columbus,56518,736-2063 Tellus
5 4,Howard,Stafford,1-411-740-3269,ornare.egestas@icloud.edu,"Feb 18, 1989",United States,Kailua,77417,Ap #545-2244 Erat
6 5,Hayfa,Pierce,1-554-541-2077,et.malesuada.fames@hotmail.org,"Sep 26, 1998",United States,Sandy,31564,341-2821 Ultrice
7 6,Joel,Tyson,(718) 288-8020,gravida.nunc.sed@yahoo.ca,"Oct 15, 1989",United States,Nashville,96838,888-2799 Amet Stree
8 7,Rafael,Jimenez,(817) 689-0478,eget@outlook.ca,"Dec 4, 1981",United States,Hillsboro,29874,8627 Malesuada Rd.
9 8,Nissim,Franks,(692) 157-3469,egestas.aliquam.fringilla@google.ca,"Aug 1, 1993",United States,Jackson,61750,Ap #251-7
10 9,Mannix,Mcclain,(598) 883-2184,aliquam.nisl@outlook.com,"Jan 24, 1987",United States,Richmond,35987,647-3080 Lacus. S
11 10,Robert,Mccarthy,(324) 746-6771,fermentum@protonmail.com,"Apr 30, 1984",United States,Eugene,85526,"P.O. Box 773, 35
12 11,Joan,Baird,(981) 429-8106,et@outlook.net,"Feb 25, 1990",United States,Lincoln,35211,"P.O. Box 687, 8917 Ligula St."
13 12,Benedict,Wheeler,1-515-824-2855,tincidunt.donec.vitae@hotmail.couk,"Aug 6, 1999",United States,Lewiston,92393,748-8
14 13,Allegra,Stanton,1-927-753-6488,proin.eget@protonmail.ca,"May 19, 1990",United States,Kearney,14947,4457 Ante. Av.
15 14,Sara,Flynn,1-311-646-9333,integer@outlook.net,"Dec 27, 1988",United States,Warren,20288,"P.O. Box 865, 4397 Ante St
16 15,Noelani,Patrick,1-723-488-5894,sem.magna@google.com,"Sep 17, 1993",United States,Orlando,47987,"596-5044 Sapien, St
17 16,Eric,Roth,1-218-549-8253,lorem.sit@yahoo.net,"Sep 7, 1988",United States,Reading,96697,"P.O. Box 541, 5137 Non Road
18 17,Bruce,Gill,(744) 732-8628,metus@aol.net,"Mar 4, 1990",United States,Davenport,43415,"Ap #836-9508 Vitae, Ave"
19 18,Russell,Jimenez,(657) 779-2438,proci@outlook.edu,"Aug 26, 1993",United States,Hattiesburg,75647,4095 Quam Rd.

```

Creamos la tabla 'users_usa'

```

17 INTO TABLE users_usa
18 FIELDS TERMINATED BY ','
19 ENCLOSED BY '"'
20 LINES TERMINATED BY '\n'
21 IGNORE 1 ROWS;
22 -- visualizamos con un select
23 SELECT * FROM users_usa;

```

id	name	surname	phone	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
2	Garrett	Mcconnell	(718) 257-2412	integer.vitae.nibh@protonmail.org	Aug 23, 1992	United States	Des Moines	59464	903 Sit Ave
3	Ciaran	Harrison	(522) 598-1365	interdum.feugiat@aol.org	Apr 29, 1998	United States	Columbus	56518	736-2063 Tell
4	Howard	Stafford	1-411-740-3269	ornare.egestas@icloud.edu	Feb 18, 1989	United States	Kailua	77417	Ap #545-2244
5	Hayfa	Pierce	1-554-541-2077	et.malesuada.fames@hotmail.org	Sep 26, 1998	United States	Sandy	31564	341-2821 Ultr
6	Joel	Tyson	(718) 288-8020	gravida.nunc.sed@yahoo.ca	Oct 15, 1989	United States	Nashville	96838	888-2799 Ame
7	Rafael	Jimenez	(817) 689-0478	eget@outlook.ca	Dec 4, 1981	United States	Hillsboro	29874	8627 Malesuac
8	Nissim	Franks	(692) 157-3469	egestas.aliquam.fringilla@google.ca	Aug 1, 1993	United States	Jackson	61750	Ap #251-7144

```

59 12:51:35 CREATE TABLE IF NOT EXISTS users_usa ( id INT, name VA... 0 row(s) affected
60 12:51:35 LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/U... 150 row(s) affected Records: 150 Deleted: 0 Skipped: 0 Warnings: 0
61 12:51:35 SELECT * FROM users_usa LIMIT 0, 200 150 row(s) returned

```

Creamos 'users_uk' con la misma estructura que 'users_usa'

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

sakila

sprint4

Tables

companies

credit_cards

products

transactions

users_uk

users_usa

Views

Stored Procedures

Functions

Administration Schemas

Information

No object selected

SQL File 3* SQL File 4* users_usa

Limit to 200 rows

```

17  FIELDS TERMINATED BY ','
18  ENCLOSED BY '"'
19  LINES TERMINATED BY '\n'
20  IGNORE 1 ROWS;
21  -- visualizamos con un select
22  SELECT * FROM users_uk;
23

```

id	name	surname	phone	email	birth_date	country	city	postal_code	address
151	Meghan	Hayden	0800 746 6747	arcu.vel@hotmail.ca	Jul 2, 1980	United Kingdom	Tullibody	A1Y 3TC	Ap #432
152	Hakeem	Alford	(0111) 367 0184	adipiscing.ligula@google.edu	Sep 30, 1979	United Kingdom	Kettering	O21 7JV	551-893
153	Keegan	Pugh	(016977) 3851	sodales.nisi@aol.org	Jul 27, 1994	United Kingdom	Whitehaven	HQ8V 7YP	Ap #312
154	Cooper	Bullock	(021) 2521 6627	et@outlook.net	Nov 2, 1986	United Kingdom	Presteigne	U18 0DN	872-186
155	Joshua	Russell	055 4409 5286	justo.nec.ante@outlook.edu	Jan 23, 1984	United Kingdom	Hatfield	B5H 5CS	Ap #285
156	Remedios	Case	055 3114 1566	mollis.phasellus.libero@aol.com	Oct 9, 1994	United Kingdom	North Berwick	QR0 8CW	479-369
157	Philip	Carey	0800 640 6251	phasellus@yahoo.net	Oct 10, 1992	United Kingdom	Lochglohead	CE2 6HT	196-110
158	Fatma	Diver	0800 1111	adipiscing@aol.org	Dec 24, 1988	United Kingdom	Northampton	IL3X 6XD	Ap #435

users_uk 12 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
62	12:54:01	CREATE TABLE IF NOT EXISTS users_uk (id INT, name VAR...	0 row(s) affected	0.078 sec
63	12:54:01	LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/U...	50 row(s) affected Records: 50 Deleted: 0 Skipped: 0 Warnings: 0	0.016 sec
64	12:54:01	SELECT * FROM users_uk LIMIT 0, 200	50 row(s) returned	0.000 sec / 0.000 sec

Creamos 'users_ca' con la misma estructura que las anteriores.

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

sakila

sprint4

Tables

companies

credit_cards

products

transactions

users_ca

users_uk

users_usa

Views

Stored Procedures

Functions

Administration Schemas

Information

No object selected

SQL File 3* SQL File 4* users_usa

Limit to 200 rows

```

17  INTO TABLE users_ca
18  FIELDS TERMINATED BY ','
19  ENCLOSED BY '"'
20  LINES TERMINATED BY '\n'
21  IGNORE 1 ROWS;
22  -- visualizamos con un select
23  SELECT * FROM users_ca;

```

id	name	surname	phone	email	birth_date	country	city	postal_code	address
201	Iola	Powers	018-139-4717	ante.blandit@outlook.edu	Mar 20, 2000	Canada	Rigolet	V6T 6M7	154-5415 Auc
202	Maxwell	Holden	045-402-7693	donec@hotmail.edu	Dec 2, 1986	Canada	Murdochville	S7E 6E0	Ap #880-637
203	Jarrod	Fields	010-741-8105	sit.amet@google.co.uk	Jan 6, 1982	Canada	Baddeck	K3X 6Z5	441-8969 Rhc
204	Emerson	Sharp	068-138-9383	ante.laculis@outlook.ca	Oct 15, 1994	Canada	Maple Creek	Y2C 9E6	517-6759 Ut,
205	Sonya	McKee	041-151-9737	magna.phasellus.dolor@google.ca	May 7, 1983	Canada	Dieppe	E7S 4P8	Ap #916-805
206	Harper	Hart	030-656-1670	fringilla.donec@outlook.net	Nov 17, 2000	Canada	Quebec City	B4K 0J6	8588 Massa, /
207	Yvonne	Hatfield	003-854-1445	magna.et.ipsum@google.edu	Sep 22, 1981	Canada	Rae-Edzo	20Y 8L2	Ap #636-805
208	Burke	Graham	064-568-4454	vel@yahoo.org	Feb 23, 1993	Canada	Annaapolis Royal	S4Y 8V5	Ap #983-604

users_ca 13 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	12:56:13	CREATE TABLE IF NOT EXISTS users_ca (id INT, name VAR...	0 row(s) affected	0.078 sec
2	12:56:16	LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Upl...	75 row(s) affected Records: 75 Deleted: 0 Skipped: 0 Warnings: 0	0.016 sec
3	12:56:16	SELECT * FROM users_ca LIMIT 0, 200	75 row(s) returned	0.000 sec / 0.000 sec

Como las tres tienen la misma estructura las unimos y convertimos en una sola.

Primero insertamos los datos de dos de ellas en una y la que queda le cambiamos el nombre llamándole 'users'. Comprobamos que las filas de la tabla resultante es el total de las tres anteriores.

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following queries:

```
3 SELECT * FROM users_uk;
4 -- añadimos ahora a users_usa lo de users_ca
5 INSERT INTO users_usa
6 SELECT * FROM users_ca;
7 -- a la tabla resultante le llamo 'users' y compruebo que las filas que contiene son la suma de las otras tres
8 RENAME TABLE users_usa to users;
9 SELECT COUNT(*) FROM users;
```

The Results pane shows the output of the last query:

Count(*)
275

The Information pane shows the structure of the 'users_ca' table:

Table: users_ca

Columns:

- id: int
- name: varchar(20)
- surname: varchar(20)
- phone: varchar(15)
- email: varchar(150)
- birth_date: varchar(20)
- country: varchar(100)
- city: varchar(100)
- postal_code: varchar(15)
- address: varchar(100)

The Action Output pane shows the execution log:

#	Time	Action	Message	Duration / F
2	13:06:31	INSERT INTO users_usa SELECT * FROM users_ca	75 row(s) affected Records: 75 Duplicates: 0 Warnings: 0	0.031 sec
3	13:06:31	RENAME TABLE users_usa to users	0 row(s) affected	0.047 sec
4	13:06:31	SELECT COUNT(*) FROM users LIMIT 0, 200	1 row(s) returned	0.015 sec /

Vemos que el total de filas en la tabla 'users' es de 275.

Borramos por tanto las otras dos tablas 'users_ca', 'users_uk' y vemos como quedan las tablas de los datos volcados.

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following queries:

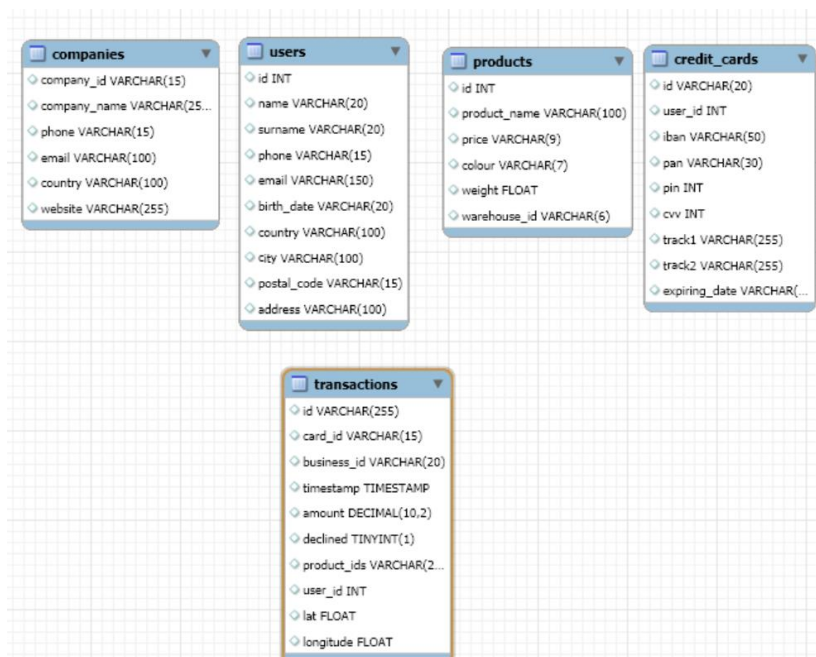
```
1 drop table users_ca;
2 drop table users_uk;
3 SHOW FULL TABLES FROM Sprint4;
```

The Results pane shows the output of the last query:

Tables_in_sprint4	Table_type
companies	BASE TABLE
credit_cards	BASE TABLE
products	BASE TABLE
transactions	BASE TABLE
users	BASE TABLE

The Information pane shows "No object selected".

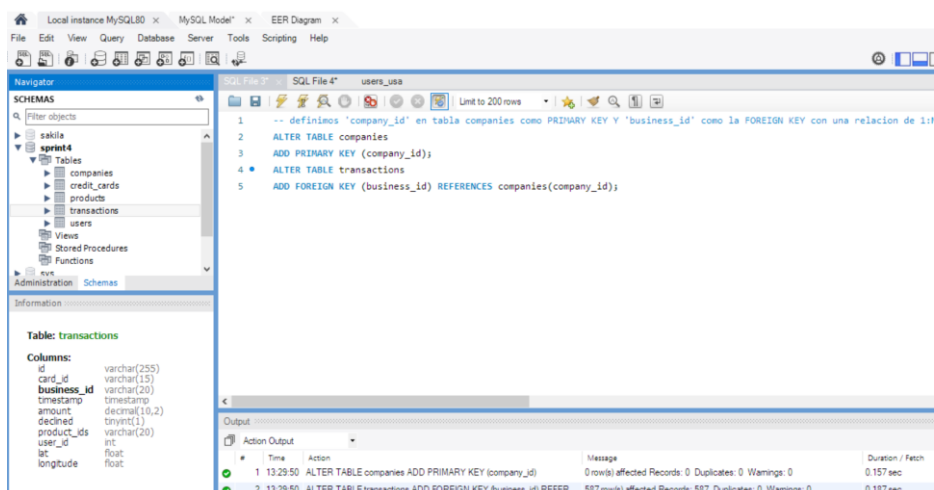
Los datos de los archivos csv quedan como muestra el diagrama



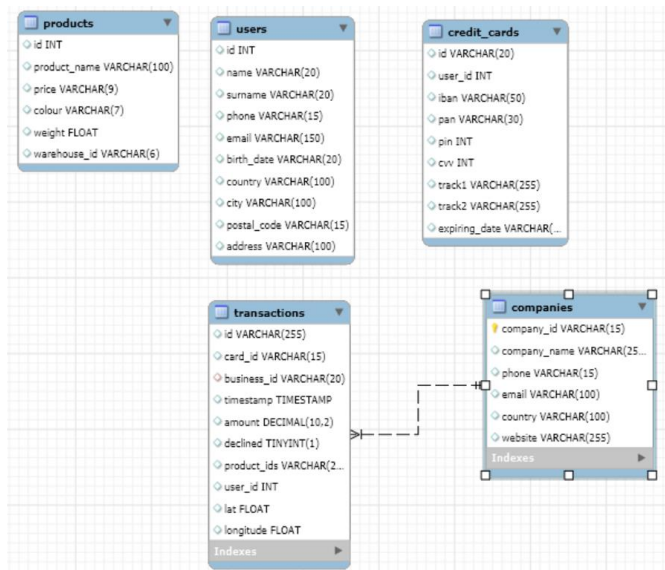
Para crear la BBDD en estrella vamos relacionando la tabla ‘transactions’ que será nuestra tabla ‘hija’ con cada una de las tablas ‘padre’ estableciendo para cada una de ellas una ‘primary key’ que se relacionará 1:N a cada campo definido como ‘foreign key’ en la tabla ‘transactions’.

Para que estas relaciones se puedan establecer las ‘key’ deben de ser el mismo tipo de datos entre ‘padre’ e ‘hija’, si esto no ocurre habrá que ir modificando las tablas creadas.

Comenzamos por ‘companies’ relacionándolo con ‘transactions’



Vemos la relación creada:



Realizamos lo mismo para ‘credit_cards’ definiendo como PRIMARY KEY el campo ‘id’ y ‘card_id’ como FOREIGN KEY para ‘transactions’.

En el caso de ‘users’ su PRIMARY KEY es ‘id’ y la FOREIGN KEY es ‘user_id’.

The screenshot shows the MySQL Modeler interface with the following SQL scripts:

```

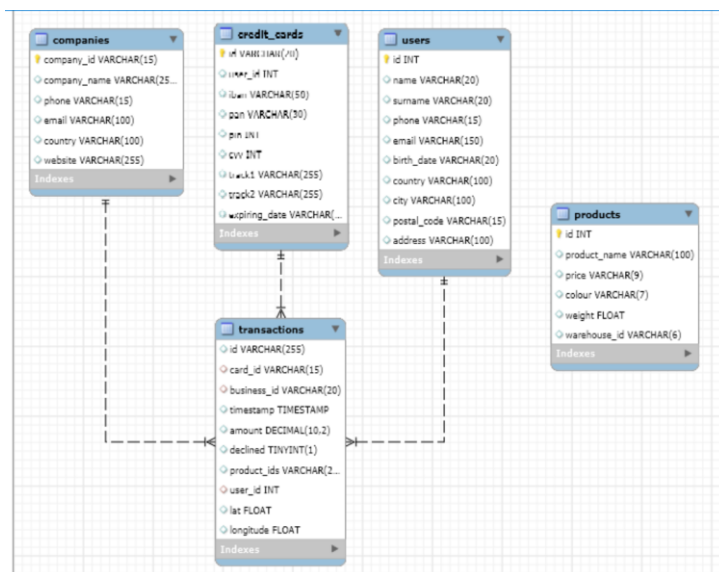
2  -- con una relacion de 1:N
3  ALTER TABLE companies
4  ADD PRIMARY KEY (company_id);
5  ALTER TABLE transactions
6  ADD FOREIGN KEY (business_id) REFERENCES companies(company_id);
7  -- definimos 'id' en tabla 'credit_cards' como PRIMARY KEY Y 'card_id' como la FOREIGN KEY
8  -- en 'transactions' con una relacion de 1:N
9  ALTER TABLE credit_cards
10 ADD PRIMARY KEY (id);
11 ALTER TABLE transactions
12 ADD FOREIGN KEY (card_id) REFERENCES credit_cards(id);
13 -- definimos 'id' en tabla 'users' como PRIMARY KEY Y 'user_id' como la FOREIGN KEY en 'transactions'
14 -- con una relacion de 1:N
15 ALTER TABLE users
16 ADD PRIMARY KEY (id);
17 ALTER TABLE transactions
18 ADD FOREIGN KEY (user_id) REFERENCES users(id);
  
```

The left sidebar shows the database structure with tables: companies, credit_cards, products, transactions, and users. The bottom left shows the structure of the 'transactions' table.

En el caso de 'products' la PRIMARY KEY sería 'id' pero este campo no tiene valor único dentro de cada fila. Vemos que la segunda fila tiene dos valores en el campo 'product_ids' y en la tercera fila hay tres. Por tanto, no podremos relacionarlos de forma inmediata con esta estructura.

id	card_id	business_id	timestamp	amount	declined	product_ids	user_id	lat	longitude
10881D1D-5B23-A76C-55EF-C568E49A05D0	CcU-2938	b-2222	2021-07-07 17:43:16	293.57	0	59	275	83.7839	-178.1
7DC26247-20EC-53FE-E555-B6C2E55C4SD5	CcU-2945	b-2226	2022-02-04 15:52:56	312.50	0	71, 41	275	58.9367	-76.1
72997E96-DC2C-A4D7-7C24-66C302F8AE5A	CcU-2952	b-2230	2022-01-30 15:16:36	239.87	0	97, 41, 3	275	43.3584	-17.1
AB069F53-965E-A2A8-CE06-CABC4FD92501	CcU-2959	b-2234	2021-04-15 13:37:18	60.99	0	11, 13, 61, 29	275	1.64819	-158.1
2F3B6AB6-147D-EB08-FE8D-9A4E2EA90B05	CcU-2966	b-2238	2021-10-18 06:12:03	33.81	0	47, 37, 11, 1	275	-43.4811	16.6
5B0EEF86-88A1-EFAA-5EE1-27E7DC8F54A4	CcU-2973	b-2242	2022-01-06 01:44:48	42.82	0	23, 19, 71	275	-64.1136	85.2
2B928E1C-EC14-A760-0A75-871477649D6A	CcU-2980	b-2246	2021-08-10 08:14:49	383.73	0	59, 13, 23	275	-41.0496	161.1
063FBA79-99EC-66FB-29F7-25726D1764A5	CcU-2987	b-2250	2022-01-06 21:25:27	92.61	0	47, 67, 31, 5	275	-81.2227	-129.1
D33B21EB-A61E-8D8C-5DE7-1DA4AC210AE6	CcU-2994	b-2254	2022-03-02 13:29:50	20.35	0	17, 13, 73	275	5.27302	5.06
841AC1A0-9CA6-2AF7-EB02-8C9C77C1EBB8	CcU-3001	b-2258	2021-12-20 02:01:10	428.40	0	47	275	-39.6528	88.7
D3470F3E-9683-799A-40F1-E42C143BAC5A	CcU-3008	b-2262	2021-11-29 19:06:42	379.14	0	1	275	-62.836	-17.1

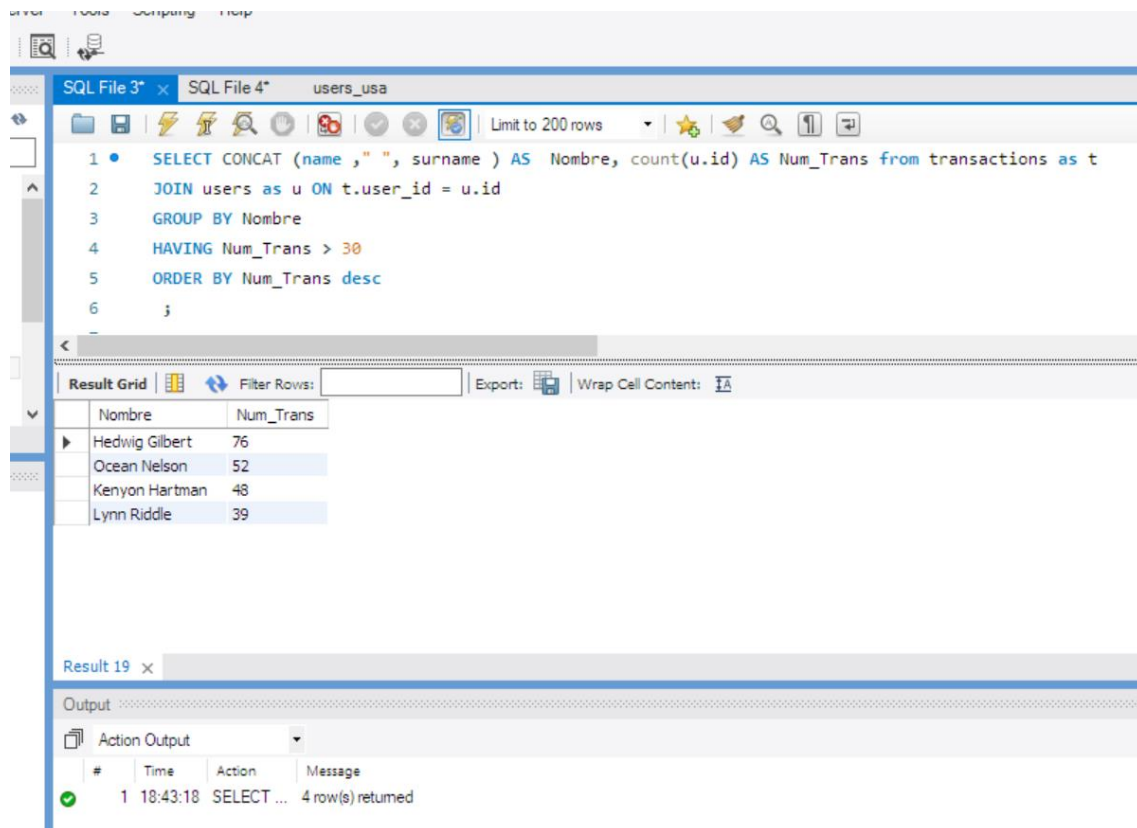
Como nos dice en el enunciado que utilizemos cuatro tablas con las relaciones que he realizado ya es suficiente quedando la base de datos así:



NIVEL 1- Exercici 1

Realitza una subconsulta que mostri tots els usuaris amb més de 30 transaccions utilitzant almenys 2 taules.

Creo una join entre 'transactions' y 'users', concatenando los campos nombres y apellidos de los users llamándolo 'Nombre' añadiendo la condicion mediante el comando HAVING de que el número de transacciones sean mayor de 30 transacciones.



The screenshot shows a SQL IDE interface with a query editor and a results pane. The query editor contains the following SQL code:

```
1 • SELECT CONCAT (name , " ", surname ) AS Nombre, count(u.id) AS Num_Trans from transactions as t
2 JOIN users as u ON t.user_id = u.id
3 GROUP BY Nombre
4 HAVING Num_Trans > 30
5 ORDER BY Num_Trans desc
6 ;
```

The results pane displays a table with two columns: 'Nombre' and 'Num_Trans'. The table contains four rows of data:

Nombre	Num_Trans
Hedwig Gilbert	76
Ocean Nelson	52
Kenyon Hartman	48
Lynn Riddle	39

The bottom of the screenshot shows the 'Output' pane with a table of execution details:

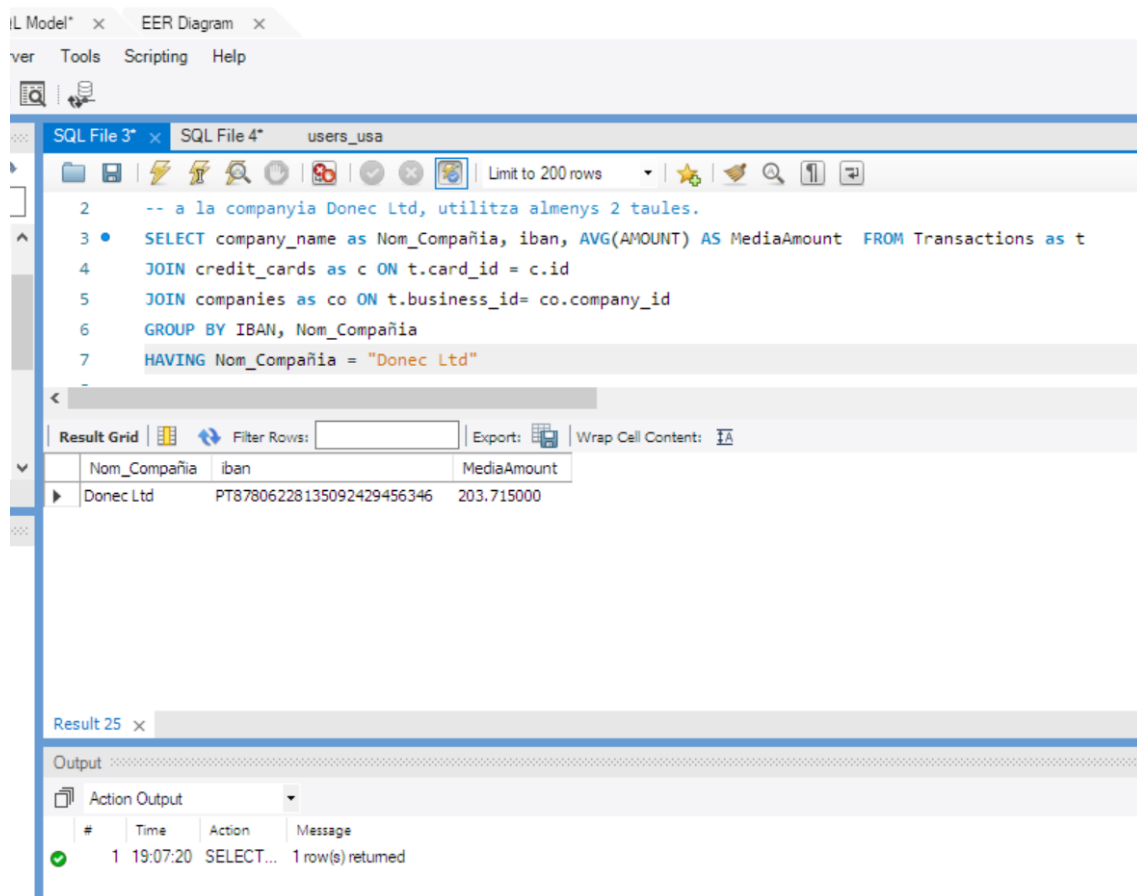
#	Time	Action	Message
1	18:43:18	SELECT ...	4 row(s) returned

Nivel1- Exercici 2

Mostra la mitjana d'amount per IBAN de les targetes de crèdit a la companyia Donec Ltd, utilitza almenys 2 taules.

Tenemos que realizar dos JOINS ya que el campo IBAN y el nombre de las compañías están en las tablas 'credit_card' y 'companies' que son dos tablas 'padre'.

La condición será mediante el comando 'HAVING' igualando el Nombre de la compañía a 'Donec Ltd'.



The screenshot shows a SQL IDE interface with a query editor and a results pane. The query is as follows:

```
-- a la companyia Donec Ltd, utilitza almenys 2 taules.  
SELECT company_name as Nom_Companyia, iban, AVG(AMOUNT) AS MediaAmount FROM Transactions as t  
JOIN credit_cards as c ON t.card_id = c.id  
JOIN companies as co ON t.business_id= co.company_id  
GROUP BY IBAN, Nom_Companyia  
HAVING Nom_Companyia = "Donec Ltd"
```

The results pane shows a single row of data:

Nom_Companyia	iban	MediaAmount
Donec Ltd	PT87806228135092429456346	203.715000

The output pane shows the execution details:

#	Time	Action	Message
1	19:07:20	SELECT...	1 row(s) returned