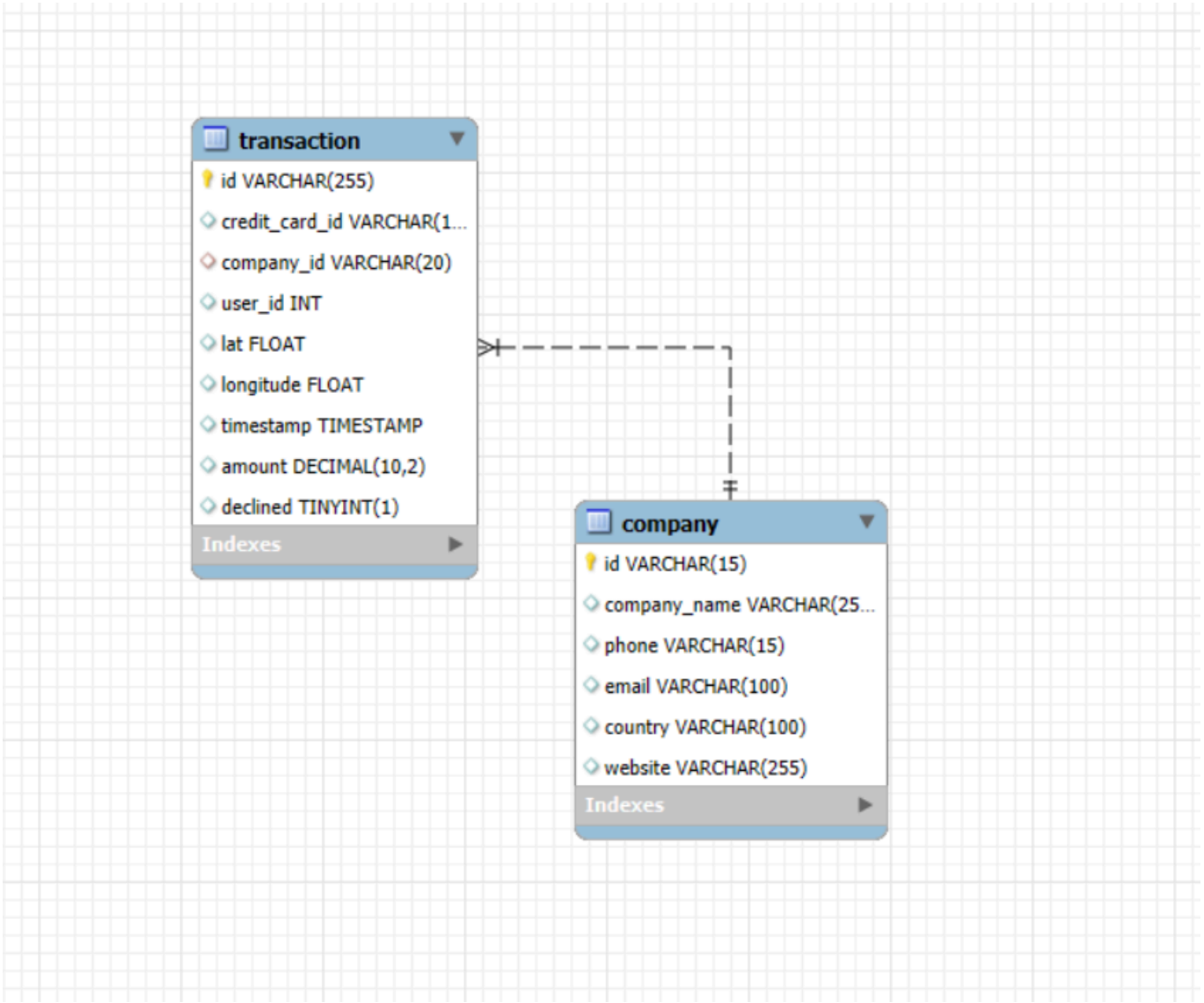
Nivell 1

- Exercici 1

A partir dels documents adjunts (estructura_dades i dades_introduir), importa les dues taules. Mostra les característiques principals de l'esquema creat i explica les diferents taules i variables que existeixen. Assegura't d'incloure un diagrama que il·lustri la relació entre les diferents taules i variables.

Hemos importado la base de datos transactions que contiene 2 tablas: company y transaction.
Company tiene los campos id (clave primaria), company_name, phone, email, country, website,
Transaction tiene los campos id, credit_card, company_id (clave foranea), user_id, lat (latitud), longitude, timestamp, amount y declined.
La relacion entre transaction y company es de muchos a uno y se conectan por la clave company_id (que es el campo id de la tabla company).

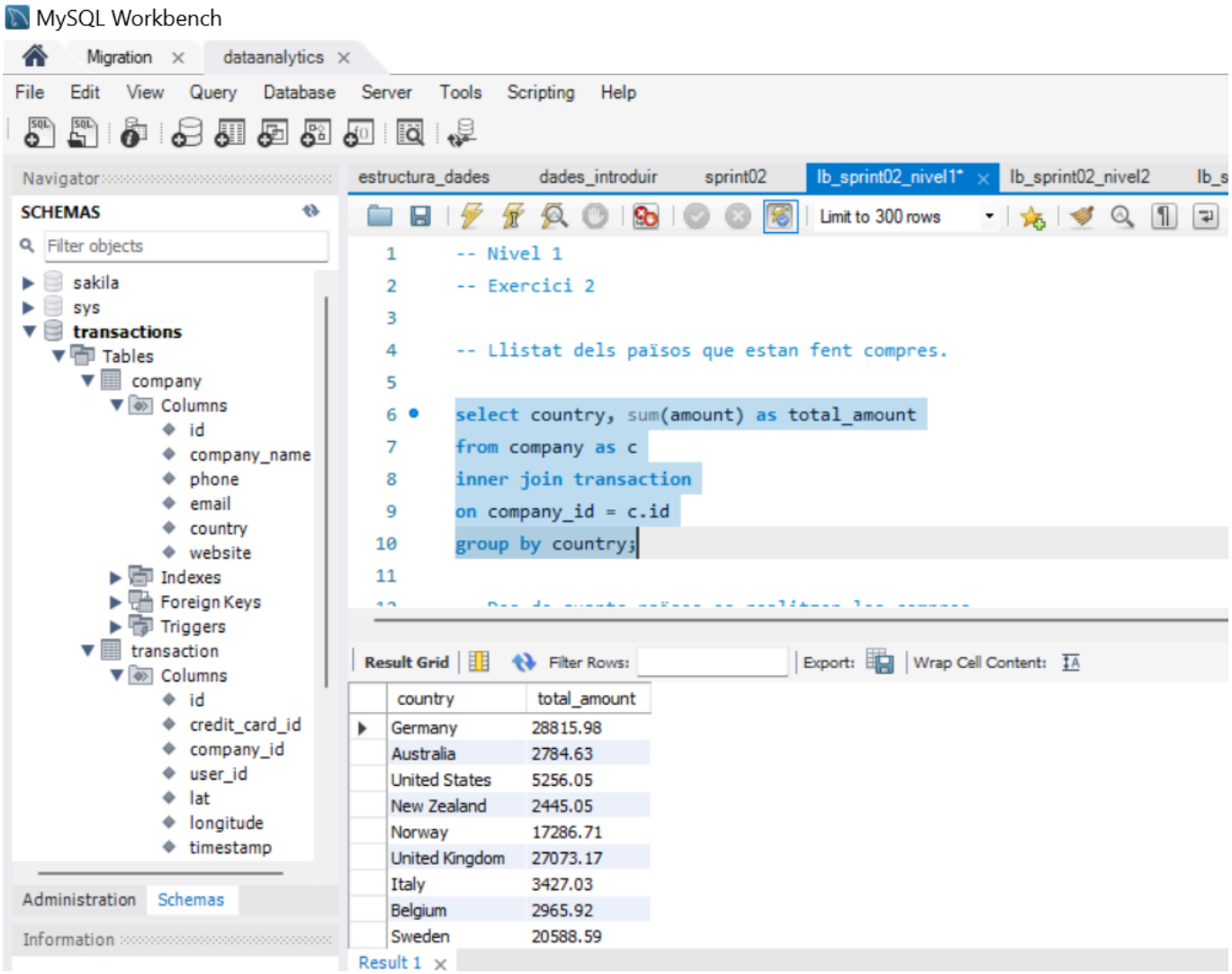


- Exercici 2

Utilitzant JOIN realitzaràs les següents consultes:

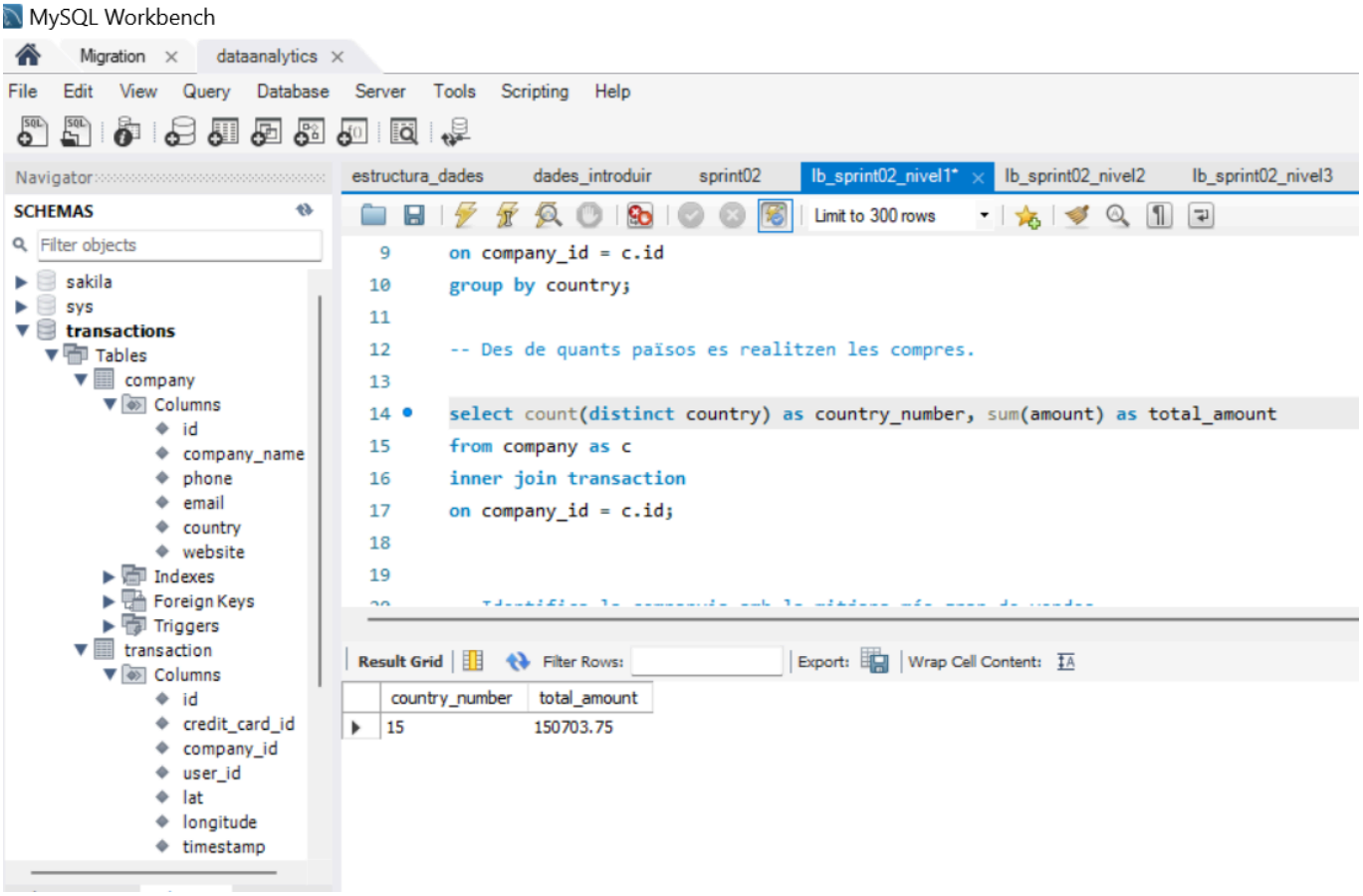
- ❖ *Llistat dels països que estan fent compres.*

```
select country, sum(amount) as total_amount
from company as c
inner join transaction
on company_id = c.id
group by country;
```



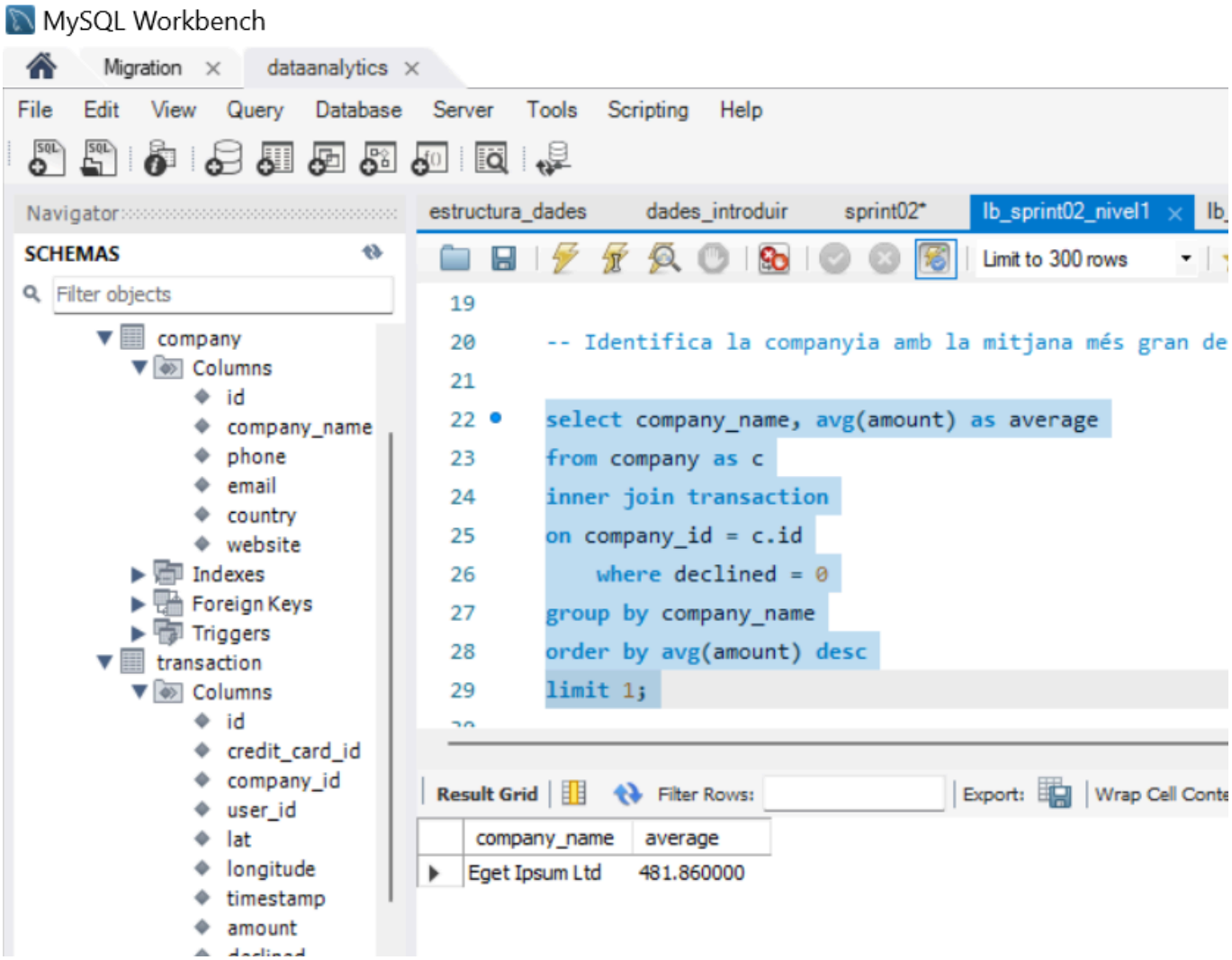
❖ *Des de quants països es realitzen les compres.*

```
select count(distinct country) as country_number, sum(amount) as total_amount
from company as c
inner join transaction
on company_id = c.id;
```



❖ *Identifica la companyia amb la mitjana més gran de vendes.*

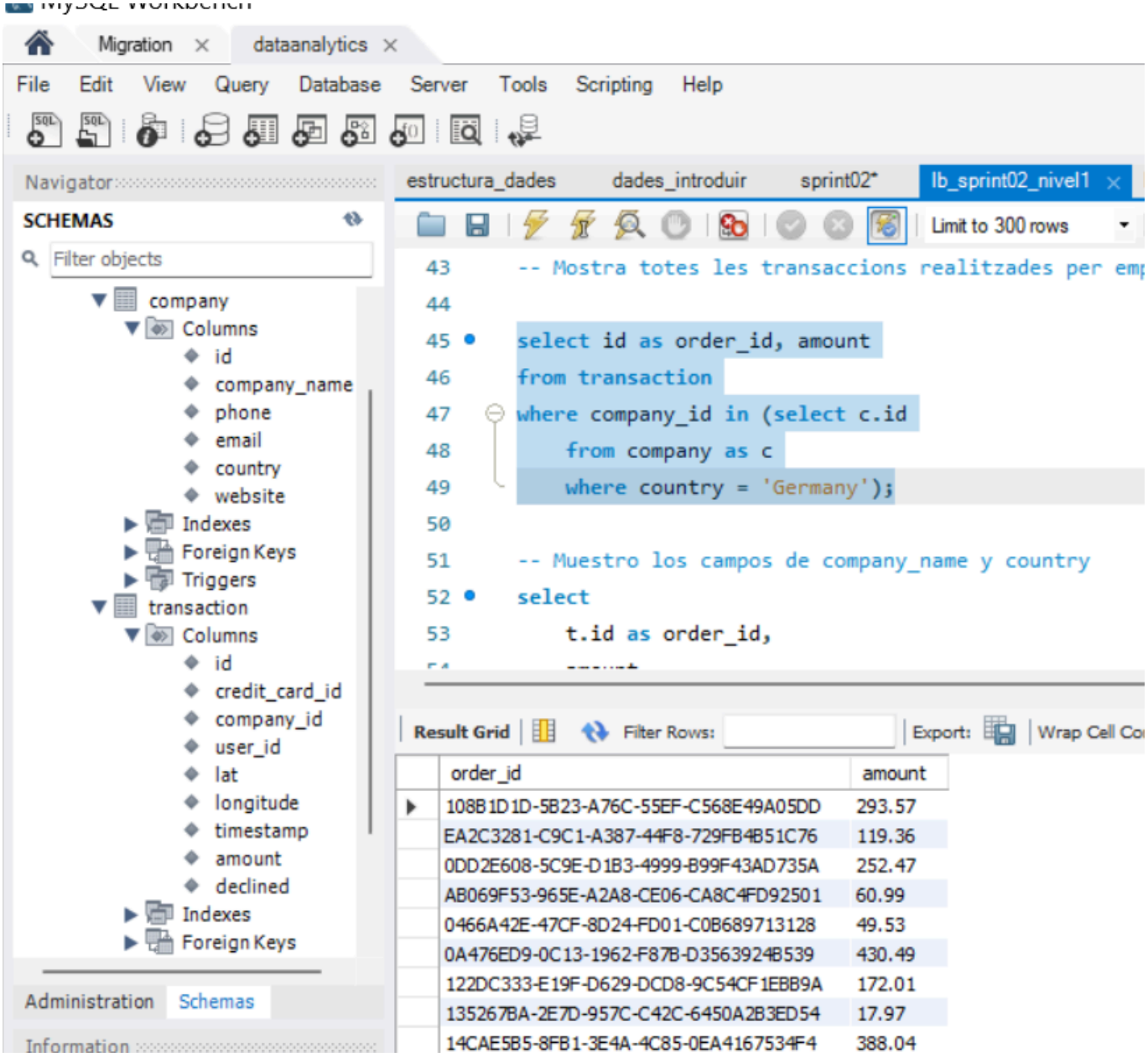
```
select company_name, avg(amount) as average
from company as c
inner join transaction
on company_id = c.id
        where declined = 0
group by company_name
order by avg(amount) desc
limit 1;
```



- Exercici 3

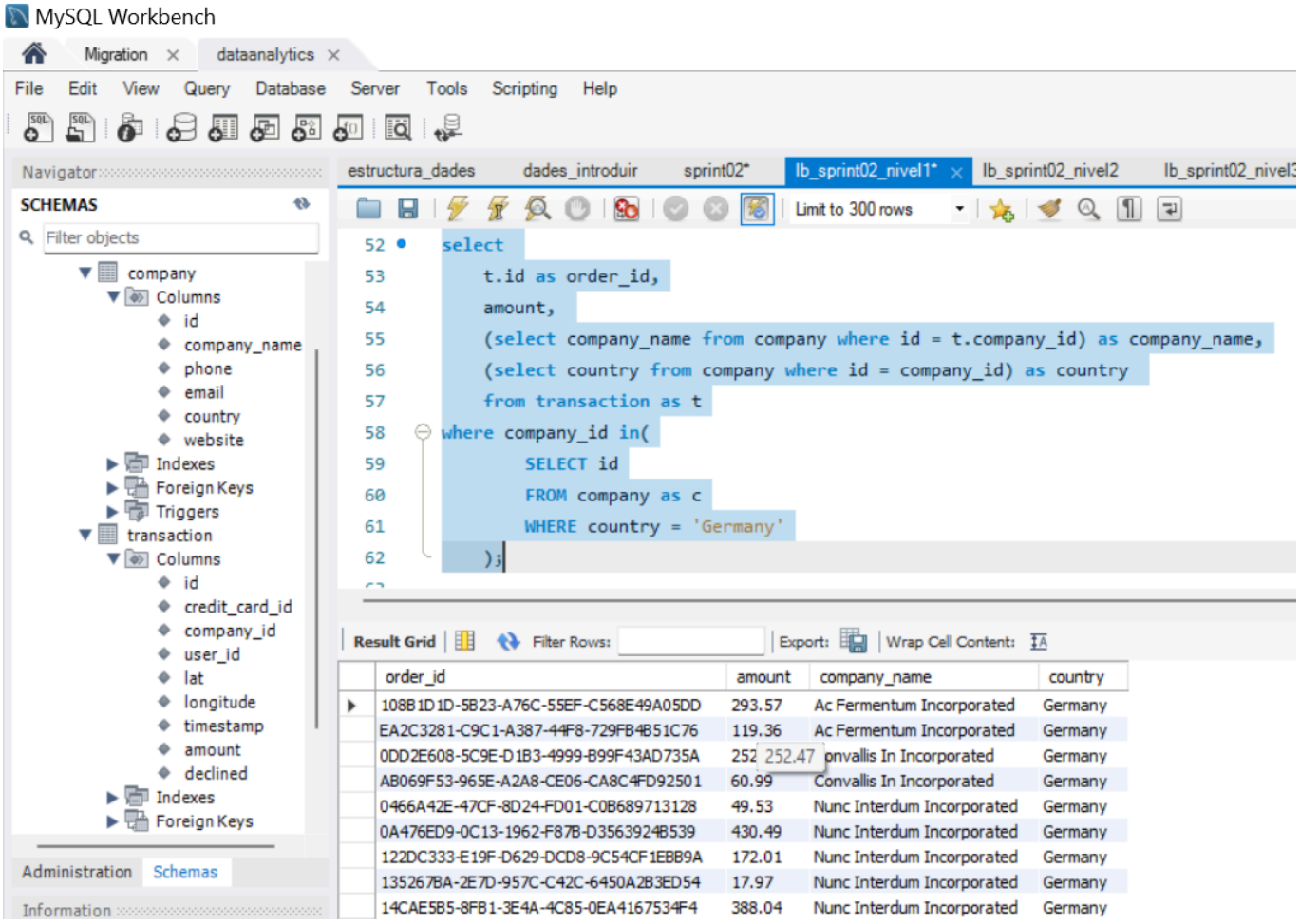
Utilitzant només subconsultes (sense utilitzar JOIN):
Mostra totes les transaccions realitzades per empreses d'Alemanya.

```
select id as order_id, amount
from transaction
where company_id in (select c.id
    from company as c
    where country = 'Germany');
```



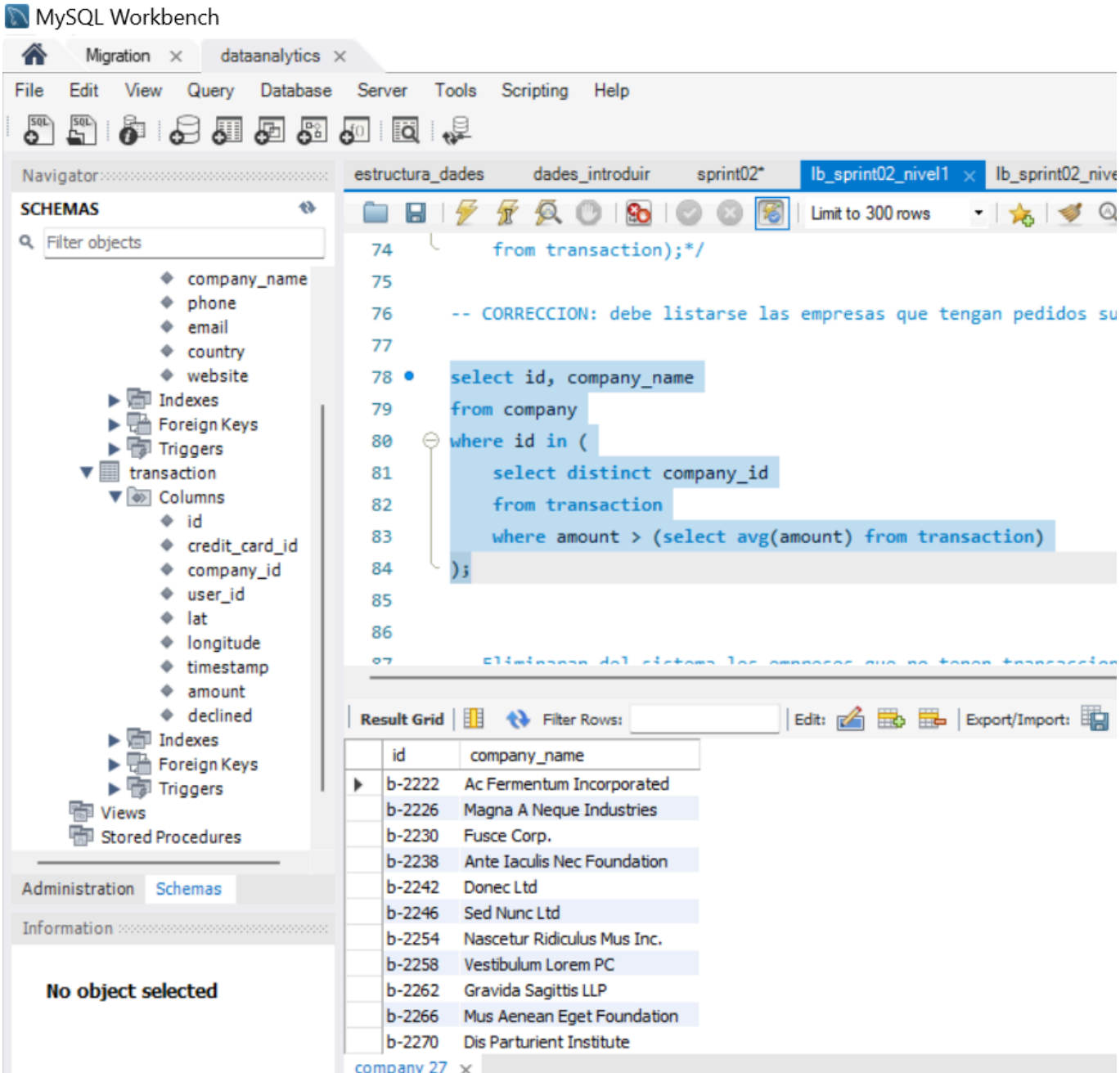
Utilitzant només subconsultes (sense utilitzar JOIN) - Otra manera:
Mostra totes les transaccions realitzades per empreses d'Alemanya.

```
select
        t.id as order_id,
        amount,
        (select company_name from company where id = t.company_id) as company_name,
        (select country from company where id = company_id) as country
        from transaction as t
where company_id in(
            select id
            from company as c
            where country = 'Germany');
```



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

```
select id, company_name
from company
where id in (select distinct company_id
        from transaction
        where amount > (select avg(amount) from transaction)
);
```



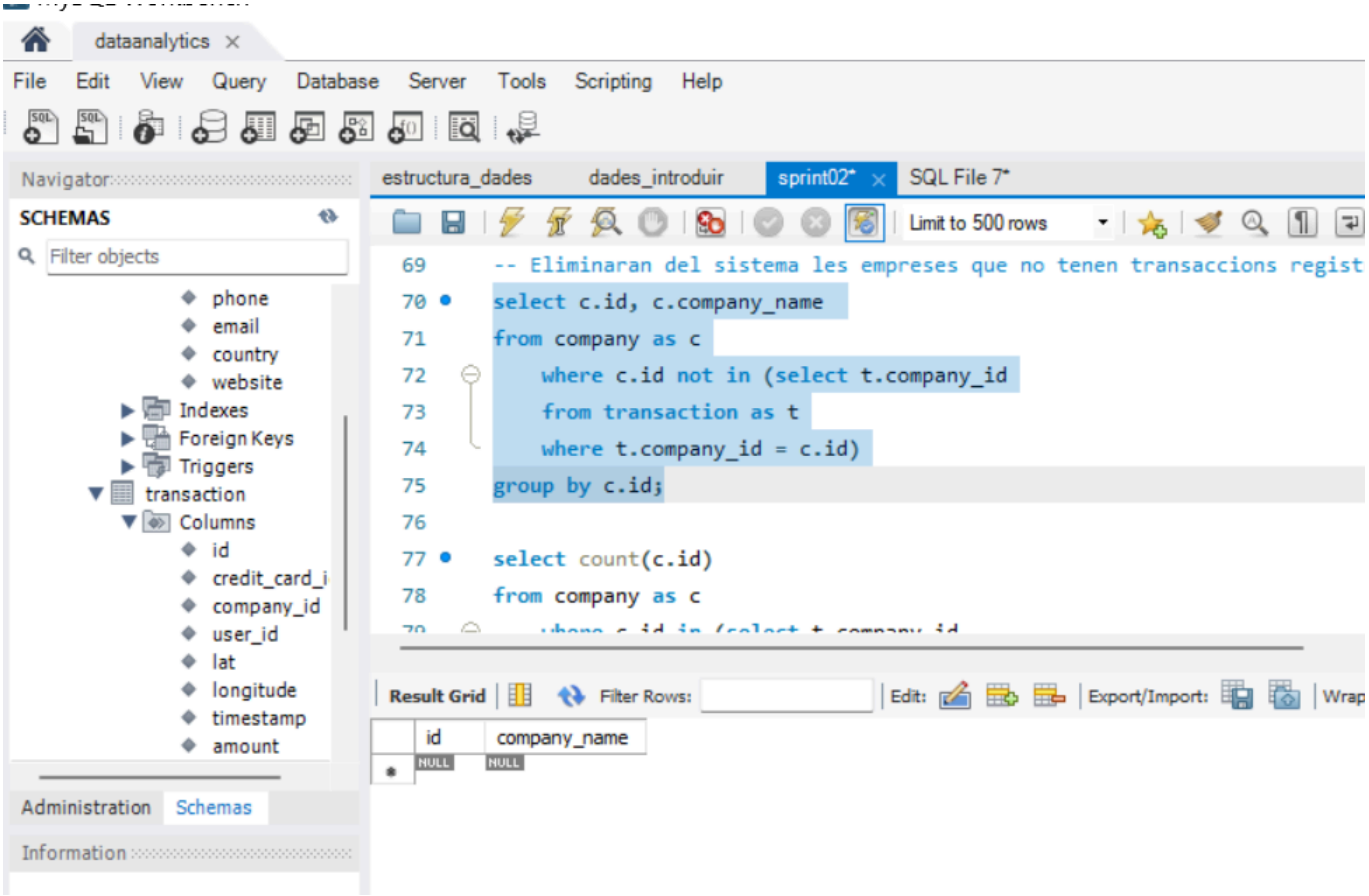
Eliminaran del sistema les empreses que no tenen transaccions registrades, entrega el llistat d'aquestes empreses.

```
select c.id, c.company_name
from company as c
        where c.id not in (select t.company_id
   from transaction as t
   where t.company_id = c.id)
group by c.id;
```

Comprobacion:

```
select count(c.id)
from company as c
        where c.id in (select t.company_id
   from transaction as t
   where t.company_id = c.id);

select count(c.id)
from company as c;
```

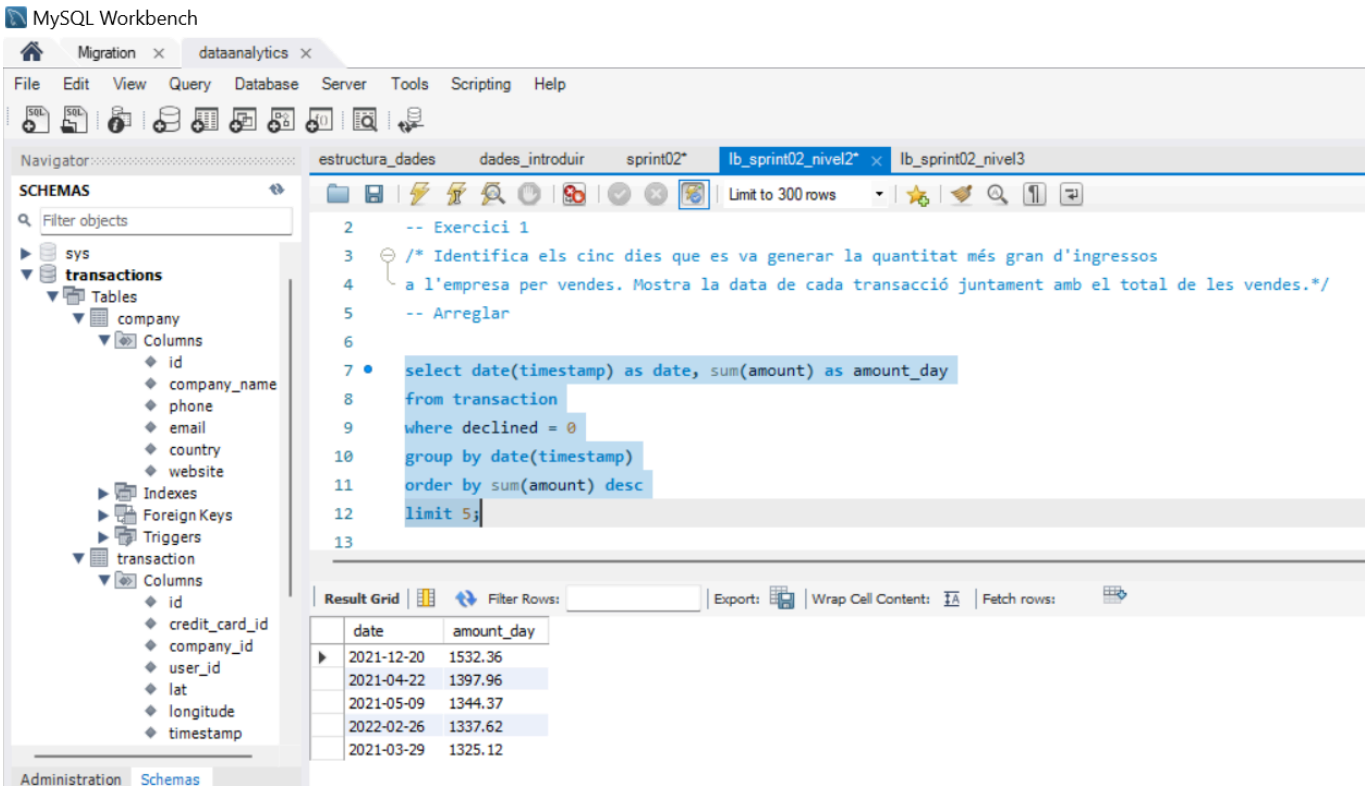


Nivell 2

Exercici 1

Identifica els cinc dies que es va generar la quantitat més gran d'ingressos a l'empresa per vendes. Mostra la data de cada transacció juntament amb el total de les vendes.

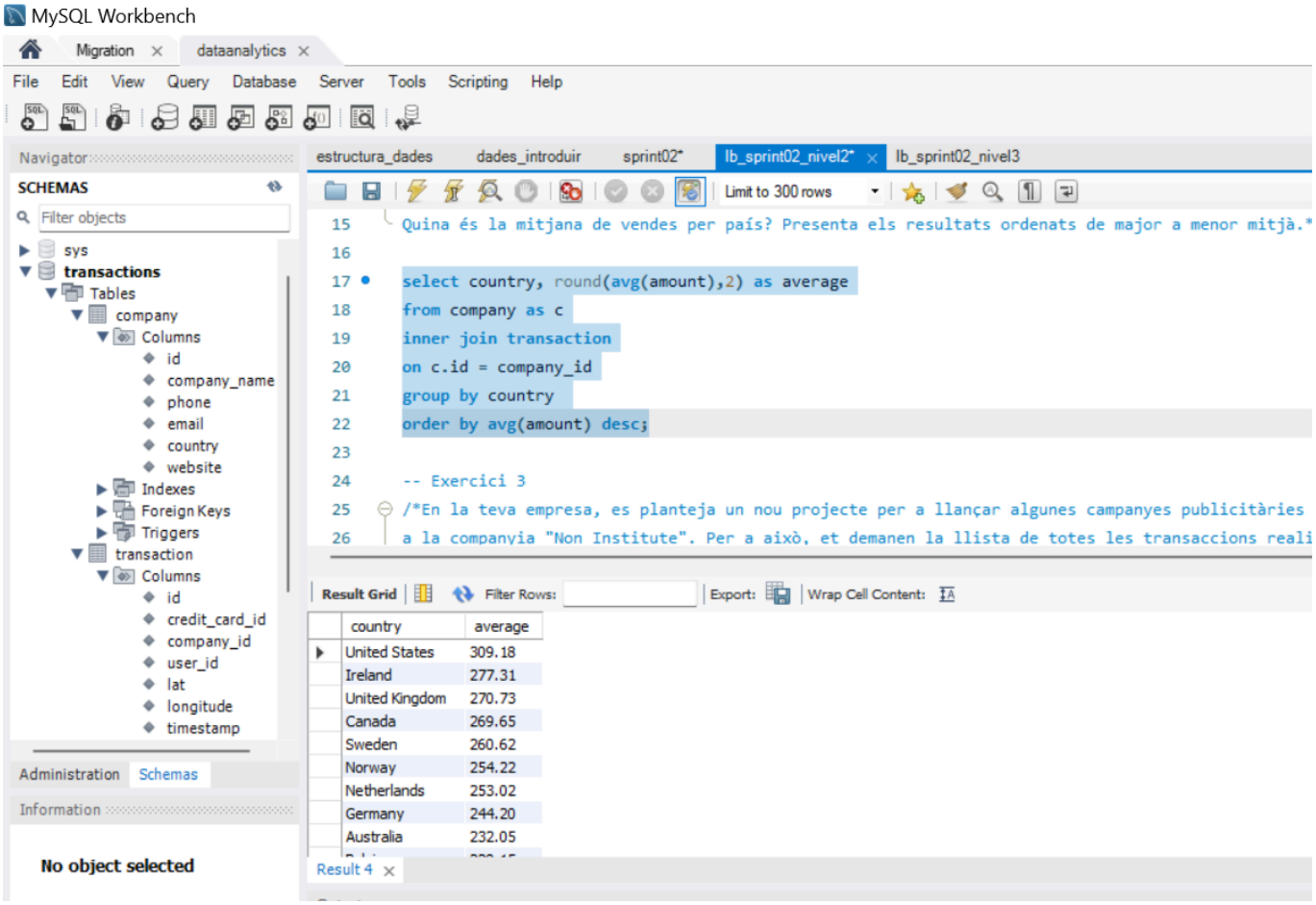
```
select date(timestamp) as date, sum(amount) as amount_day
from transaction
where declined = 0
group by date(timestamp)
order by sum(amount) desc
limit 5;
```



Exercici 2

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

```
select country, round(avg(amount),2) as average
from company as c
inner join transaction
on c.id = company_id
group by country
order by avg(amount) desc;
```

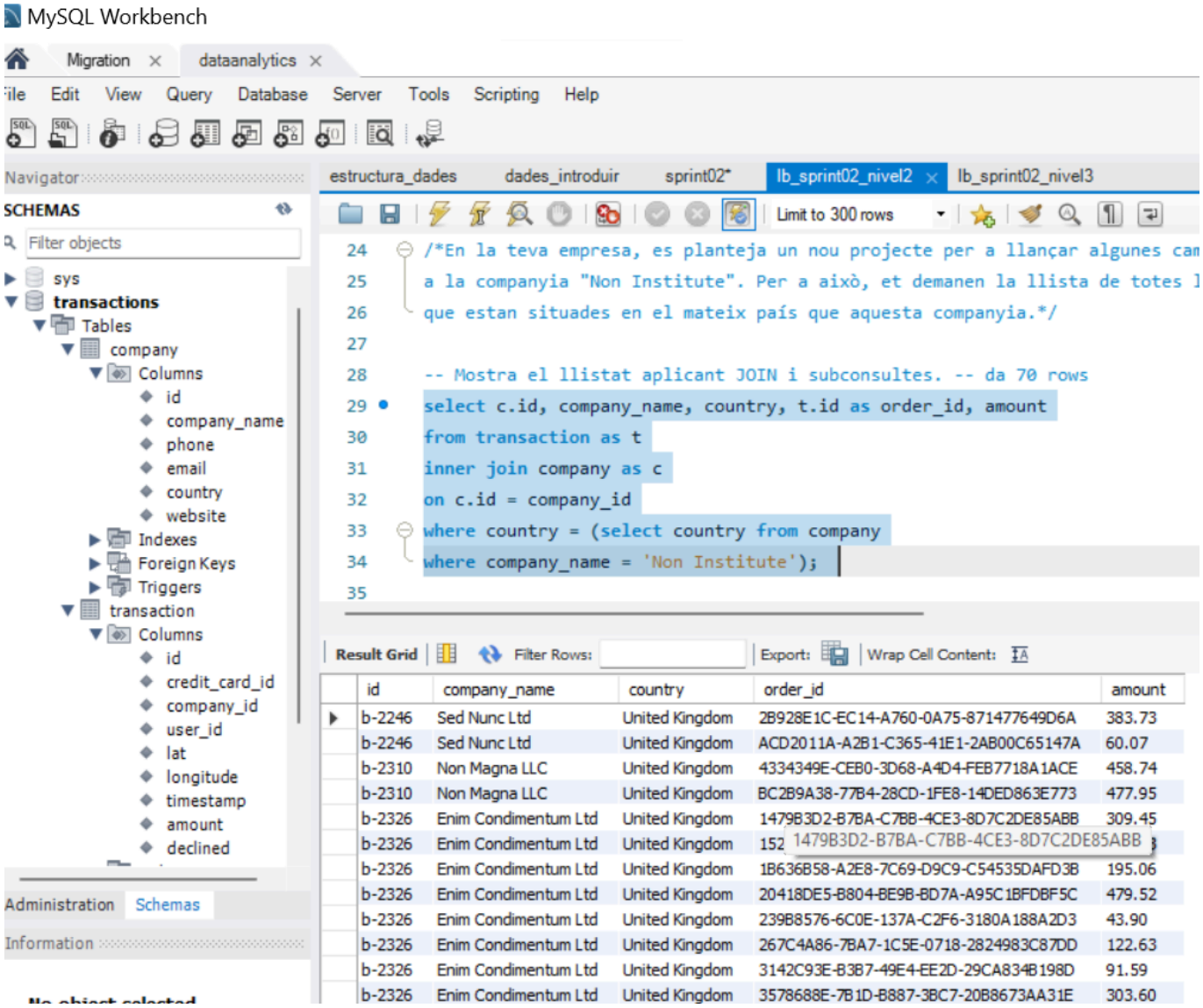


Exercici 3

En la teva empresa, es planteja un nou projecte per a llançar algunes campanyes publicitàries per a fer competència a la companyia "Non Institute". Per a això, et demanen la llista de totes les transaccions realitzades per empreses que estan situades en el mateix país que aquesta companyia.

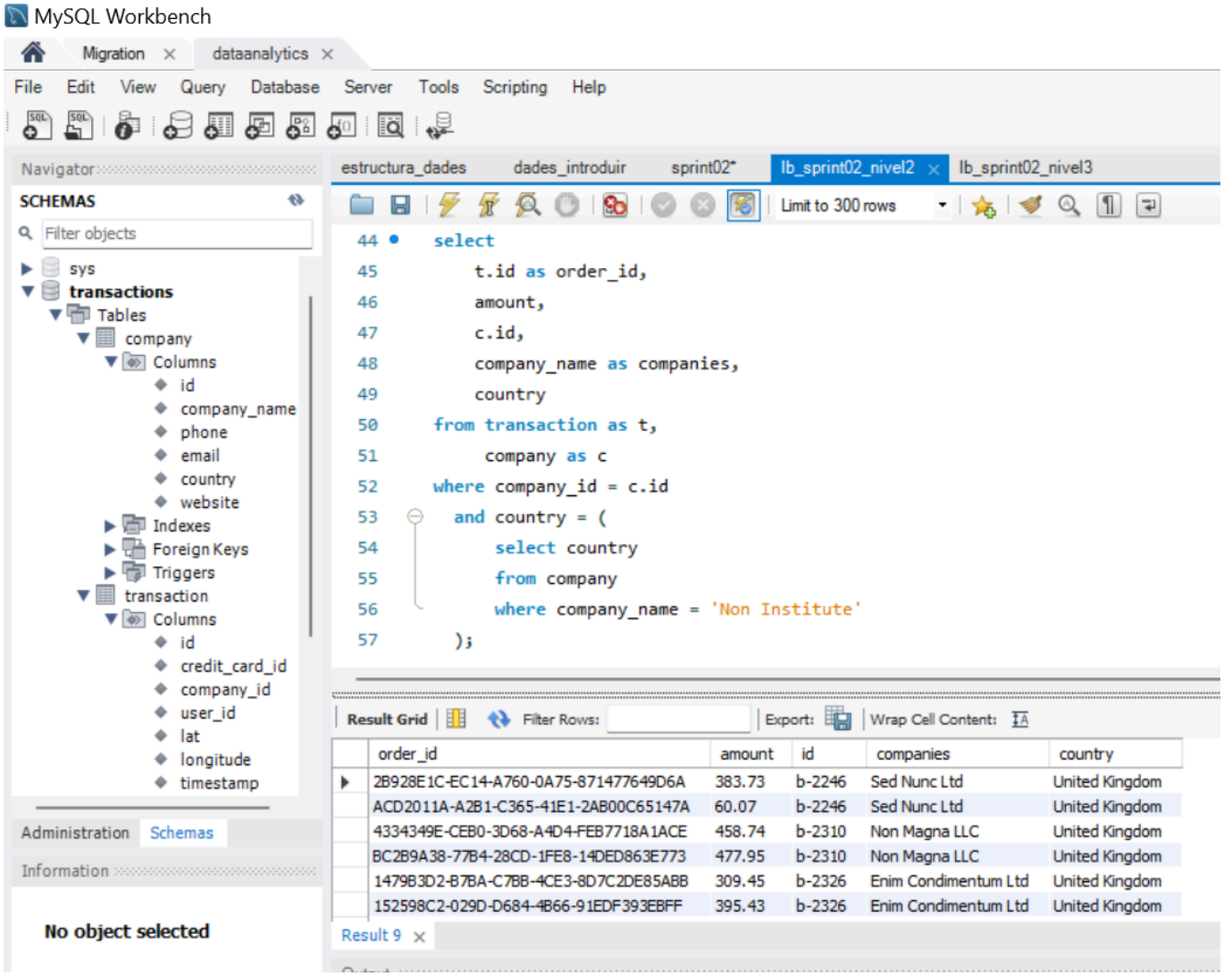
Mostra el llistat aplicant JOIN i subconsultes.

```
select c.id, company_name, country, t.id as order_id, amount
from transaction as t
inner join company as c
on c.id = company_id
where country = (select country from company
where company_name = 'Non Institute');
```



Mostra el llistat aplicant solament subconsultes.

```
select
    t.id as order_id,
    amount,
    c.id,
    company_name,
    country
from transaction as t,
     company as c
where company_id = c.id
  and country = (
      select country
      from company
      where company_name = 'Non Institute'
  );
```

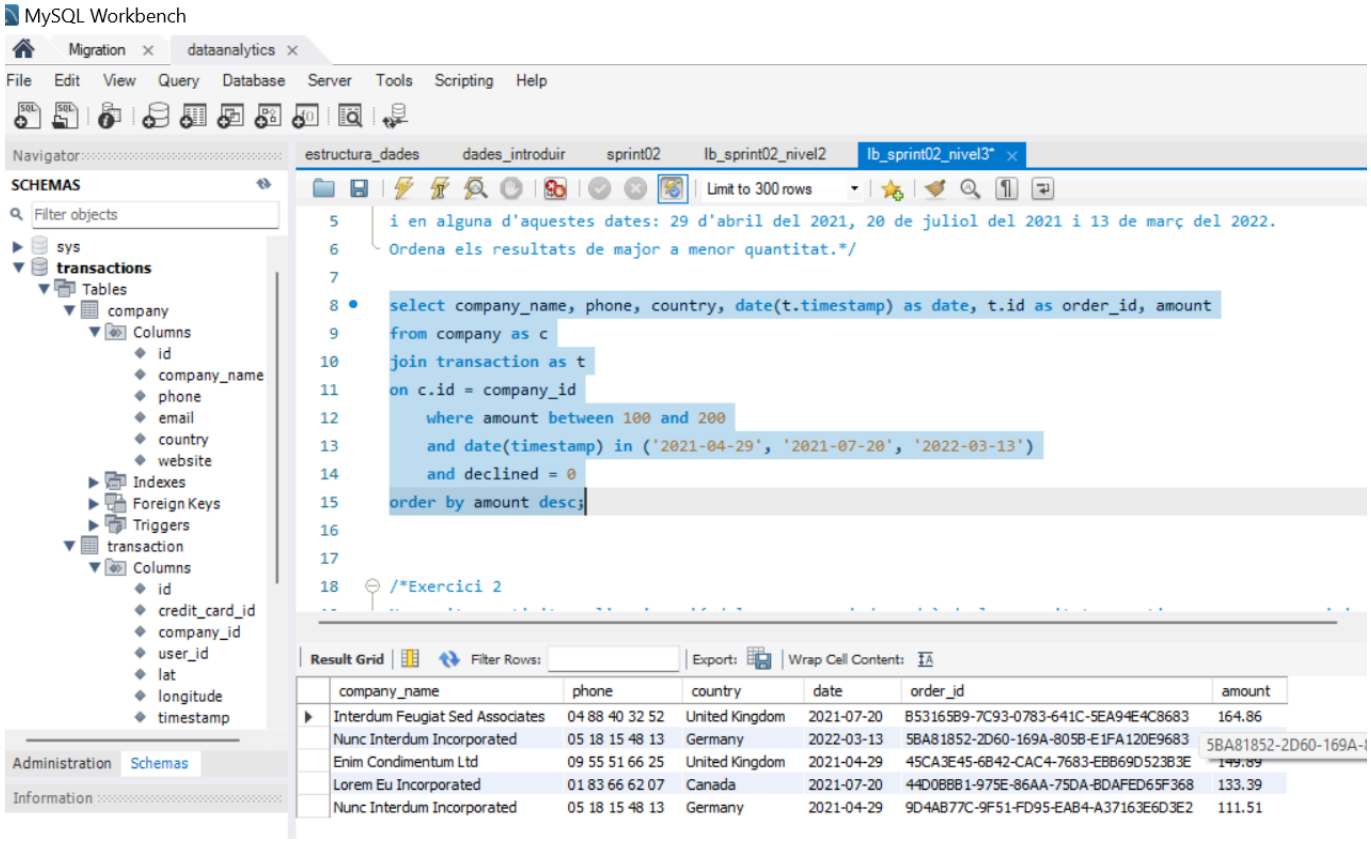


Nivell 3

Exercici 1

Presenta el nom, telèfon, país, data i amount, d'aquelles empreses que van realitzar transaccions amb un valor comprès entre 100 i 200 euros i en alguna d'aquestes dates: 29 d'abril del 2021, 20 de juliol del 2021 i 13 de març del 2022. Ordena els resultats de major a menor quantitat.

```
select
 c.company_name,
 c.phone,
 c.country,
 date(t.timestamp) as date,
 t.id as order_id, t.amount
from company as c
join transaction as t
        on c.id = t.company_id
        where t.amount between 100 and 200
        and date(t.timestamp) in ('2021-04-29', '2021-07-20', '2022-03-13')
        and declined = 0
order by amount desc;
```



Exercici 2

Necessitem optimitzar l'assignació dels recursos i dependrà de la capacitat operativa que es requereixi, per la qual cosa et demanen la informació sobre la quantitat de transaccions que realitzen les empreses, però el departament de recursos humans és exigent i vol un llistat de les empreses on especifiquis si tenen més de 4 transaccions o menys.

```
select
company_name,
count(t.id) as client_orders,
case
        when count(t.id) >= 4 then '4 or more orders'
        else 'less than 4 orders'
end as 'client_category'
from company as c
inner join transaction as t
on c.id = company_id
group by company_name;
```