</talentlabs>

App Fullstack Developer Program
Work with MySQL workbench

Instruction:

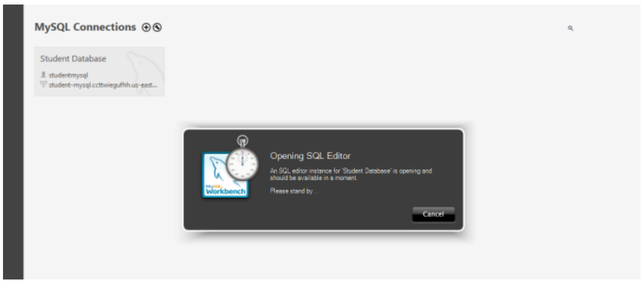
1. Please download this file to your local computer.
2. For each question, fill in your answers in the box.
3. For each checkpoint, paste a screenshot there.
4. For submission,
   - Save this document to a PDF file.
   - Upload your source code to Talentlabs Classroom. Please don't include the node_modules folder.
   - There will be 2 submission files: code.zip and assignment.pdf

Prepare: Setting up MySQL WorkBench

Instruction

1. Download from here https://www.mysql.com/products/workbench/
2. Install the application.
3. Create a new Database connection by clicking the "+" button:

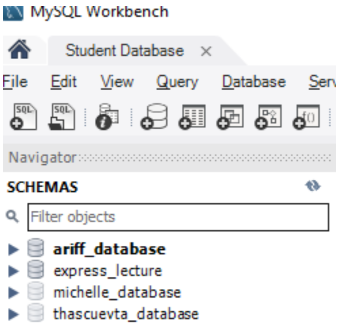
4. Fill in the connection details:
   Connection Name: Any name is ok here
   Hostname: student-mysql.ccttwiegufhh.us-east-2.rds.amazonaws.com
   Username: studentmysql
   Password: studentmysql
5. Click "Test connection" and it should work.
6. Click "OK" to store the connection.
7. Double click the connection to connect:



Opening SQL Editor
An SQL editor instance for 'Student Database' is opening and should be available in a moment.
Please stand by...

Task: Select your own schema as the default [10~15 mins]

You should see this now in the application:

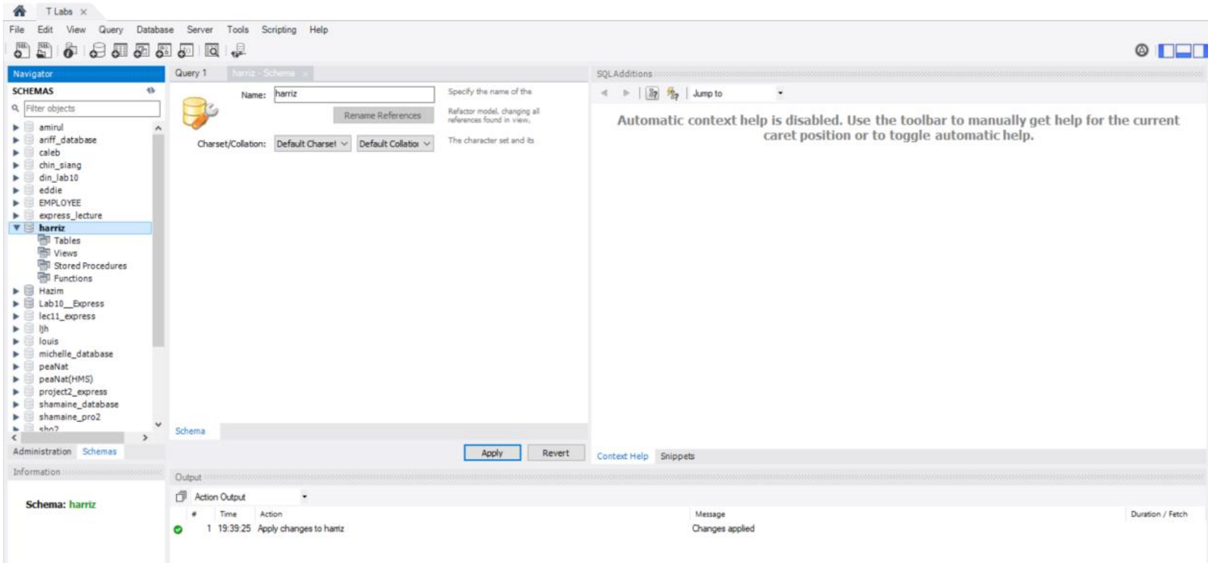


- ariff_database
- express_lecture
- michelle_database
- thascuevta_database

There are multiple schemas in this database, they are isolated. If it is your first time connecting to this database, you can create a new schema for your project. Please select your schema as the default. You can do it by **right-clicking and selecting “Set as Default Schema”**. Don’t access and update other people's data.

After this, the selected schema should be bold.

Checkpoint:
Paste a screenshot here. The assigned schema now should be bold.



- amirul
- ariff_database
- caleb
- chin_siang
- din_lab10
- eddie
- EMPLOYEE
- express_lecture
- **harriz**
  - Tables
  - Views
  - Stored Procedures
  - Functions
- Hazim
- Lab10__Express
- lec11_express
- ljh
- louis
- michelle_database
- peaNat
- peaNat(HMS)
- project2_express
- shamaine_database
- shamaine_pro2
- sho2

Name: harriz — Specify the name of the

Refactor model, changing all references found in view.

Charset/Collation: Default Charset | Default Collation — The character set and its

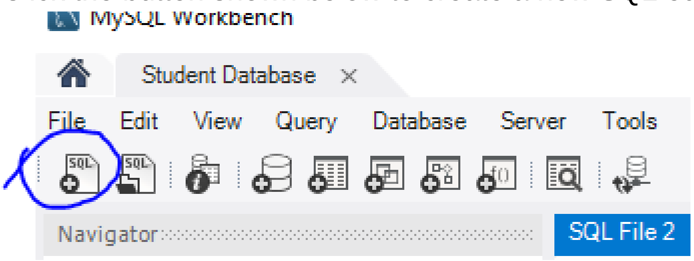
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Schema: harriz

#	Time	Action	Message	Duration / Fetch
1	19:39:25	Apply changes to harriz	Changes applied	

Task: Execute SQL statement [10 ~ 15 mins]

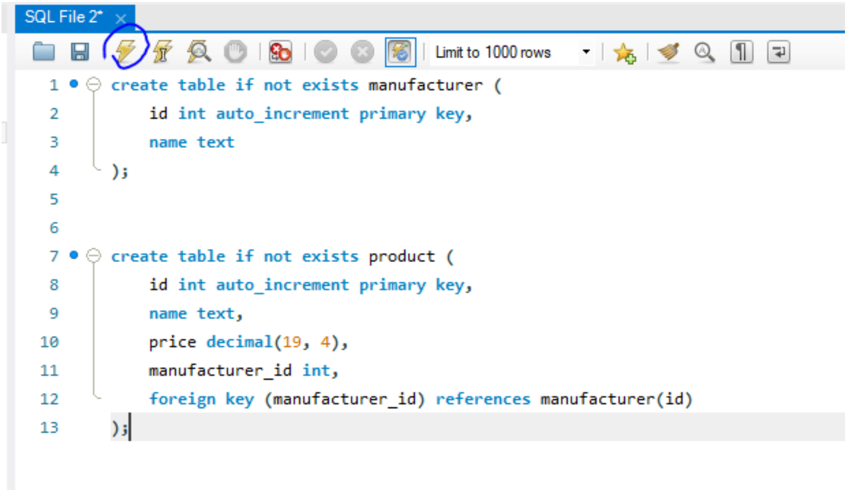
Click the button shown below to create a new SQL editor.



Enter the following SQL statements into the editor:

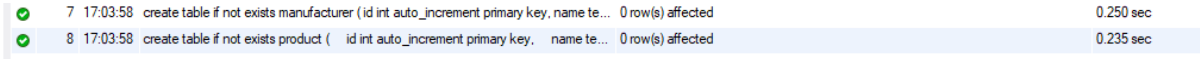
```
create table if not exists manufacturer (
      id int auto_increment primary key,
      name text
);


create table if not exists product (
    id int auto_increment primary key,
    name text,
    price decimal(19, 4),
    manufacturer_id int,
    foreign key (manufacturer_id) references manufacturer(id)
);
```

Execute the statement by clicking this button



```
create table if not exists manufacturer (
    id int auto_increment primary key,
    name text
);


create table if not exists product (
    id int auto_increment primary key,
    name text,
    price decimal(19, 4),
    manufacturer_id int,
    foreign key (manufacturer_id) references manufacturer(id)
);
```

After this you should see the green check icons in the action output below:

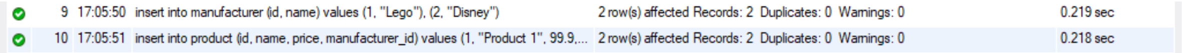


```
✓  7  17:03:58  create table if not exists manufacturer ( id int auto_increment primary key, name te...  0 row(s) affected  0.250 sec
✓  8  17:03:58  create table if not exists product (    id int auto_increment primary key,    name te...  0 row(s) affected  0.235 sec
```

Next let’s try to insert some data into the database by executing the following statement:

```
insert into manufacturer (id, name)
values (1, "Lego"), (2, "Disney");

insert into product (id, name, price, manufacturer_id)
values
    (1, "Product 1", 10, 1),
    (2, "Product 2", 20, 1),
    (3, "Product 3", 30, 1),
    (4, "Product 1", 40, 2),
    (5, "Product 1", 50, 2);
```

After the insertion, you should see 2 checks as well.



```
✓   9  17:05:50  insert into manufacturer (id, name) values (1, "Lego"), (2, "Disney")                2 row(s) affected Records: 2  Duplicates: 0  Warnings: 0    0.219 sec
✓  10  17:05:51  insert into product (id, name, price, manufacturer_id) values (1, "Product 1", 99.9,...  2 row(s) affected Records: 2  Duplicates: 0  Warnings: 0    0.218 sec
```

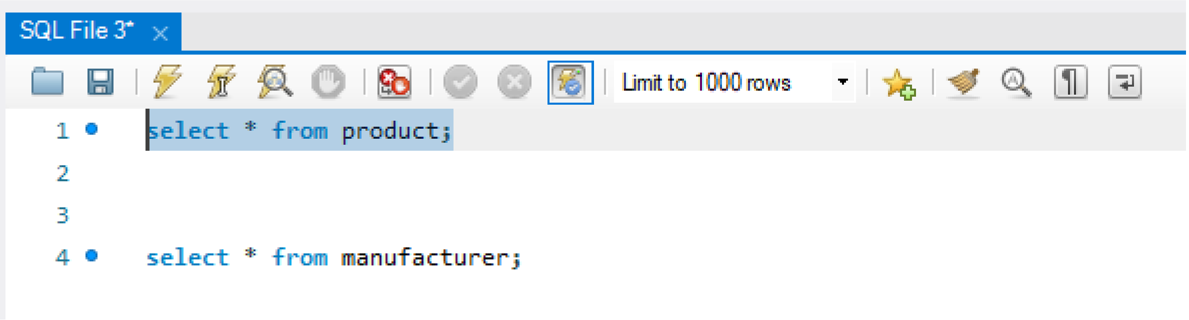
Let’s try to query the item out using

```
select * from product;
```

and

```
select * from manufacturer;
```

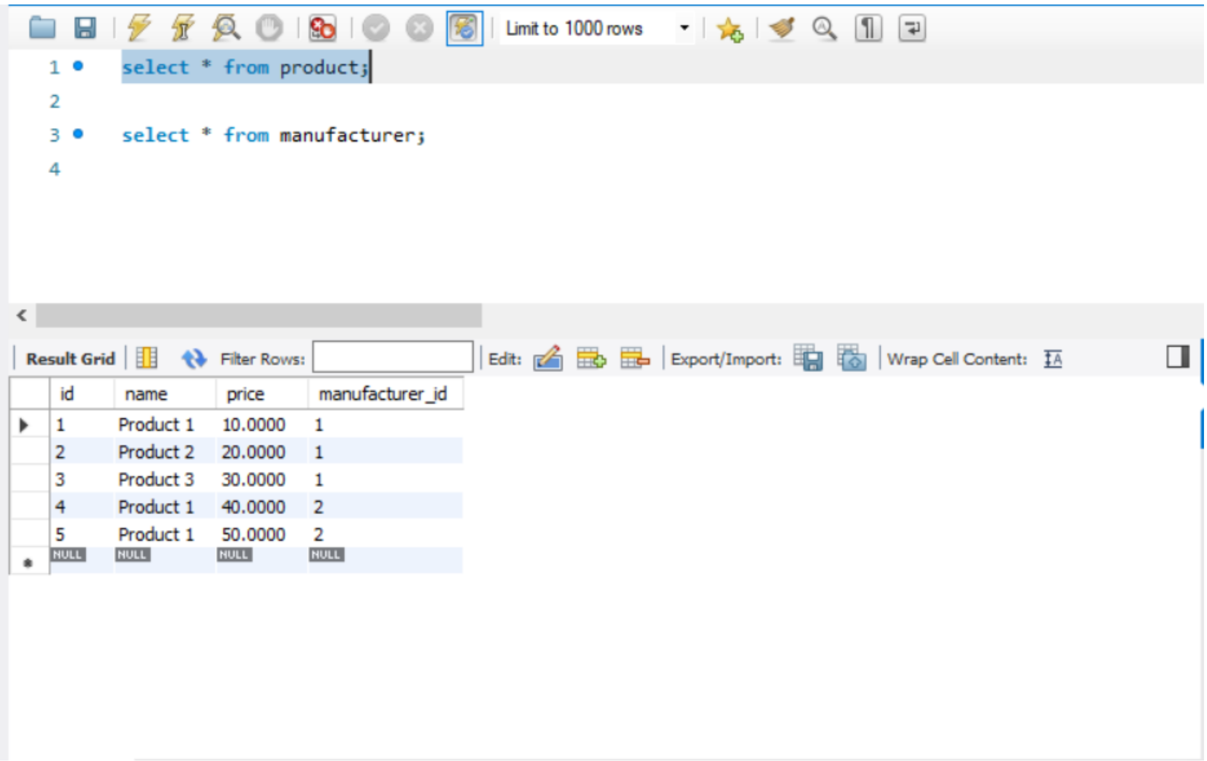
If you have more than one SQL statements in the editor, you can execute the selected sql statement only:



```
select * from product;


select * from manufacturer;
```

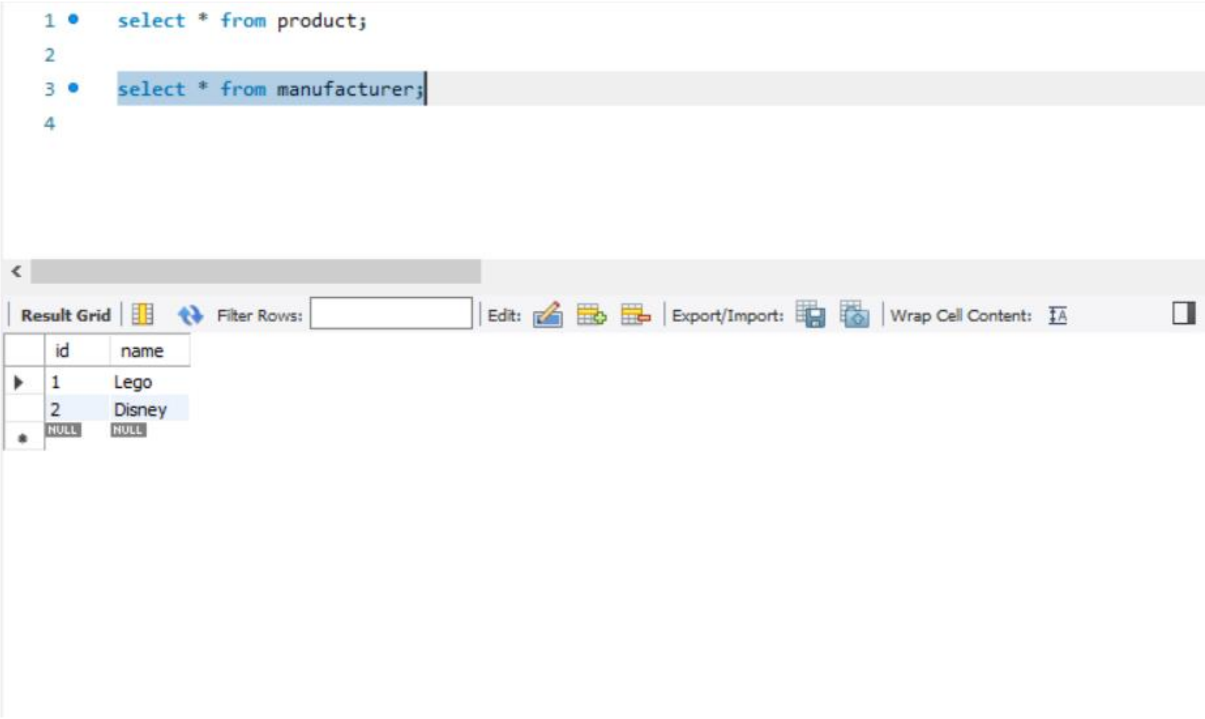
Checkpoint

Show the result of the above 2 select SQL statements. You should see there are 2 manufacturers and 5 products.



```
select * from product;

select * from manufacturer;
```

id	name	price	manufacturer_id
1	Product 1	10.0000	1
2	Product 2	20.0000	1
3	Product 3	30.0000	1
4	Product 1	40.0000	2
5	Product 1	50.0000	2
NULL	NULL	NULL	NULL



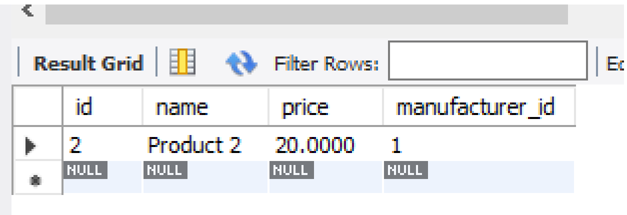
```
select * from product;

select * from manufacturer;
```

id	name
1	Lego
2	Disney
NULL	NULL

Task: SQL Review [30 ~ 60 mins]

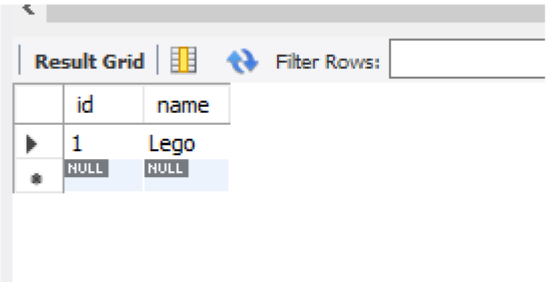
In this section please write the SQL statement to do the following

1. Get a product with id = 2.



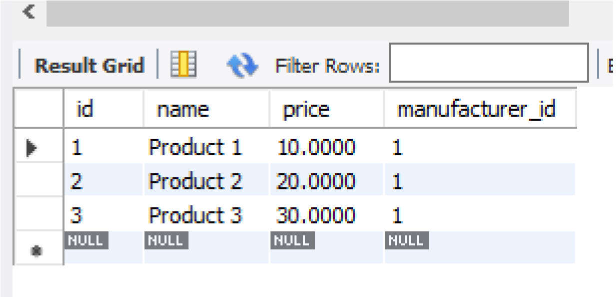
id	name	price	manufacturer_id
2	Product 2	20.0000	1
NULL	NULL	NULL	NULL

2. Get a manufacturer with id = 1.



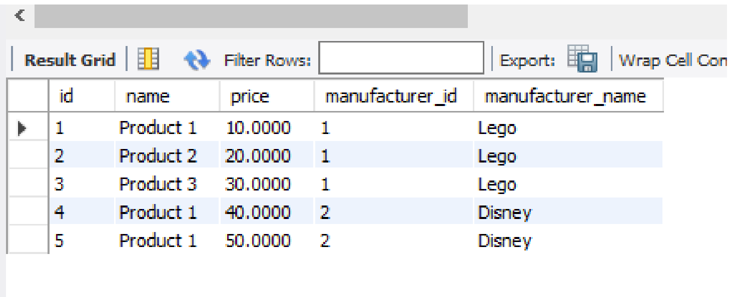
id	name
1	Lego
NULL	NULL

3. Get all products with manufacturer_id = 1



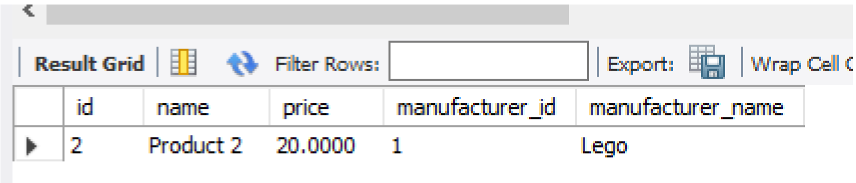
id	name	price	manufacturer_id
1	Product 1	10.0000	1
2	Product 2	20.0000	1
3	Product 3	30.0000	1
NULL	NULL	NULL	NULL

4. Get all products and and in the result you should show its manufacturer's name (Hint: Joining)



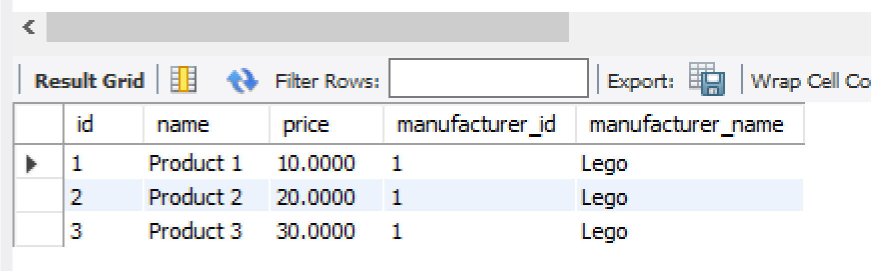
id	name	price	manufacturer_id	manufacturer_name
1	Product 1	10.0000	1	Lego
2	Product 2	20.0000	1	Lego
3	Product 3	30.0000	1	Lego
4	Product 1	40.0000	2	Disney
5	Product 1	50.0000	2	Disney

5. Get a product with id = 2 and in the result you should show its manufacturer's name (Hint: Joining)



id	name	price	manufacturer_id	manufacturer_name
2	Product 2	20.0000	1	Lego

6. Get all products with manufacturer_id = 1and in the result you should show there manufacturer's name (Hint: Joining)

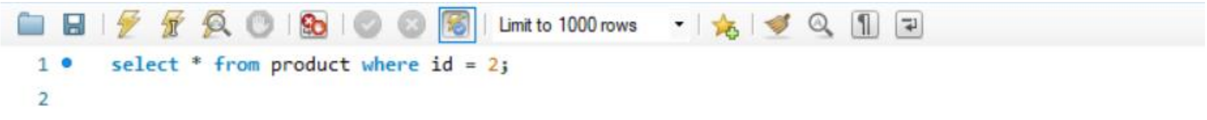


id	name	price	manufacturer_id	manufacturer_name
1	Product 1	10.0000	1	Lego
2	Product 2	20.0000	1	Lego
3	Product 3	30.0000	1	Lego

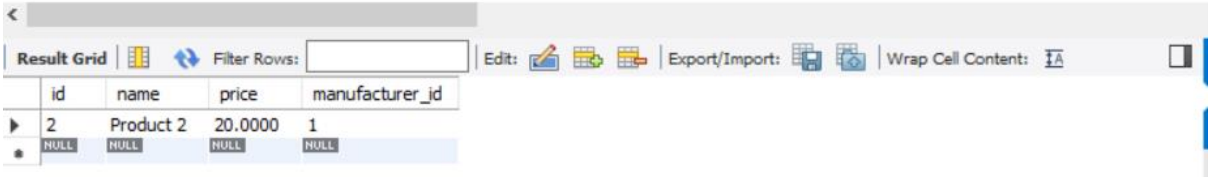
Checkpoint

Paste the screenshots of the results of the above 5 queries here:

1)

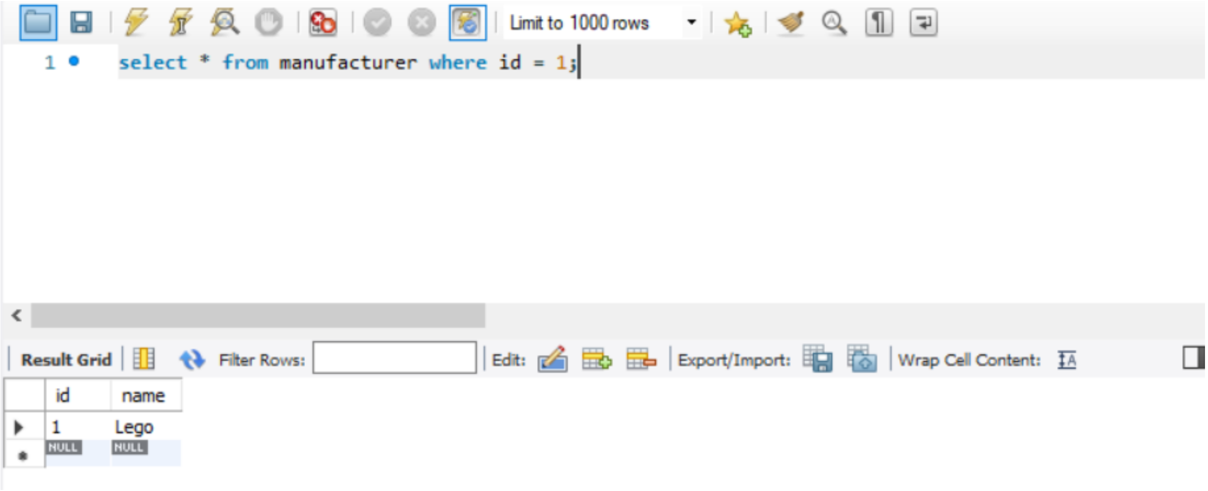


```sql
select * from product where id = 2;
```



id	name	price	manufacturer_id
2	Product 2	20.0000	1
NULL	NULL	NULL	NULL

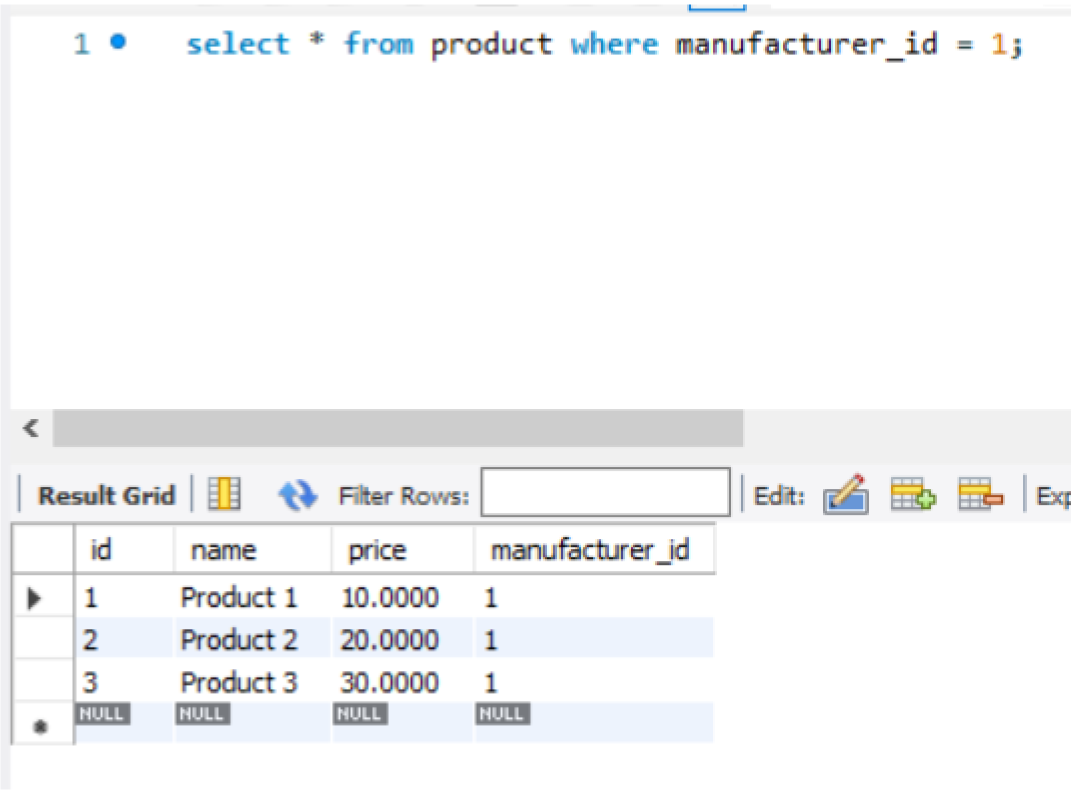
2)



```sql
select * from manufacturer where id = 1;
```

id	name
1	Lego
NULL	NULL

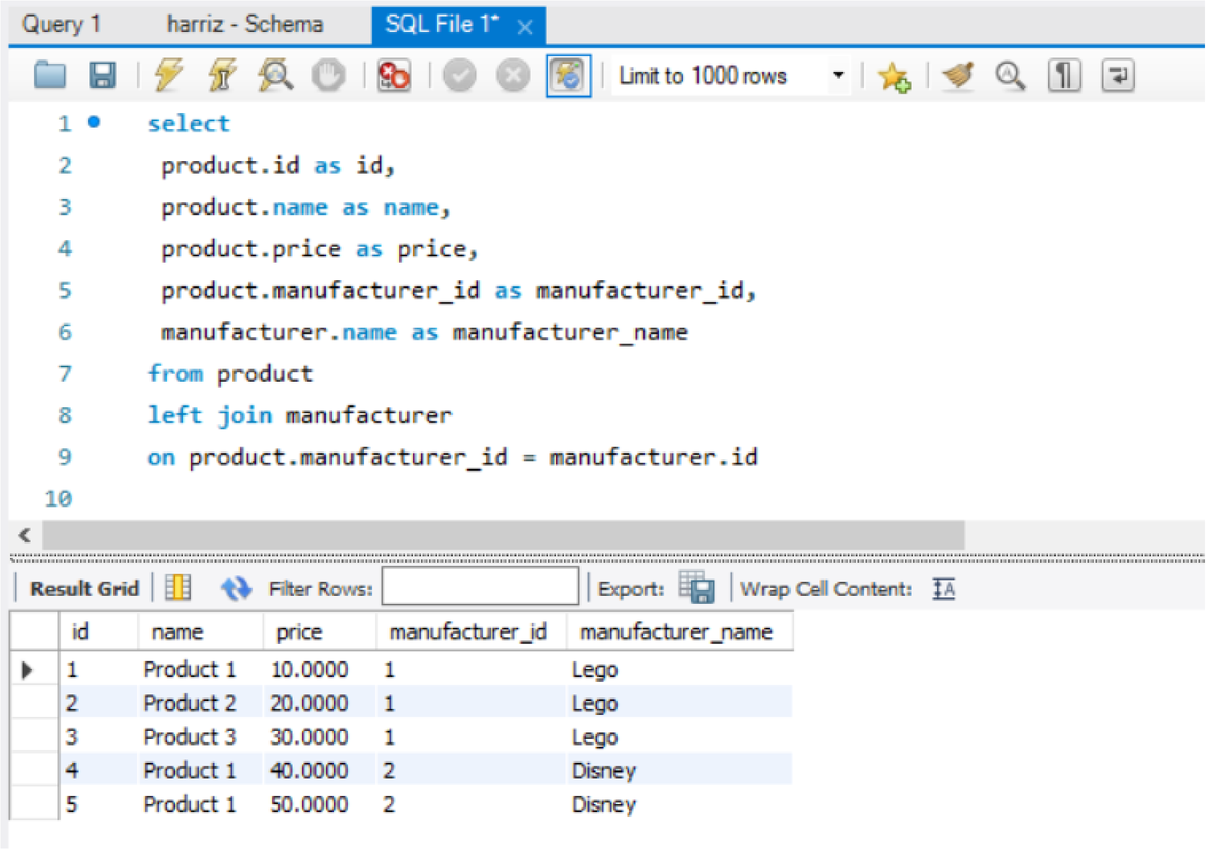
3)



```sql
select * from product where manufacturer_id = 1;
```

	id	name	price	manufacturer_id
▶	1	Product 1	10.0000	1
	2	Product 2	20.0000	1
	3	Product 3	30.0000	1
●	NULL	NULL	NULL	NULL

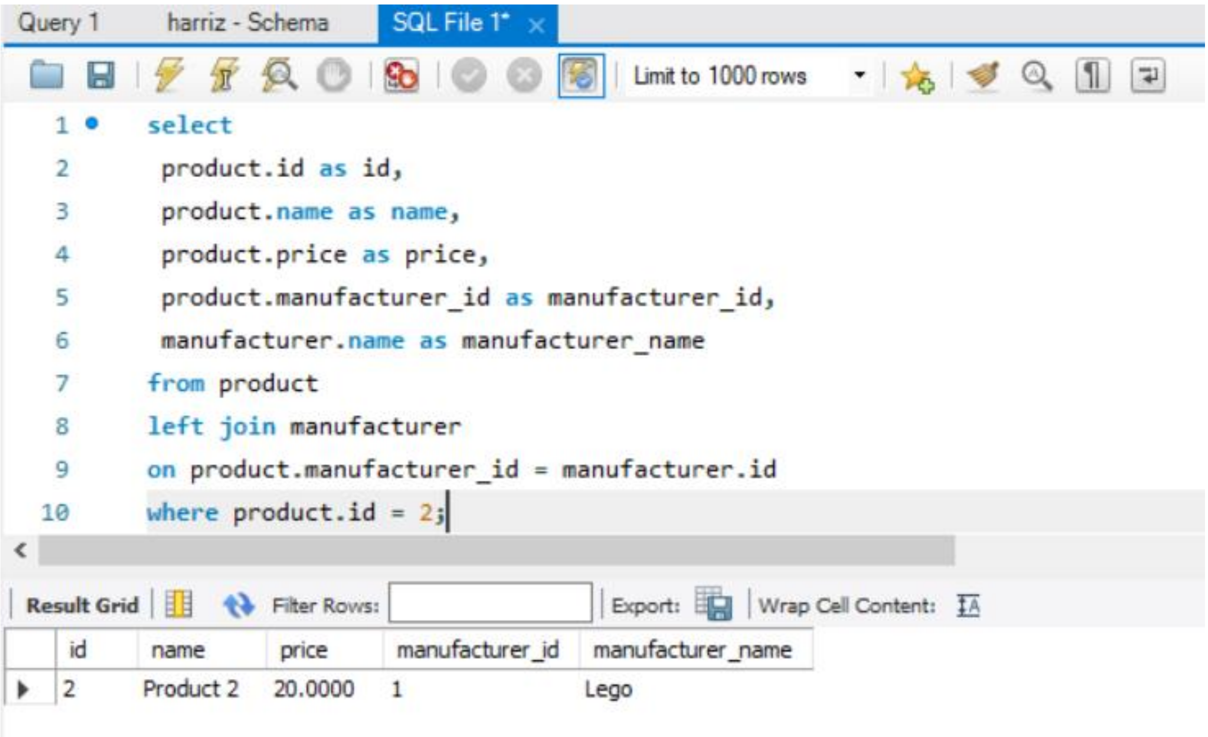
4)



```sql
select
 product.id as id,
 product.name as name,
 product.price as price,
 product.manufacturer_id as manufacturer_id,
 manufacturer.name as manufacturer_name
from product
left join manufacturer
on product.manufacturer_id = manufacturer.id
```

	id	name	price	manufacturer_id	manufacturer_name
▶	1	Product 1	10.0000	1	Lego
	2	Product 2	20.0000	1	Lego
	3	Product 3	30.0000	1	Lego
	4	Product 1	40.0000	2	Disney
	5	Product 1	50.0000	2	Disney

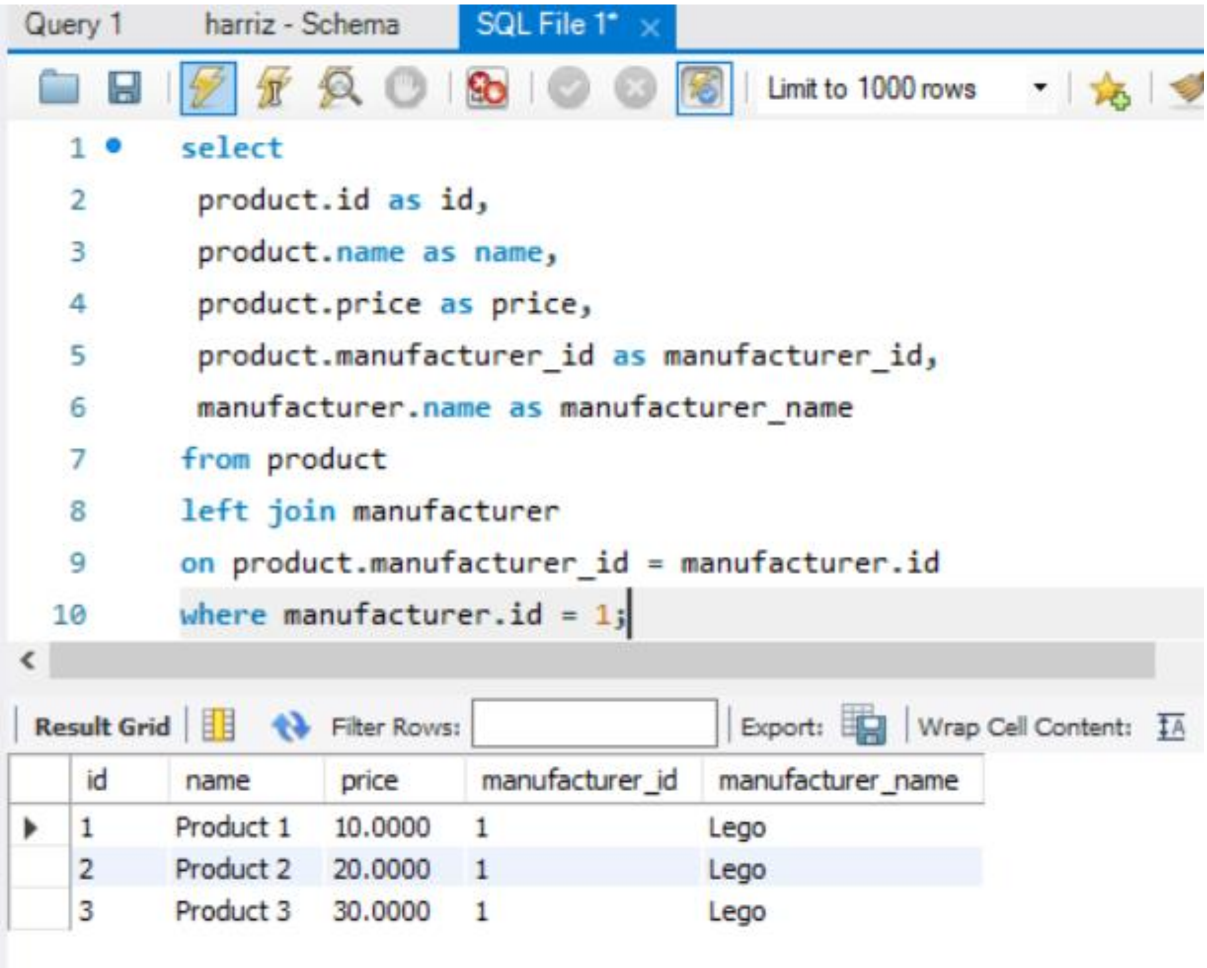
5)



```
select
 product.id as id,
 product.name as name,
 product.price as price,
 product.manufacturer_id as manufacturer_id,
 manufacturer.name as manufacturer_name
from product
left join manufacturer
on product.manufacturer_id = manufacturer.id
where product.id = 2;
```

id	name	price	manufacturer_id	manufacturer_name
2	Product 2	20.0000	1	Lego

6)



```
select
 product.id as id,
 product.name as name,
 product.price as price,
 product.manufacturer_id as manufacturer_id,
 manufacturer.name as manufacturer_name
from product
left join manufacturer
on product.manufacturer_id = manufacturer.id
where manufacturer.id = 1;
```

id	name	price	manufacturer_id	manufacturer_name
1	Product 1	10.0000	1	Lego
2	Product 2	20.0000	1	Lego
3	Product 3	30.0000	1	Lego