PART A

Nora's Bagel Bin Database Blueprints

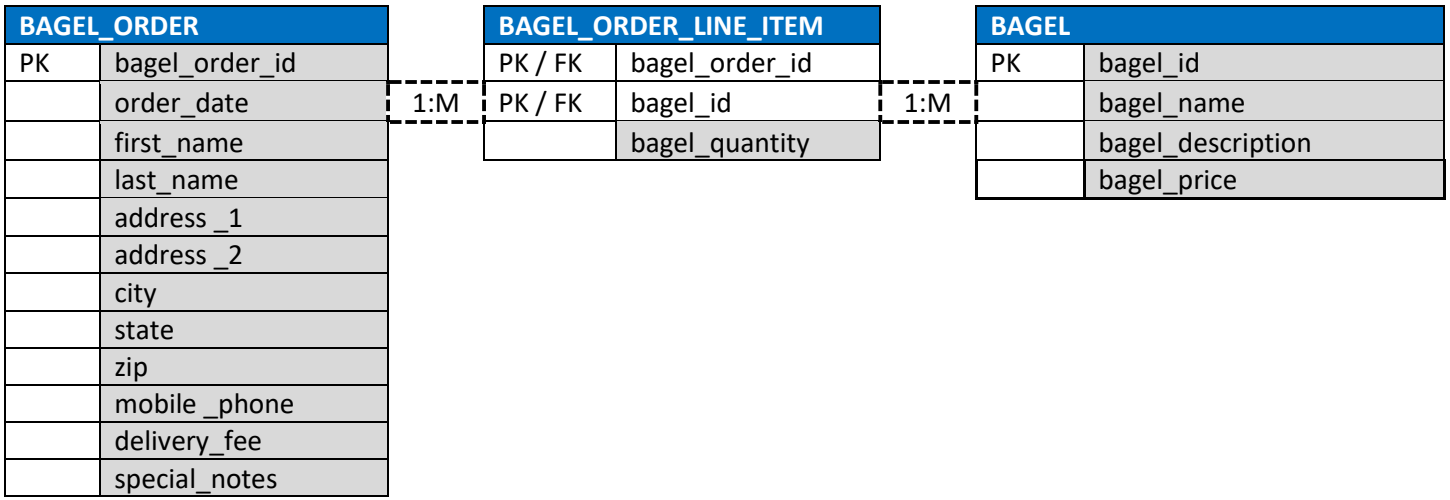
First Normal Form (1NF)

BAGEL_ORDER	
PK	bagel_order_id
PK	bagel_id
	order_date
	first_name
	last_name
	address _1
	address _2
	city
	state
	zip
	mobile _phone
	delivery_fee
	bagel_name
	bagel_description
	bagel_price
	bagel_quantity
	special_notes

Having been provided the 1NF of Nora's bagel ordering process there exists a composite key indicating multiple entities in the table. Because of this the data is functionally dependent on multiple entities. It is necessary to perform normalization of the table above to eliminate data redundancy and improve functionality.

Nora's Bagel Bin Database Blueprints *(continued)*

Second Normal Form (2NF)



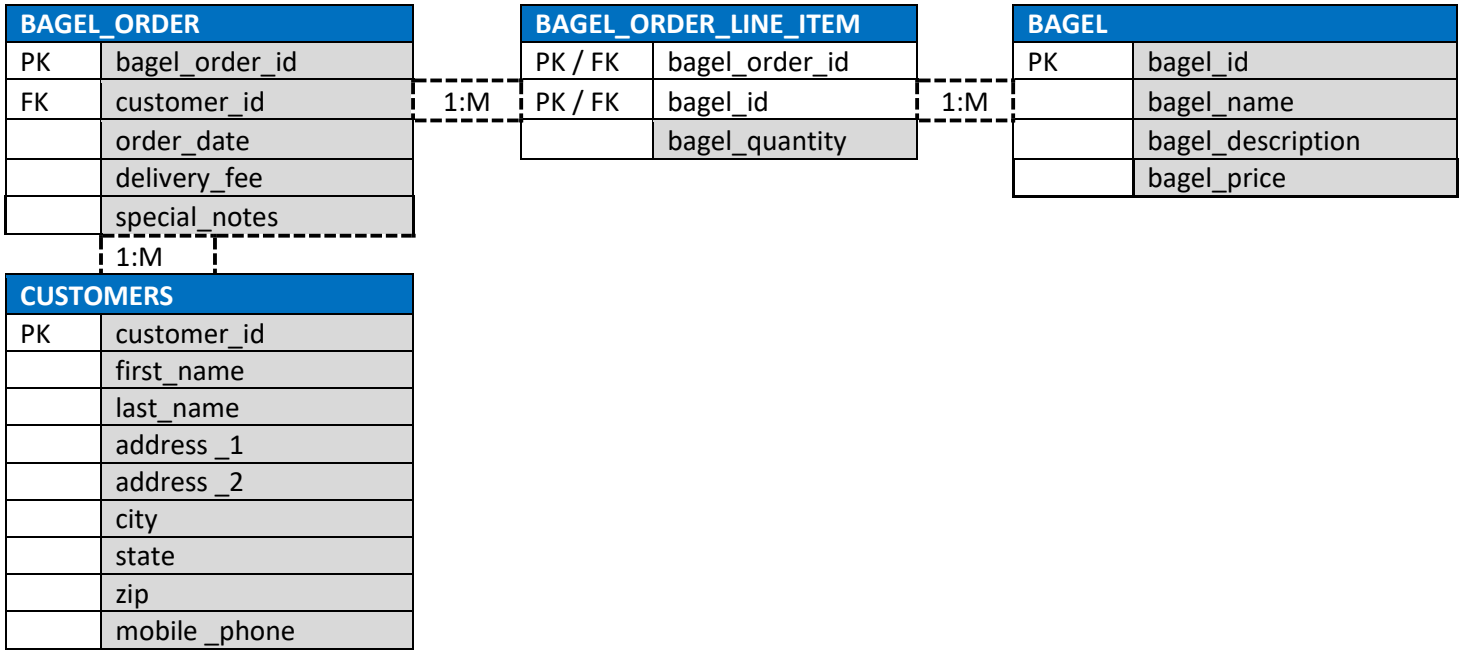
Achieving second normal form the initial entity has been separated into three distinct entities BAGEL_ORDER, BAGEL_ORDER_LINE_ITEM, and BAGEL. The BAGEL_ORDER entity containing the bagel_order_id primary key contains information that will be most likely be unique to each order submitted of the customer's information with bagel_order_id, order_date, etc. The BAGEL entity containing the bagel_id primary key stores information relating to the products offered by Nora. As the information of the products offered will not change or have very little chance to change from order to order it was best to separate it into its own. The BAGEL_ORDER_LINE_ITEM table acts as a bridge between the BAGEL_ORDER and BAGEL entities being the associate table that links the inherent many-to-many relationship between the two. The bagel_quantity field exists within the associate table so that the quantity is dependent on each new order, while also maintaining the association to the BAGEL entity it is related to.

The relationships between each entity were determined by:

- Each BAGEL_ORDER will have many BAGEL_ORDER_LINE_ITEMs, but each is associated with one specific order relying on the bagel_order_id establishing the 1:M relationship between BAGEL_ORDER and BAGEL_ORDER_LINE_ITEM.
- Similarly, though each BAGEL_ORDER_LINE_ITEM may be associated with many different bagel products, the bagel_id and bagel_quantity ensure that each instance of a line item will be independent of the bagels products available.

Nora's Bagel Bin Database Blueprints *(continued)*

Third Normal Form (3NF)

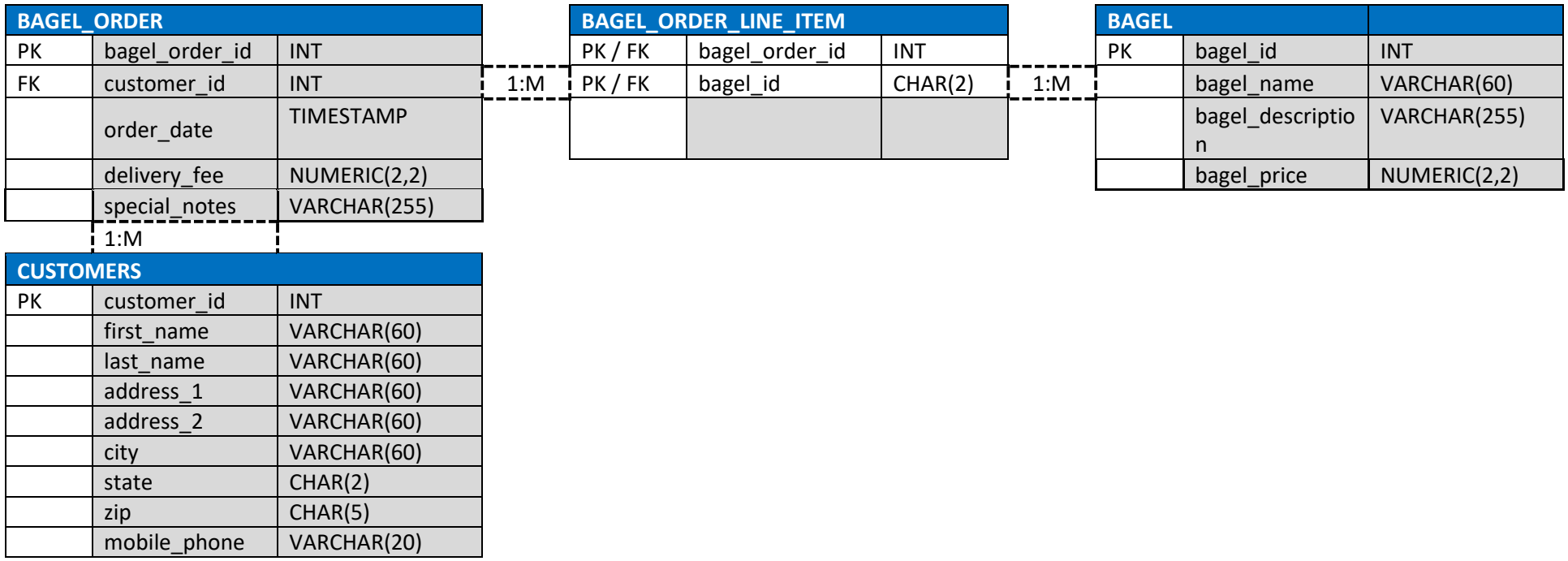


Achieving third normal form the entities in the second normal form still exist with the addition of the BAGEL_ORDER entity being further broken down to separate customer information into its own CUSTOMERS entity. One customer can place

many different orders, but each order is associated with only one customer. Creating the CUSTOMERS entity allows for it to be independent of every order, reducing data redundancy from duplicate customer information in BAGEL_ORDER for every new order of the same customer with the second normal form database previously.

Nora's Bagel Bin Database Blueprints *(continued)*

Final Physical Database Model

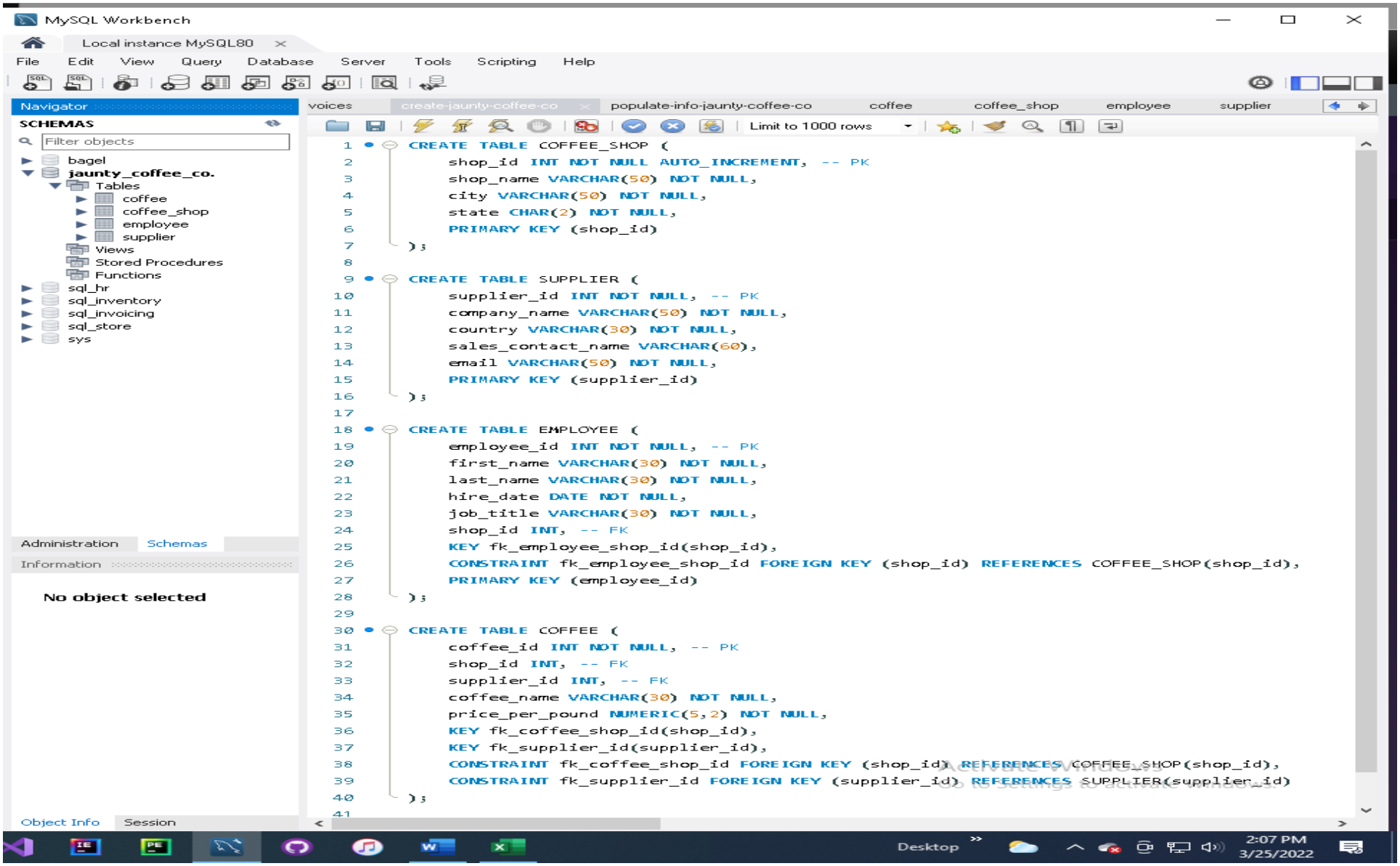


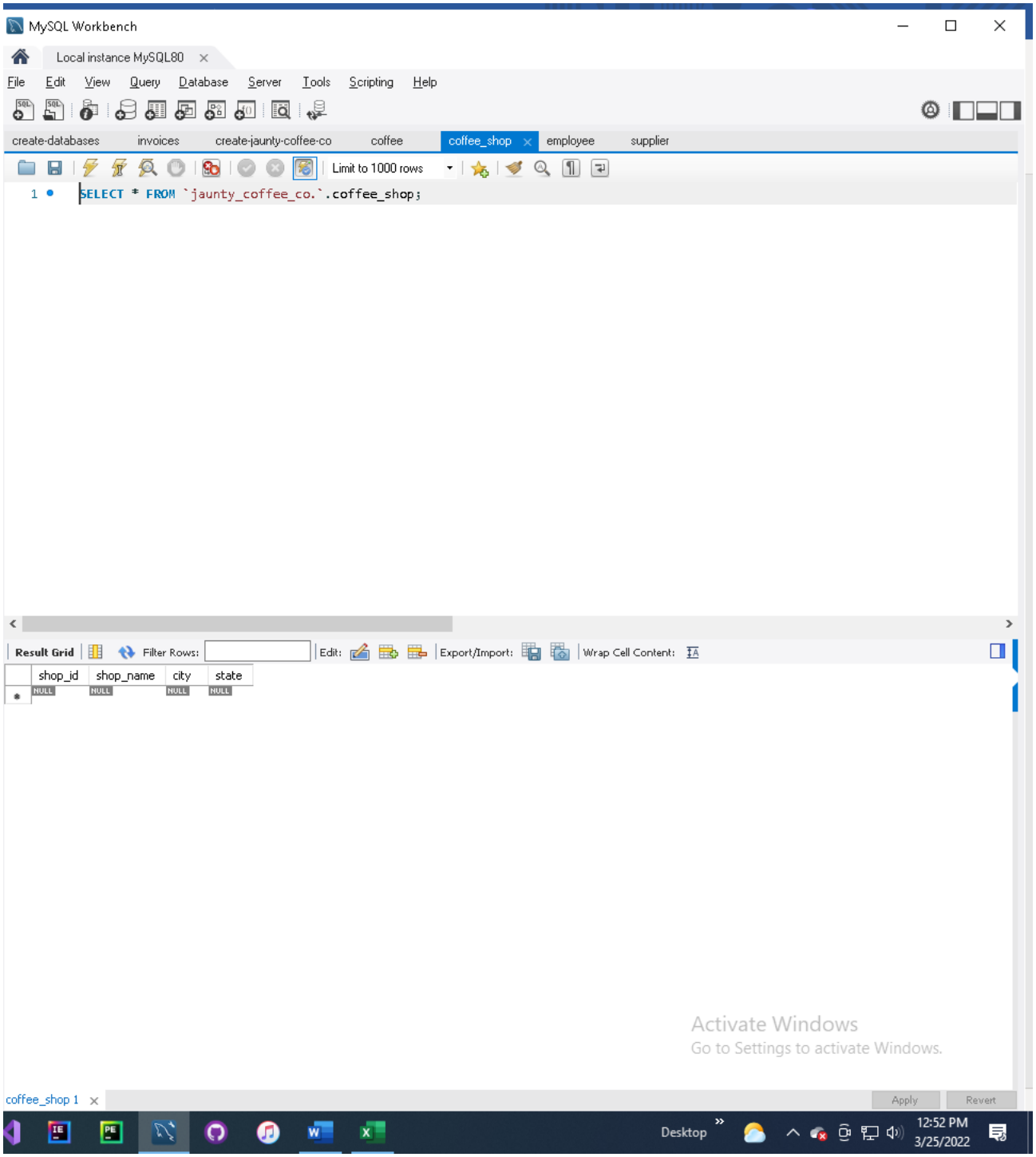
The final database model reflects the changes made in the third normal form with the appropriate datatypes assigned.

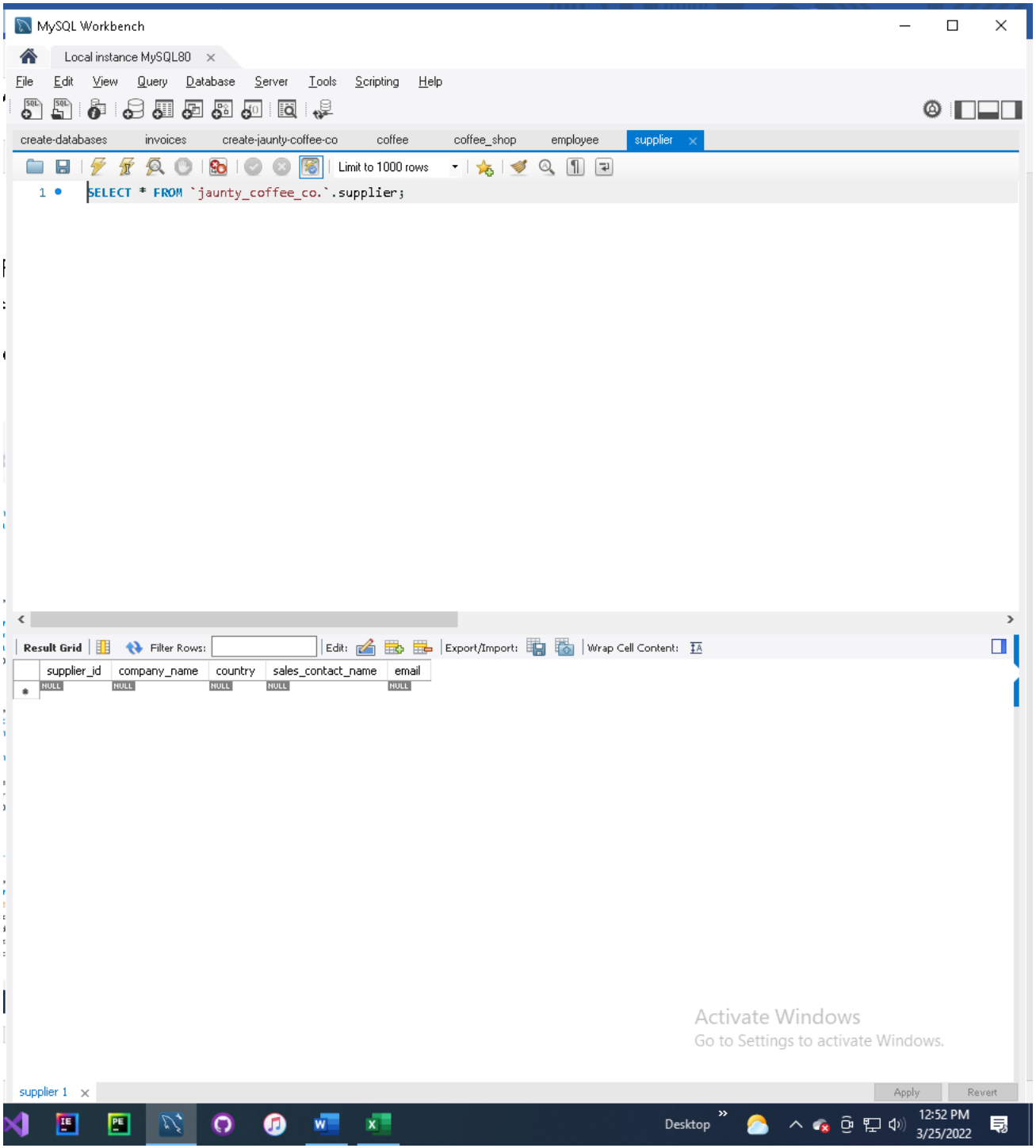
PART B

Jaunty Coffee Co. ERD

1. **Develop SQL code to create *each* table as specified in the attached "Jaunty Coffee Co. ERD"**




MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
create-databases invoices create-jaunty-coffee-co coffee coffee_shop employee supplier
Limit to 1000 rows
1 SELECT * FROM `jaunty_coffee_co.`.coffee_shop;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
shop_id shop_name city state
NULL NULL NULL NULL
Activate Windows
Go to Settings to activate Windows.
coffee_shop 1
Apply Revert
Desktop
12:52 PM
3/25/2022


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
create-databases invoices create-jaunty-coffee-co coffee coffee_shop employee supplier
Limit to 1000 rows
1 SELECT * FROM `jaunty_coffee_co.`.supplier;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
supplier_id company_name country sales_contact_name email
NULL NULL NULL NULL NULL
Activate Windows
Go to Settings to activate Windows.
supplier 1
Apply Revert
Desktop
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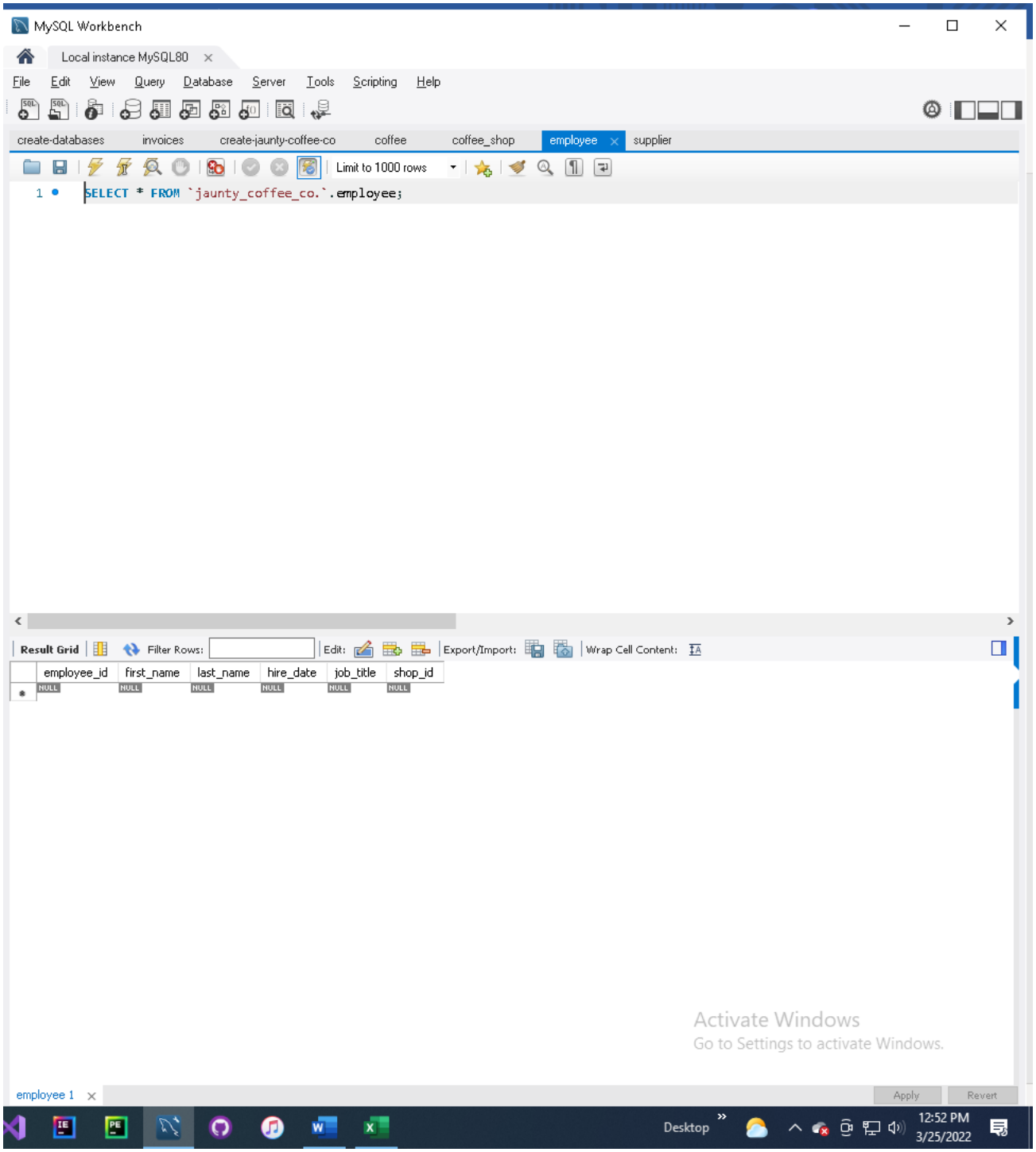
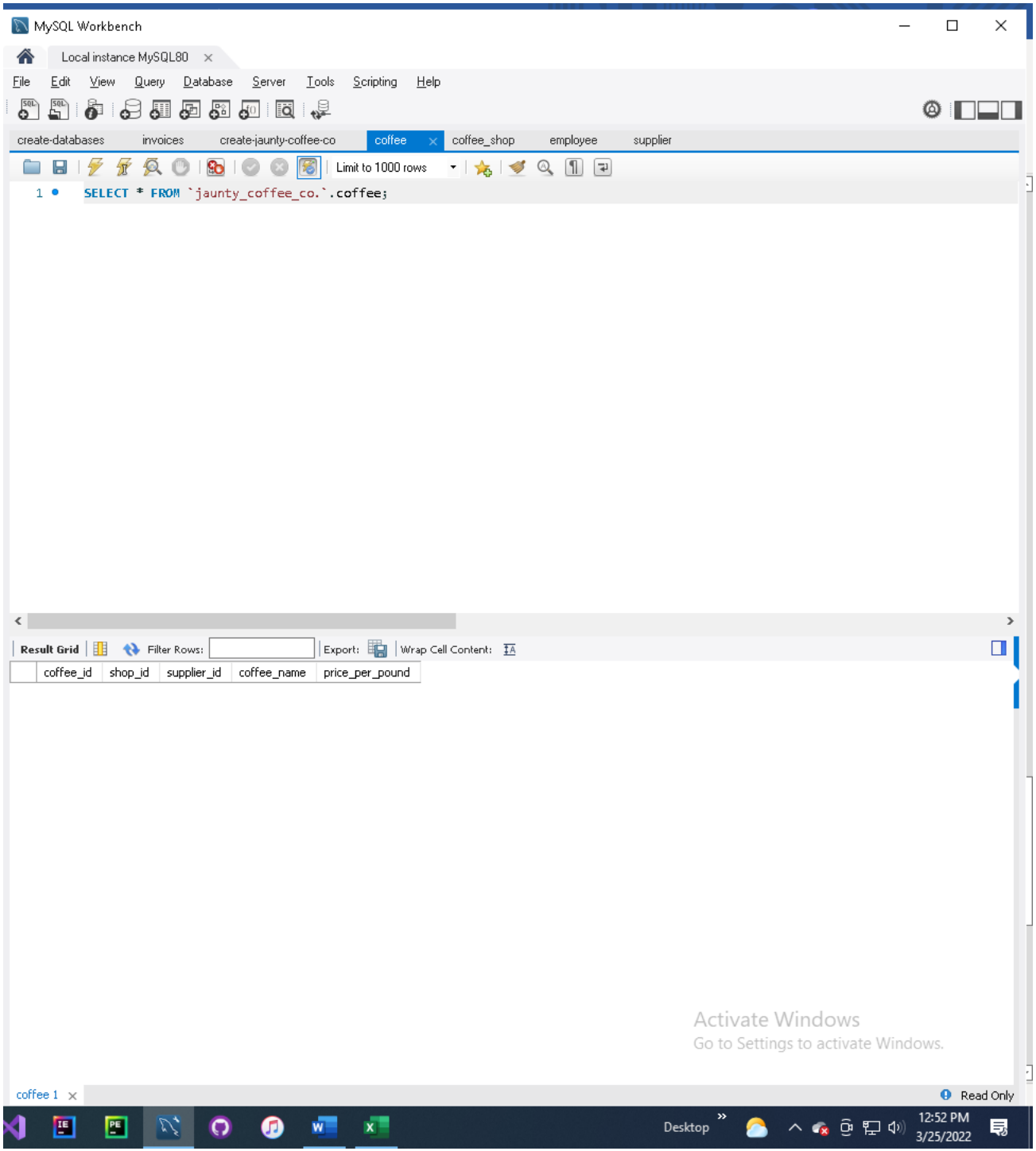
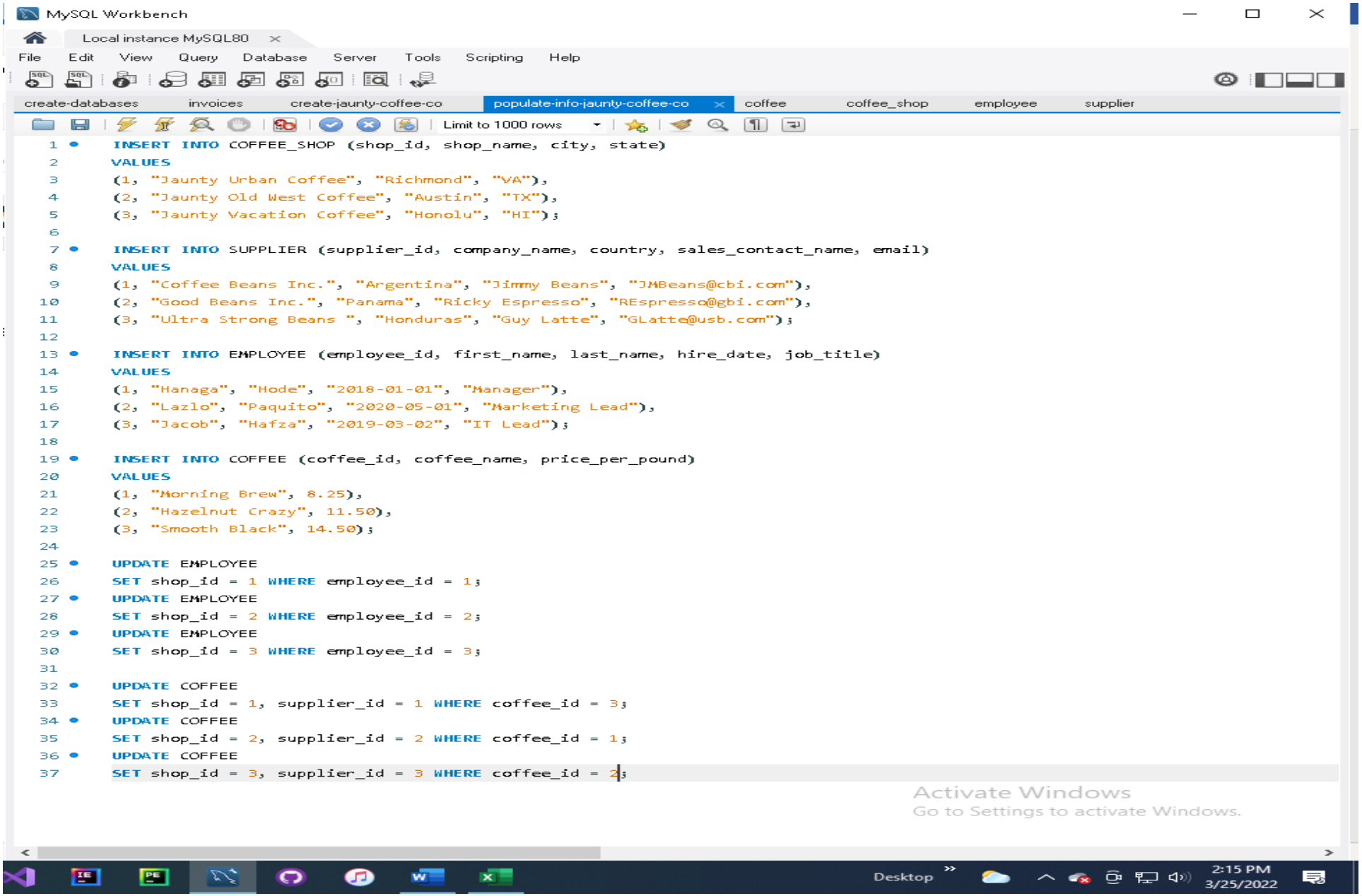
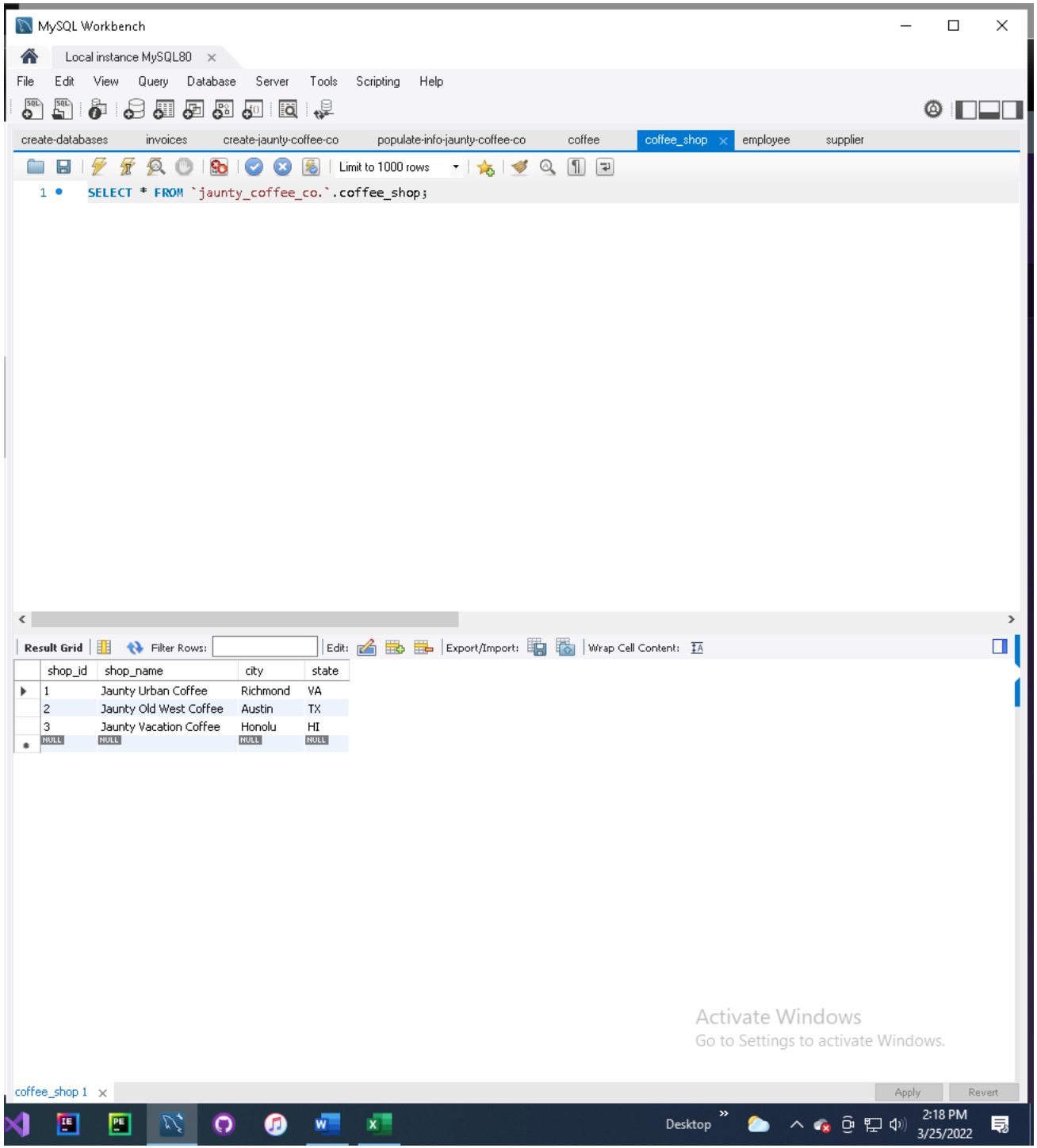
3/25/2022

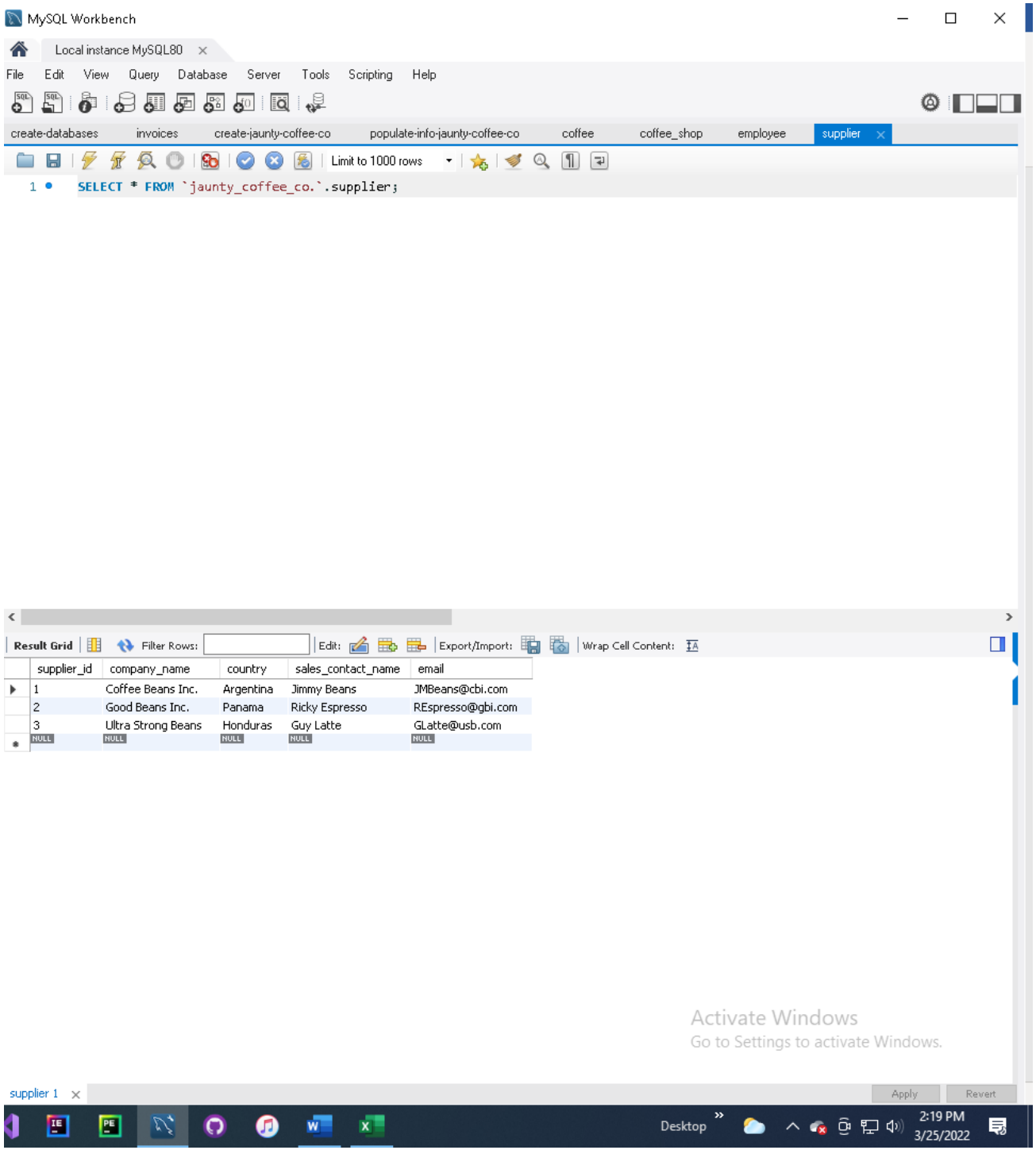

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
create-databases invoices create-jaunty-coffee-co coffee coffee_shop employee supplier
Limit to 1000 rows
1 SELECT * FROM `jaunty_coffee_co.`.employee;
Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
employee_id first_name last_name hire_date job_title shop_id
NULL NULL NULL NULL NULL NULL
Activate Windows
Go to Settings to activate Windows.
employee 1
Apply
Revert
Desktop
12:52 PM
3/25/2022

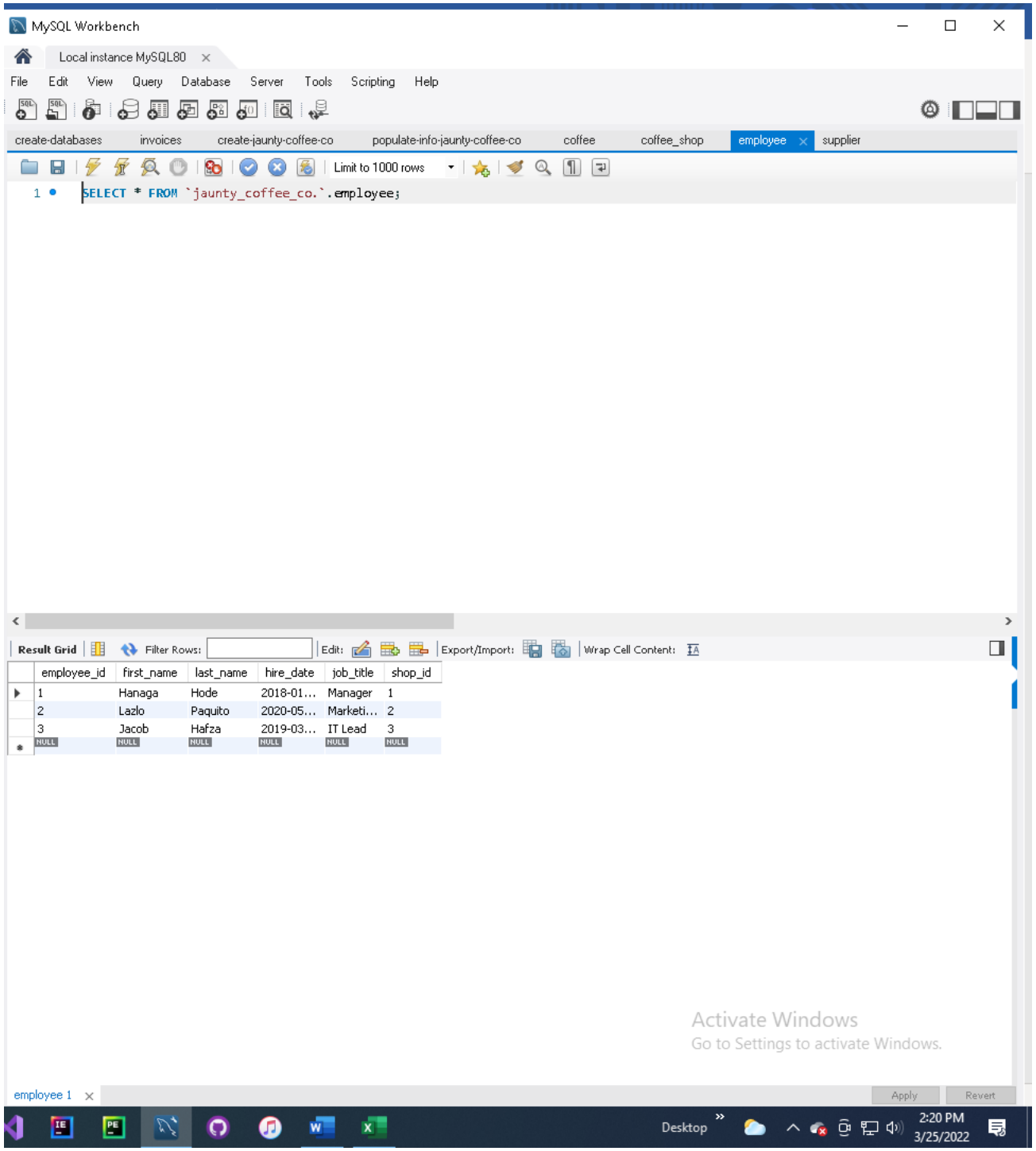

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
create-databases invoices create-jaunty-coffee-co coffee coffee_shop employee supplier
Limit to 1000 rows
1 SELECT * FROM `jaunty_coffee_co.`.coffee;
Result Grid Filter Rows: Export: Wrap Cell Content:
coffee_id shop_id supplier_id coffee_name price_per_pound
Activate Windows
Go to Settings to activate Windows.
coffee 1
Read Only
Desktop
12:52 PM
3/25/2022

2. Develop SQL code to populate *each* table in the database design document




MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
create-databases invoices create-jaunty-coffee-co populate-info-jaunty-coffee-co coffee coffee_shop employee supplier
Limit to 1000 rows
1 SELECT * FROM `jaunty_coffee_co.`.coffee_shop;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
shop_id shop_name city state
1 Jaunty Urban Coffee Richmond VA
2 Jaunty Old West Coffee Austin TX
3 Jaunty Vacation Coffee Honolu HI
NULL NULL NULL NULL
Activate Windows
Go to Settings to activate Windows.
coffee_shop 1
Apply Revert
Desktop
2:18 PM
3/25/2022


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
create-databases invoices create-jaunty-coffee-co populate-info-jaunty-coffee-co coffee coffee_shop employee supplier
Limit to 1000 rows
1 SELECT * FROM `jaunty_coffee_co.`.supplier;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
supplier_id company_name country sales_contact_name email
1 Coffee Beans Inc. Argentina Jimmy Beans JMBeans@cbi.com
2 Good Beans Inc. Panama Ricky Espresso REspresso@gbi.com
3 Ultra Strong Beans Honduras Guy Latte GLatte@usb.com
NULL NULL NULL NULL NULL
Activate Windows
Go to Settings to activate Windows.
supplier 1
Apply Revert
Desktop
2:19 PM
3/25/2022


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
create-databases invoices create-jaunty-coffee-co populate-info-jaunty-coffee-co coffee coffee_shop employee supplier
Limit to 1000 rows
1 SELECT * FROM `jaunty_coffee_co.`.employee;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
employee_id first_name last_name hire_date job_title shop_id
1 Hanaga Hode 2018-01... Manager 1
2 Lazlo Paquito 2020-05... Marketi... 2
3 Jacob Hafza 2019-03... IT Lead 3
NULL NULL NULL NULL NULL NULL
Activate Windows
Go to Settings to activate Windows.
employee 1
Apply Revert
Desktop
2:20 PM
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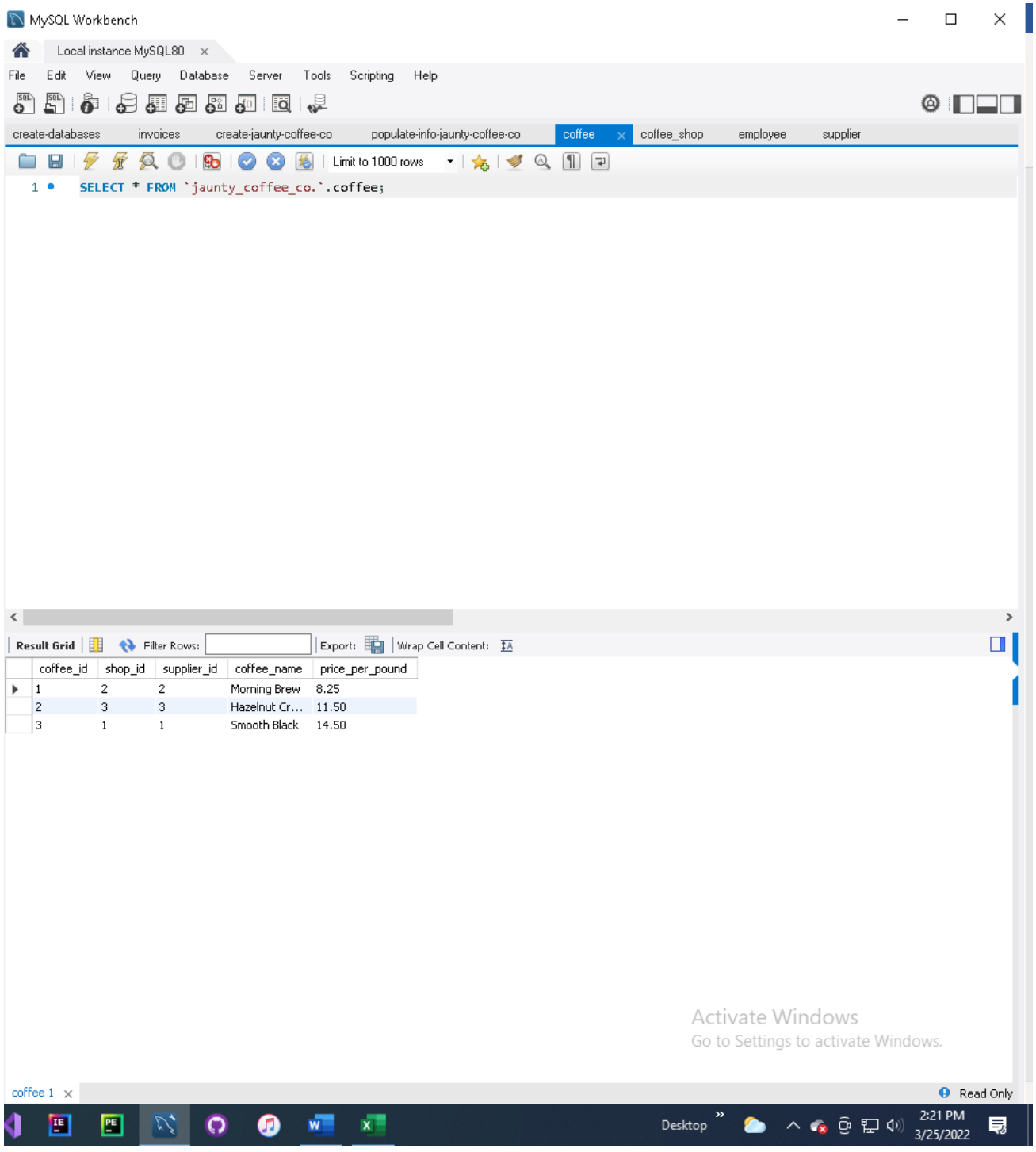
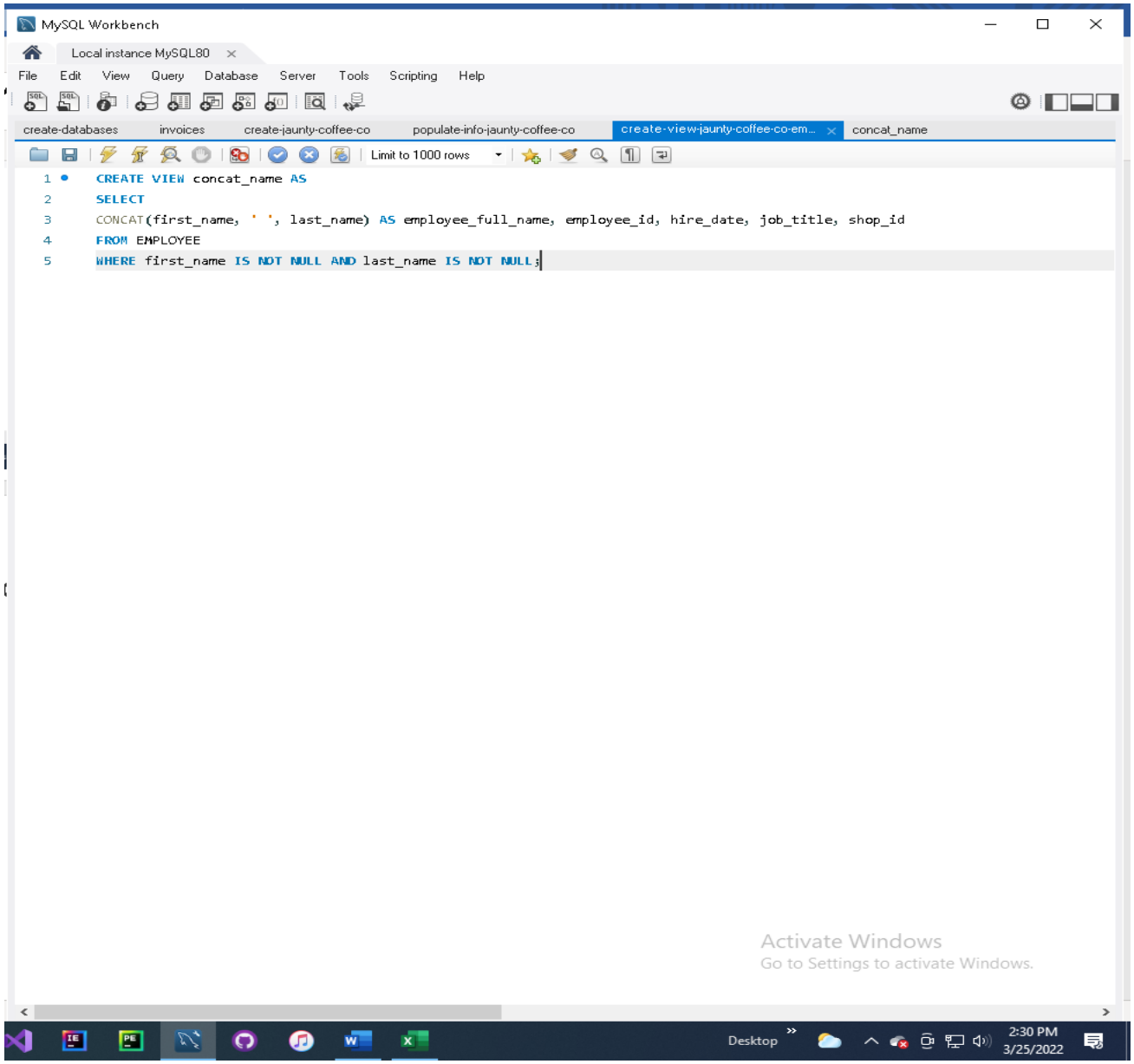
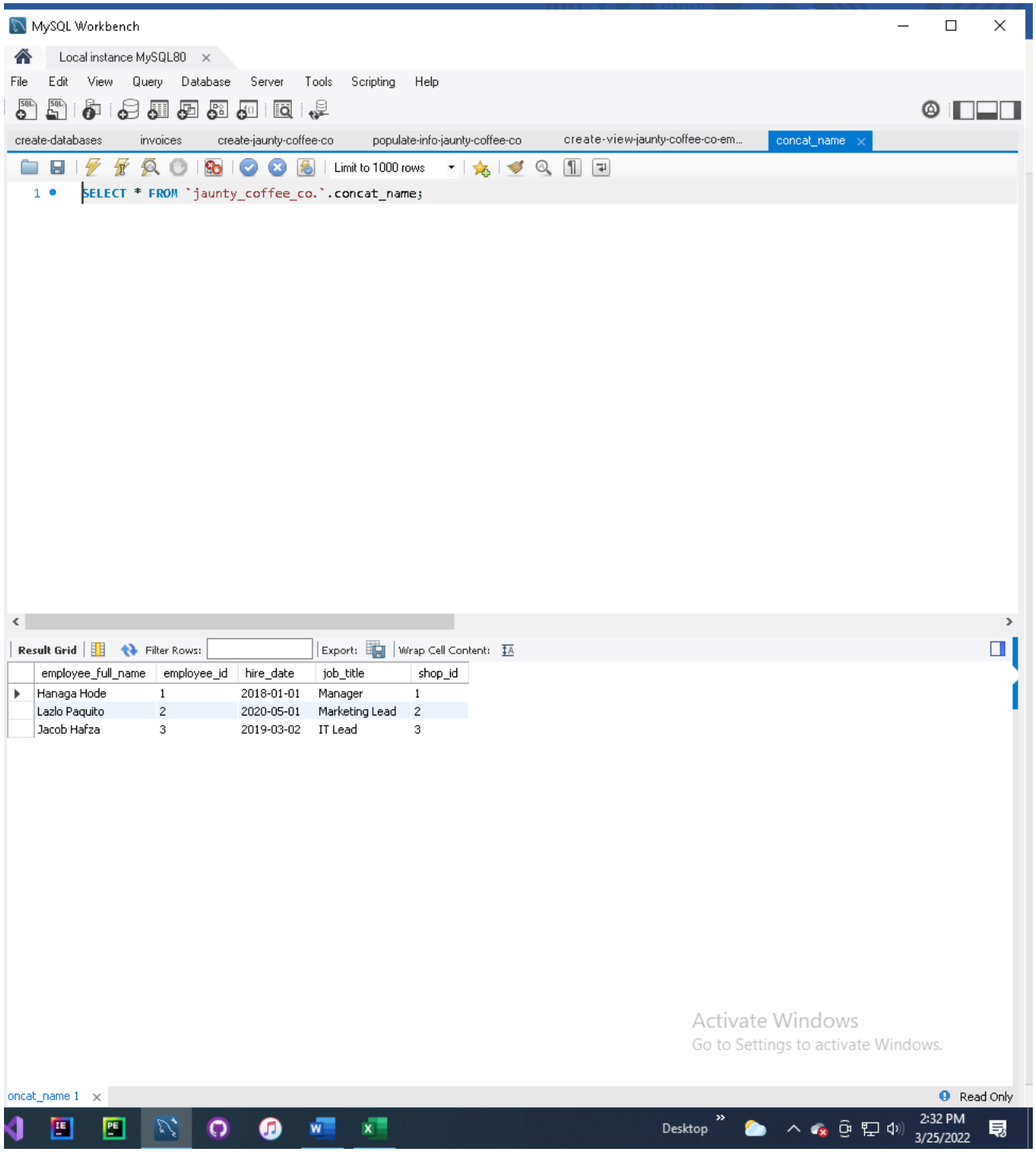
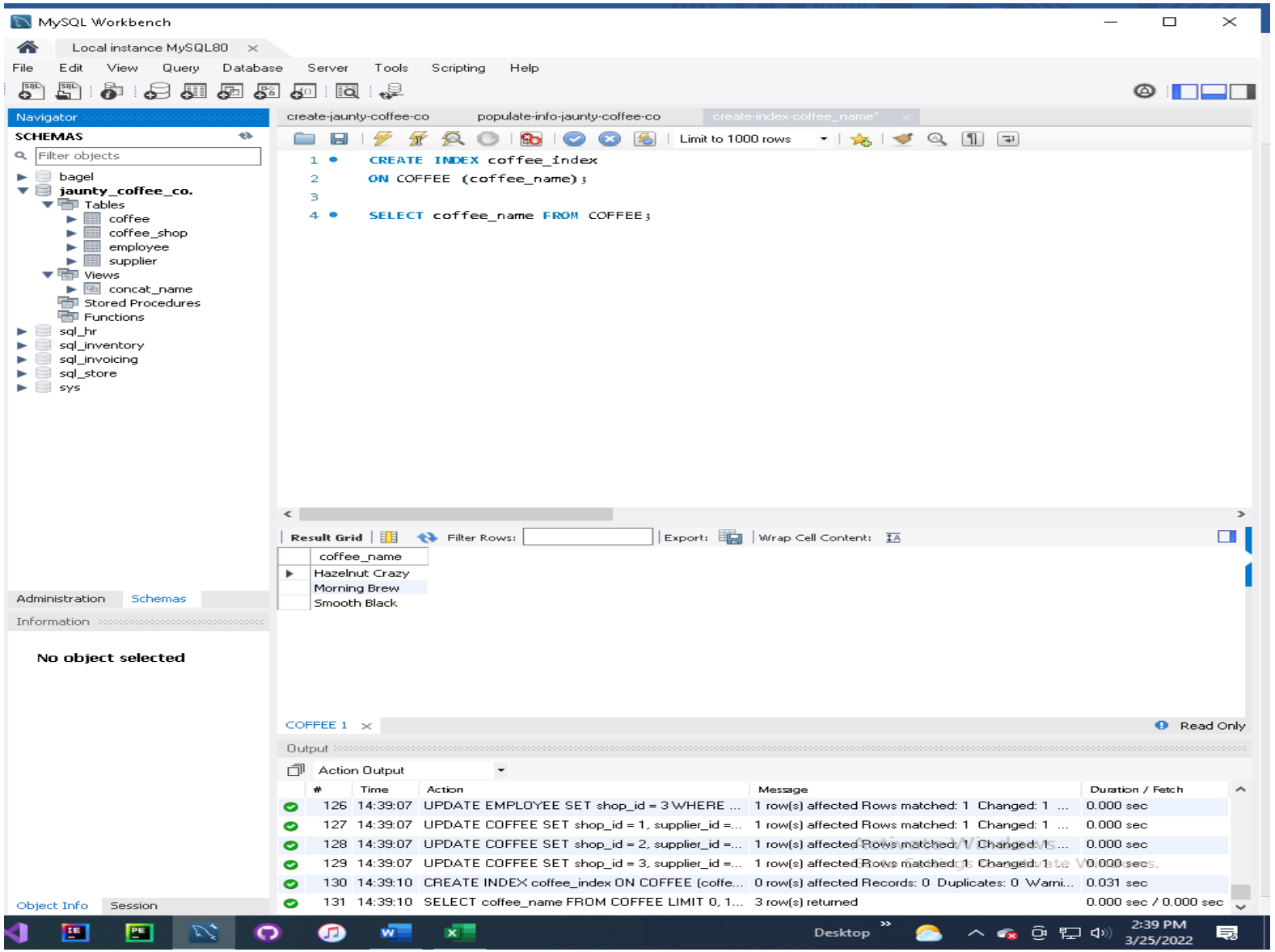

MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
create-databases invoices create-jaunty-coffee-co populate-info-jaunty-coffee-co coffee coffee_shop employee supplier
Limit to 1000 rows
1 SELECT * FROM `jaunty_coffee_co.`.coffee;
Result Grid Filter Rows: Export: Wrap Cell Content:
coffee_id shop_id supplier_id coffee_name price_per_pound
1 2 2 Morning Brew 8.25
2 3 3 Hazelnut Cr... 11.50
3 1 1 Smooth Black 14.50
Activate Windows
Go to Settings to activate Windows.
coffee 1
Read Only
Desktop
2:21 PM
3/25/2022

3. **Develop SQL code to create a view from EMPLOYEE table, with new employee_full_name attribute**

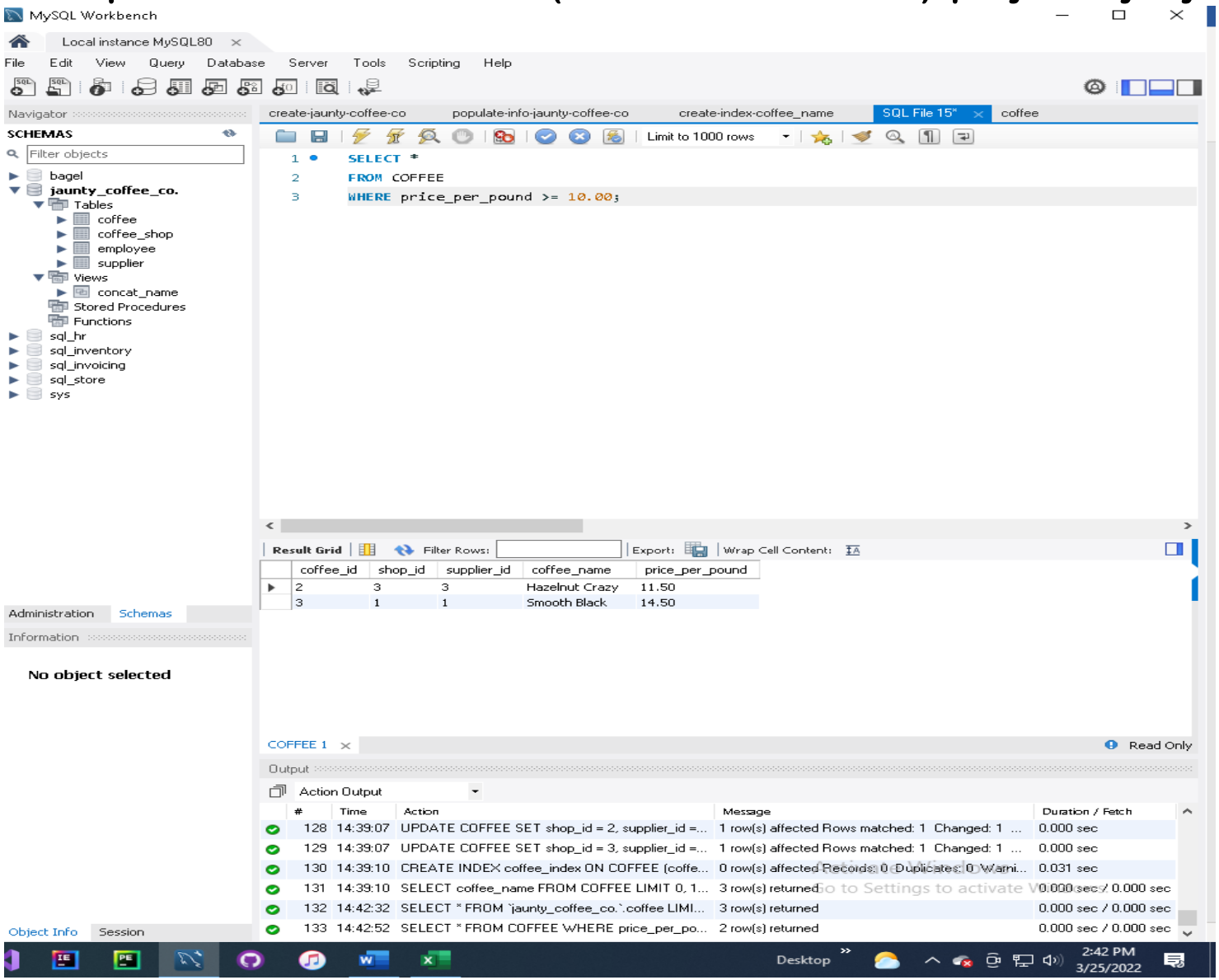



MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
create-databases invoices create-jaunty-coffee-co populate-info-jaunty-coffee-co create-view-jaunty-coffee-co-em... concat_name
Limit to 1000 rows
1 SELECT * FROM `jaunty_coffee_co.`.concat_name;
Result Grid Filter Rows: Export: Wrap Cell Content:
employee_full_name employee_id hire_date job_title shop_id
Hanaga Hode 1 2018-01-01 Manager 1
Lazlo Paquito 2 2020-05-01 Marketing Lead 2
Jacob Hafza 3 2019-03-02 IT Lead 3
Activate Windows
Go to Settings to activate Windows.
oncat_name 1
Read Only
Desktop
2:32 PM
3/25/2022

4. Develop SQL code to create an index on the coffee_name field from the COFFEE table



5. Develop SQL code to create an SFW (SELECT–FROM–WHERE) query for any of your tables or views



6. Develop SQL code to create a query by joining three different tables, including attributes from all three tables