

Coffee Shop Scope Statement

To meet the needs of this coffee shop I would create a database with ten tables. First there are tables relating to your customers such as:

- Products
- Ingredients
- Product_ingredients (a table keeping track of what ingredients go in a product)
- Customers
- Customer_orders
- Customer_order_items

Then another group of tables related to your supplies

- Suppliers
- Suppliers_ingredients
- Supply_orders
- Invoices

And then any data you find necessary.

The data will be organized to eliminate redundancy and create a robust system for adding and deleting data into the future of the business.

I will then create specific ways to view the data depending on who is accessing it and for what purpose, for example I would create a simple way to view the data required to pay suppliers.

I would then like to present my work and address any changes or additions you may suggest.

Coffee Shop Fields List

Products

- Product_id ex:
- Name ex: mocha cappuccino
- List_price ex: 6.50
- ~Description ex: cappuccino with mach chocolate

Ingredients

- Ingredient_id
- Supplier_id
- Name ex: milk
- List_price

Product_ingredients

- Product_id
- Ingredient_id
- Quantity ex: 8 oz

Customers

- Customer_id
- First_name ex: Jacob
- Last_name ex: Smith
- ~email ex: jsmith@gmail.com
- ~address ex: 1234 street st, tallmadge OH

Customer_orders

- Order_id
- Customer_id
- Date ex: 1/1/2022
- Amount ex: 24.98
- ~payment_method ex: cash/credit

Customer_order_items

- Item_id
- Order_id
- Product_id
- Quantity

Suppliers

- Supplier_id
- ingredient_id
- Routing_number ex: 165465416
- Acct_number ex: 225654654825

Suppliers_contact_info

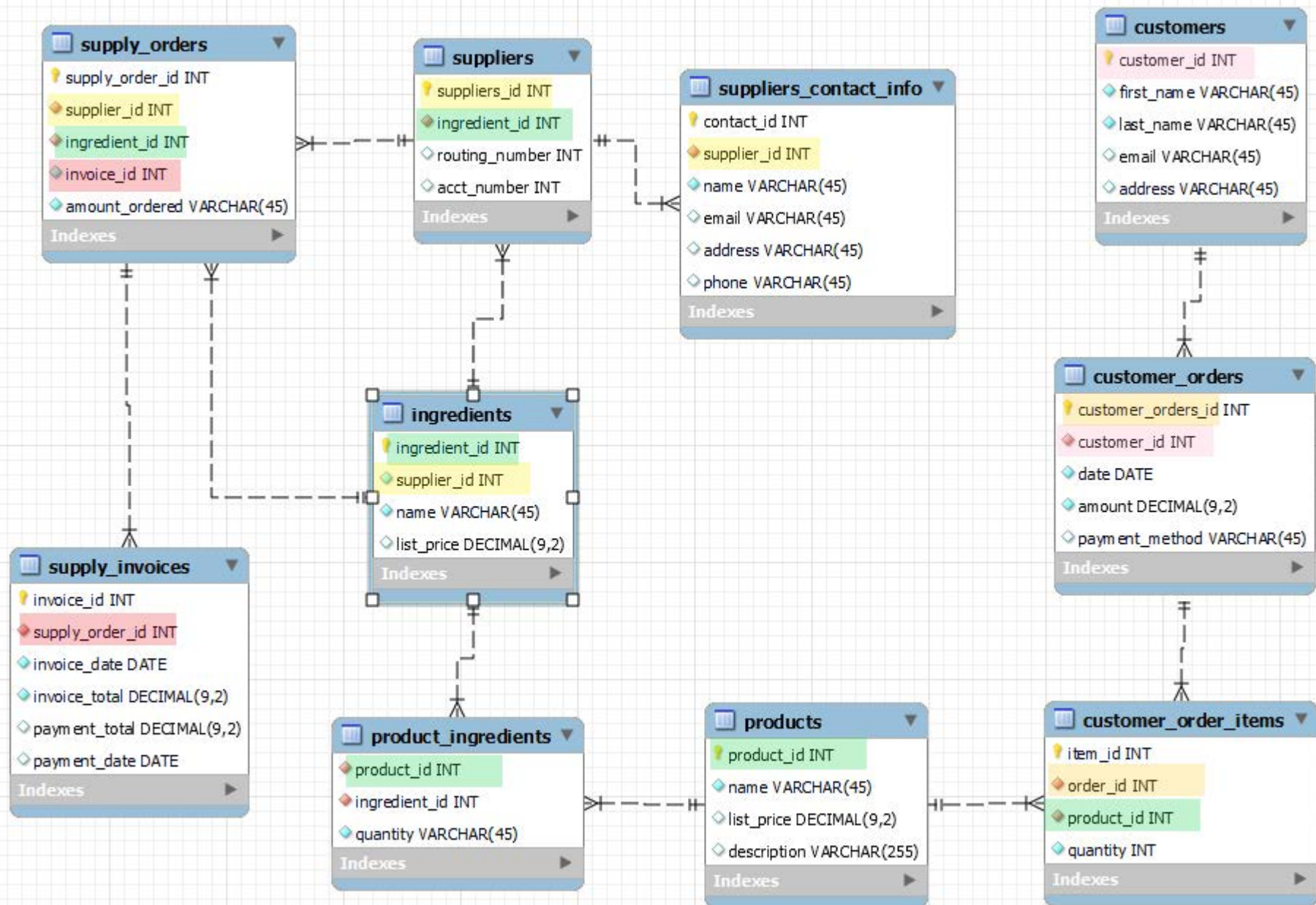
- Contact_id
- Supplier_id
- Name ex: Bean Supply Co.
- Email ex: contact@beansupply.com
- Address ex: 111 street st, Millhouse PA
- Phone ex: 555-555-5555

Supply_orders

- Supply_order_id
- Supplier_id
- Ingredient_id
- Invoice_id
- Amount_ordered ex: 10 lbs

Supply_invoices

- Invoice_id
- Supply_order_id
- Invoice_date ex: 1/1/2022
- Invoice_total ex: 2000.55
- Payment_total ex: 2000.55
- Payment_date ex 1/8/2022



MySQL Workbench

Local instance MySQL80

FileEditViewQueryDatabaseServerToolsScriptingHelp

SQL

SQL

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Navigator

SCHEMAS

Filter objects

ap

assignment_5

ex

jon_heintel_coffee_shop

Tables

customer_order_items

customer_orders

customers

ingredients

product_ingredients

products

suppliers

suppliers_contact_info

supply_invoices

supply_orders

Views

Stored Procedures

Functions

jonheintel_guitar_shop

om

sys

products

ingredients

product_ingredients

customers

customer_orders

customer_order_items

Limit to 1000 rows

+

+

+

+

+

+

+

+

+

+

1

SELECT * FROM jon_heintel_coffee_shop.customer_order_items;

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

Result Grid

Form Editor

Field Types

Query Stats

| | item_id | order_id | product_id | quantity |
|---|---------|----------|------------|----------|
| ▶ | 11 | 1 | 1 | 2 |
| | 12 | 1 | 2 | 1 |
| | 13 | 1 | 5 | 1 |
| | 14 | 2 | 1 | 1 |
| | 15 | 3 | 5 | 1 |
| * | NULL | NULL | NULL | NULL |

Administration

Schemas

Information

Schema: jon_heintel_coffee_shop

Output

Action Output

| # | Time | Action | Message | Duration |
|------|----------|--|-------------------|----------|
| ✓ 93 | 12:27:58 | SELECT * FROM jon_heintel_coffee_shop.products LIMIT 0, 1000 | 5 row(s) returned | 0.000 |
| ✓ 94 | 12:29:07 | SELECT * FROM jon_heintel_coffee_shop.ingredients LIMIT 0, 1000 | 6 row(s) returned | 0.000 |
| ✓ 95 | 12:29:33 | SELECT * FROM jon_heintel_coffee_shop.product_ingredients LIMIT 0, 1000 | 5 row(s) returned | 0.000 |
| ✓ 96 | 12:30:05 | SELECT * FROM jon_heintel_coffee_shop.customers LIMIT 0, 1000 | 5 row(s) returned | 0.016 |
| ✓ 97 | 12:30:29 | SELECT * FROM jon_heintel_coffee_shop.customer_orders LIMIT 0, 1000 | 5 row(s) returned | 0.000 |
| ✓ 98 | 12:31:03 | SELECT * FROM jon_heintel_coffee_shop.customer_order_items LIMIT 0, 1000 | 5 row(s) returned | 0.000 |

Object Info

Session

Query Completed

SQLAdditions

My Snippets

create proced

- A script to calca

quantity time

od.order_qty*i.un

Schema: `jon_heintel_coffee_shop`

Object Info Session

Query Completed

SCHEMAS            Limit to 1000 rows     

Filter objects

```
1 • SELECT * FROM jon_heintel_coffee_shop.customers;
```

jonheintel_guitar_shop

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:

| | customer_id | first_name | last_name | email | address |
|---|-------------|------------|-----------|--------------------------|--------------------------------------|
| ▶ | 1 | Pete | Pete | slippy@aol.com | 100 hole in the head drive, GNOME AK |
| | 2 | John | Smith | NULL | The New World |
| | 3 | Terry | Boregaud | tb@aaa.com | this is an address |
| | 4 | Holy | Roller | bowlingforsoup@gmail.com | NULL |
| | 5 | Fred | Astaire | NULL | The TV |
| * | NULL | NULL | NULL | NULL | NULL |

customers 1 x

Output

Action Output

| # | Time | Action | Message |
|----|----------|---|--|
| 91 | 12:14:20 | SELECT * FROM jon_heintel_coffee_shop.supply_orders LIMIT 0, 1000 | 5 row(s) returned |
| 92 | 12:16:49 | INSERT INTO `jon_heintel_coffee_shop`.`supply_invoices` (`invoice_id`, `supply_order_id`, `invoice_date`, `invoice_total`, `payment_total`, `pay... | 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 |
| 93 | 12:27:58 | SELECT * FROM jon_heintel_coffee_shop.products LIMIT 0, 1000 | 5 row(s) returned |
| 94 | 12:29:07 | SELECT * FROM jon_heintel_coffee_shop.ingredients LIMIT 0, 1000 | 6 row(s) returned |
| 95 | 12:29:33 | SELECT * FROM jon_heintel_coffee_shop.product_ingredients LIMIT 0, 1000 | 5 row(s) returned |
| 96 | 12:30:05 | SELECT * FROM jon_heintel_coffee_shop.customers LIMIT 0, 1000 | 5 row(s) returned |

Object Info Session

Query Completed

| | ingredient_id | supplier_id | name | list_unit | list_unit_price |
|---|---------------|-------------|----------------|-----------|-----------------|
| ▶ | 1 | 0 | beans | 100 lbs | 50.00 |
| | 2 | 0 | flour | 100 lbs | 50.00 |
| | 3 | 0 | sugar | 100 lbs | 50.00 |
| | 4 | 0 | frozen nettles | 100 lbs | 50.00 |
| | 5 | 0 | church organs | 1 organ | 50.00 |
| | 6 | 0 | Fathers Love | 1 hug | 0.00 |
| ✱ | NULL | NULL | NULL | NULL | NULL |

| # | Time | Action | Message |
|----|----------|---|--|
| 89 | 12:12:52 | SELECT * FROM jon_heintel_coffee_shop.supply_orders LIMIT 0, 1000 | 1 row(s) returned |
| 90 | 12:14:18 | INSERT INTO `jon_heintel_coffee_shop`.`supply_orders` (`supply_order_id`, `supplier_id`, `ingredient_id`, `invoice_id`, `amount_ordered`) VALUE... | 4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0 |
| 91 | 12:14:20 | SELECT * FROM jon_heintel_coffee_shop.supply_orders LIMIT 0, 1000 | 5 row(s) returned |
| 92 | 12:16:49 | INSERT INTO `jon_heintel_coffee_shop`.`supply_invoices` (`invoice_id`, `supply_order_id`, `invoice_date`, `invoice_total`, `payment_total`, `pay... | 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 |
| 93 | 12:27:58 | SELECT * FROM jon_heintel_coffee_shop.products LIMIT 0, 1000 | 5 row(s) returned |
| 94 | 12:29:07 | SELECT * FROM jon_heintel_coffee_shop.ingredients LIMIT 0, 1000 | 6 row(s) returned |


```
1 • SELECT * FROM jon_heintel_coffee_shop.product_ingredients;
```

🔍 Filter objects

- Views
- Stored Procedures
- Functions
- jonheintel_guitar_shop
- om
- sys

Information

Schema: `jon_heintel_coffee_shop`

Object Info Session


Query Completed

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

| | product_id | ingredient_id | quantity |
|---|------------|---------------|------------------|
| ▶ | 1 | 1 | 1 cup |
| | 1 | 2 | 1 handful |
| | 1 | 3 | customer defined |
| | 1 | 4 | 2 sprig |
| | 1 | 5 | 1/100 organ |

t_ingredients 1 x

Output

 Action Output

| # | Time | Action | Message |
|----|----------|---|--|
| 90 | 12:14:18 | INSERT INTO `jon_heintel_coffee_shop`.`supply_orders` (`supply_order_id`, `supplier_id`, `ingredient_id`, `invoice_id`, `amount_ordered`) VALUE... | 4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0 |
| 91 | 12:14:20 | SELECT * FROM jon_heintel_coffee_shop.supply_orders LIMIT 0, 1000 | 5 row(s) returned |
| 92 | 12:16:49 | INSERT INTO `jon_heintel_coffee_shop`.`supply_invoices` (`invoice_id`, `supply_order_id`, `invoice_date`, `invoice_total`, `payment_total`, `pay... | 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 |
| 93 | 12:27:58 | SELECT * FROM jon_heintel_coffee_shop.products LIMIT 0, 1000 | 5 row(s) returned |
| 94 | 12:29:07 | SELECT * FROM jon_heintel_coffee_shop.ingredients LIMIT 0, 1000 | 6 row(s) returned |
| 95 | 12:29:33 | SELECT * FROM jon_heintel_coffee_shop.product_ingredients LIMIT 0, 1000 | 5 row(s) returned |

SCHEMAS

Filter objects

- ap
- assignment_5
- ex
- jon_heintel_coffee_shop**
 - Tables
 - customer_order_items
 - customer_orders
 - customers
 - ingredients
 - product_ingredients
 - products
 - suppliers
 - suppliers_contact_info
 - supply_invoices
 - supply_orders
 - Views
 - Stored Procedures
 - Functions
- jonheintel_guitar_shop
- om
- sys

Schema: **jon_heintel_coffee_shop**

products x

Limit to 1000 rows

1 • `SELECT * FROM jon_heintel_coffee_shop.products;`

Result Grid

Filter Rows:

Edit: Export/Import: Wrap Cell Content:

| | product_id | name | list_price | description |
|---|------------|------------|------------|---------------|
| ▶ | 1 | Coffee | 1.00 | Arabica beans |
| | 2 | Tea | 100.00 | Earl Grey |
| | 3 | Scone | 35.00 | From the bin |
| | 4 | Hand Towel | 45.50 | Do not eat |
| | 5 | Rocks | 1.00 | From the bin |
| ★ | NULL | NULL | NULL | NULL |

products 1 x

Apply

Output

Action Output

| # | Time | Action | Message |
|------|----------|---|--|
| ✓ 88 | 12:11:49 | INSERT INTO `jon_heintel_coffee_shop`.`supply_orders` (`supply_order_id`, `supplier_id`, `ingredient_id`, `invoice_id`, `amount_ordered`) VALUE... | 1 row(s) affected |
| ✓ 89 | 12:12:52 | SELECT * FROM jon_heintel_coffee_shop.supply_orders LIMIT 0, 1000 | 1 row(s) returned |
| ✓ 90 | 12:14:18 | INSERT INTO `jon_heintel_coffee_shop`.`supply_orders` (`supply_order_id`, `supplier_id`, `ingredient_id`, `invoice_id`, `amount_ordered`) VALUE... | 4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0 |
| ✓ 91 | 12:14:20 | SELECT * FROM jon_heintel_coffee_shop.supply_orders LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 92 | 12:16:49 | INSERT INTO `jon_heintel_coffee_shop`.`supply_invoices` (`invoice_id`, `supply_order_id`, `invoice_date`, `invoice_total`, `payment_total`, `pay... | 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 |
| ✓ 93 | 12:27:58 | SELECT * FROM jon_heintel_coffee_shop.products LIMIT 0, 1000 | 5 row(s) returned |

SCHEMAS

- Views
- Stored Procedures
- Functions
- jonheintel_guitar_shop
- om
- sys

Information


Schema: `jon_heintel_coffee_shop`

Query Completed

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:

| | contact_id | supplier_id | supplier_name | email | address | phone |
|---|------------|-------------|-----------------------------|---------------------|---|----------------|
| ▶ | 6 | 2 | Fake Co | a@a.co.uk | British Isles | 555-555-5555 |
| | 7 | 3 | Real Co | b@b.co.jp | Japanese Isles | 0-555-555-5555 |
| | 8 | 4 | Beans Co | beans@gmail.com | 143 Privvy St, Colombus OH | NULL |
| | 9 | 5 | Bakery Boys | boy@aol.com | NULL | NULL |
| | 10 | 6 | Finlands Best Church Organs | fbco@rocketmail.com | Just throw all deliveries across the border | 1-800-yodle |
| ★ | NULL | NULL | NULL | NULL | NULL | NULL |

contact info 1 x

Output : 

| Action Output | | | | | | |
|---------------|----------|--|-------------------|--|-----------------------|--|
| # | Time | Action | Message | | Duration / Fetch | |
| 95 | 12:29:33 | SELECT * FROM jon_heintel_coffee_shop.product_ingredients LIMIT 0, 1000 | 5 row(s) returned | | 0.000 sec / 0.000 sec | |
| 96 | 12:30:05 | SELECT * FROM jon_heintel_coffee_shop.customers LIMIT 0, 1000 | 5 row(s) returned | | 0.016 sec / 0.000 sec | |
| 97 | 12:30:29 | SELECT * FROM jon_heintel_coffee_shop.customer_orders LIMIT 0, 1000 | 5 row(s) returned | | 0.000 sec / 0.000 sec | |
| 98 | 12:31:03 | SELECT * FROM jon_heintel_coffee_shop.customer_order_items LIMIT 0, 1000 | 5 row(s) returned | | 0.000 sec / 0.000 sec | |
| 99 | 12:31:34 | SELECT * FROM jon_heintel_coffee_shop.suppliers LIMIT 0, 1000 | 5 row(s) returned | | 0.000 sec / 0.000 sec | |
| 100 | 12:32:24 | SELECT * FROM jon_heintel_coffee_shop.suppliers_contact_info LIMIT 0, 1000 | 5 row(s) returned | | 0.000 sec / 0.000 sec | |

MySQL Workbench

Local instance MySQL80

FileEditViewQueryDatabaseServerToolsScriptingHelp

Navigator

SCHEMAS

Filter objects

ap

assignment_5

ex

jon_heintel_coffee_shop

Tables

customer_order_items

customer_orders

customers

ingredients

product_ingredients

products

suppliers

suppliers_contact_info

supply_invoices

supply_orders

Views

Stored Procedures

Functions

jonheintel_guitar_shop

om

sys

products

ingredients

product_ingredients

customers

customer_orders

customer_order_items

suppliers

suppliers_contact_info

supply_orders

supply_invoices

1

SELECT * FROM jon_heintel_coffee_shop.supply_invoices;

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

| | invoice_id | supply_order_id | invoice_date | invoice_total | payment_total | payment_date |
|---|------------|-----------------|--------------|---------------|---------------|--------------|
| ▶ | 1 | 1 | 2022-01-01 | 10.00 | 45.50 | NULL |
| | 2 | 2 | 2022-01-01 | 10.00 | 45.50 | NULL |
| | 3 | 3 | 2022-01-01 | 10.00 | 45.50 | NULL |
| | 4 | 4 | 2022-01-01 | 10.00 | 45.50 | NULL |
| | 5 | 5 | 2022-01-01 | 10.00 | 45.50 | NULL |
| * | NULL | NULL | NULL | NULL | NULL | NULL |

Administration

Schemas

Information

Schema: jon_heintel_coffee_shop

ply_invoices1

Apply

Revert

Output

Action Output

| # | Time | Action | Message |
|-------|----------|--|-------------------|
| ✓ 97 | 12:30:29 | SELECT * FROM jon_heintel_coffee_shop.customer_orders LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 98 | 12:31:03 | SELECT * FROM jon_heintel_coffee_shop.customer_order_items LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 99 | 12:31:34 | SELECT * FROM jon_heintel_coffee_shop.suppliers LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 100 | 12:32:24 | SELECT * FROM jon_heintel_coffee_shop.suppliers_contact_info LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 101 | 12:33:25 | SELECT * FROM jon_heintel_coffee_shop.supply_orders LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 102 | 12:33:46 | SELECT * FROM jon_heintel_coffee_shop.supply_invoices LIMIT 0, 1000 | 5 row(s) returned |

Object InfoSession

Query Completed

MySQL Workbench

Local instance MySQL80

FileEditViewQueryDatabaseServerToolsScriptingHelp

Navigator

SCHEMAS

Filter objects

ap

assignment_5

ex

jon_heintel_coffee_shop

Tables

customer_order_items

customer_orders

customers

ingredients

product_ingredients

products

suppliers

suppliers_contact_info

supply_invoices

supply_orders

Views

Stored Procedures

Functions

jonheintel_guitar_shop

om

sys

products

ingredients

product_ingredients

customers

customer_orders

customer_order_items

suppliers

suppliers_contact_info

supply_orders

Limit to 1000 rows

1

SELECT * FROM jon_heintel_coffee_shop.supply_orders;

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

| | supply_order_id | supplier_id | ingredient_id | invoice_id | amount_ordered |
|---|-----------------|-------------|---------------|------------|----------------|
| ▶ | 1 | 2 | 1 | 1 | 100 farthings |
| | 2 | 3 | 2 | 2 | 10 lbs |
| | 3 | 4 | 3 | 3 | 1 geoses lung |
| | 4 | 5 | 4 | 4 | 1000 handfuls |
| | 5 | 6 | 5 | 5 | 20 pack |
| ★ | NULL | NULL | NULL | NULL | NULL |

Administration

Schemas

Information

Schema: jon_heintel_coffee_shop

supply_orders 1

Apply

Revert

Content

Output

Action Output

| # | Time | Action | Message |
|-------|----------|--|-------------------|
| ✓ 96 | 12:30:05 | SELECT * FROM jon_heintel_coffee_shop.customers LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 97 | 12:30:29 | SELECT * FROM jon_heintel_coffee_shop.customer_orders LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 98 | 12:31:03 | SELECT * FROM jon_heintel_coffee_shop.customer_order_items LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 99 | 12:31:34 | SELECT * FROM jon_heintel_coffee_shop.suppliers LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 100 | 12:32:24 | SELECT * FROM jon_heintel_coffee_shop.suppliers_contact_info LIMIT 0, 1000 | 5 row(s) returned |
| ✓ 101 | 12:33:25 | SELECT * FROM jon_heintel_coffee_shop.supply_orders LIMIT 0, 1000 | 5 row(s) returned |

Object InfoSession

Query Completed



SCHEMAS

Filter objects

- ap
- assignment_5
- ex
- jon_heintel_coffee_shop
 - Tables
 - customer_order_items
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 - products
 - suppliers
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 - supply_invoices
 - supply_orders
 - Views
 - invoices_owed
 - Stored Procedures
 - Functions
- jonheintel_guitar_shop
- om
- sys



Limit to 1000 rows

```
1 CREATE OR REPLACE VIEW invoices_owed AS
2 SELECT si.invoice_id, sci.supplier_name, si.invoice_date, si.invoice_total, s.routing_number, s.acct_number
3 FROM supply_invoices si
4
5 JOIN supply_orders so ON so.supply_order_id = si.supply_order_id
6 JOIN suppliers s ON s.supplier_id = so.supplier_id
7 JOIN suppliers_contact_info sci ON sci.supplier_id = s.supplier_id
8
9 WHERE payment_date IS NULL
```


Data Structures Final Project

5. My view joins the supply_order, supply_invoices, suppliers, and suppliers_contact_info tables. I then show the supplier's name, the invoice date/total, and the payment account (routing and account number). I do this for all lines where the payment date is NULL so that Jake can easily find the orders that haven't been paid yet and where to send the money.
6. A few stored procedures would be good ideas. First data entry could be made easier with stored procedures for new customers, products, ingredients, and suppliers. There could also be a stored procedure or possibly a trigger that automatically moved paid invoices to another table. Then there would be an easier way to keep track of old and pending invoices
7. One of the database administrators first tasks should be to make it so the financial data of the vendors is only available to see or change by those who need it so that precious data isn't stolen or lost. They would also want to make sure everyone has a password for about the same reason. I doubt such a simple database would require any capacity handling but then I suppose these things can grow large depending on the business. Then of course there is adding backup functionality and maintenance to what is surely not the finest created DB on the planet.
8.
 - H. Possible challenges my design faces is there isn't a great way to link the ingredients in a product. It can show what's in them but I have no standardized way to add amounts so that field is just a description essentially. I also am unhappy with how the supplier account information is stored. I couldn't imagine well enough what the workings of an accounting department are like, so my implementation feels like a child did it. While I was toiling away at these last few projects I think it would be best to just make all data entry that isn't some level of administrator done with procedures so that the administrators can add custom errors and information-hide the complexity of the tables.