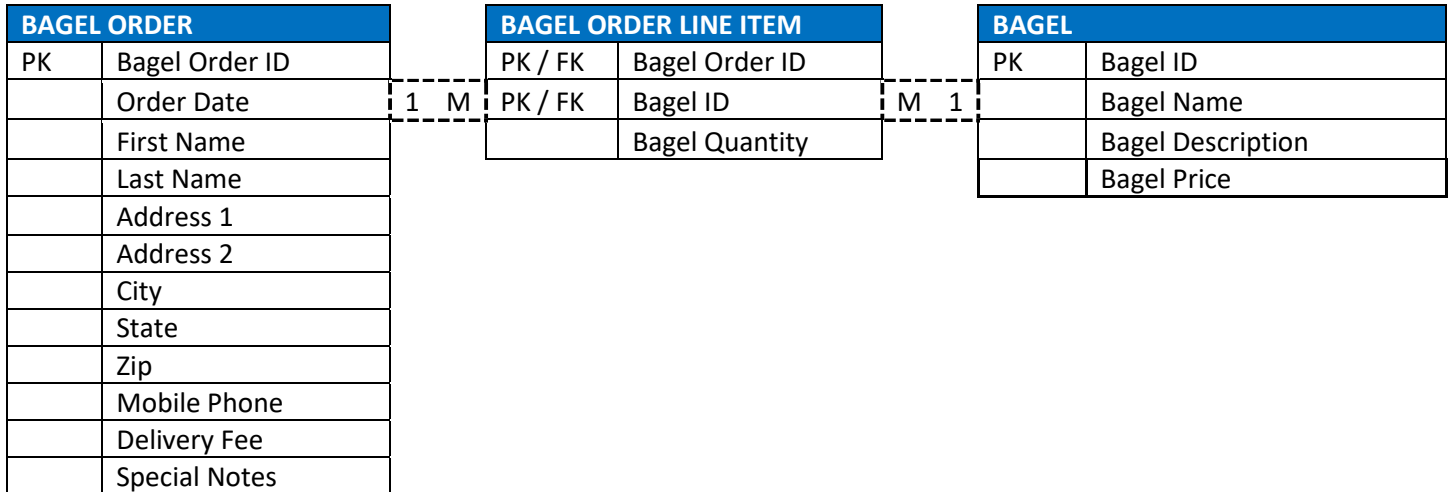


A1a-b.

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

Second Normal Form (2NF)

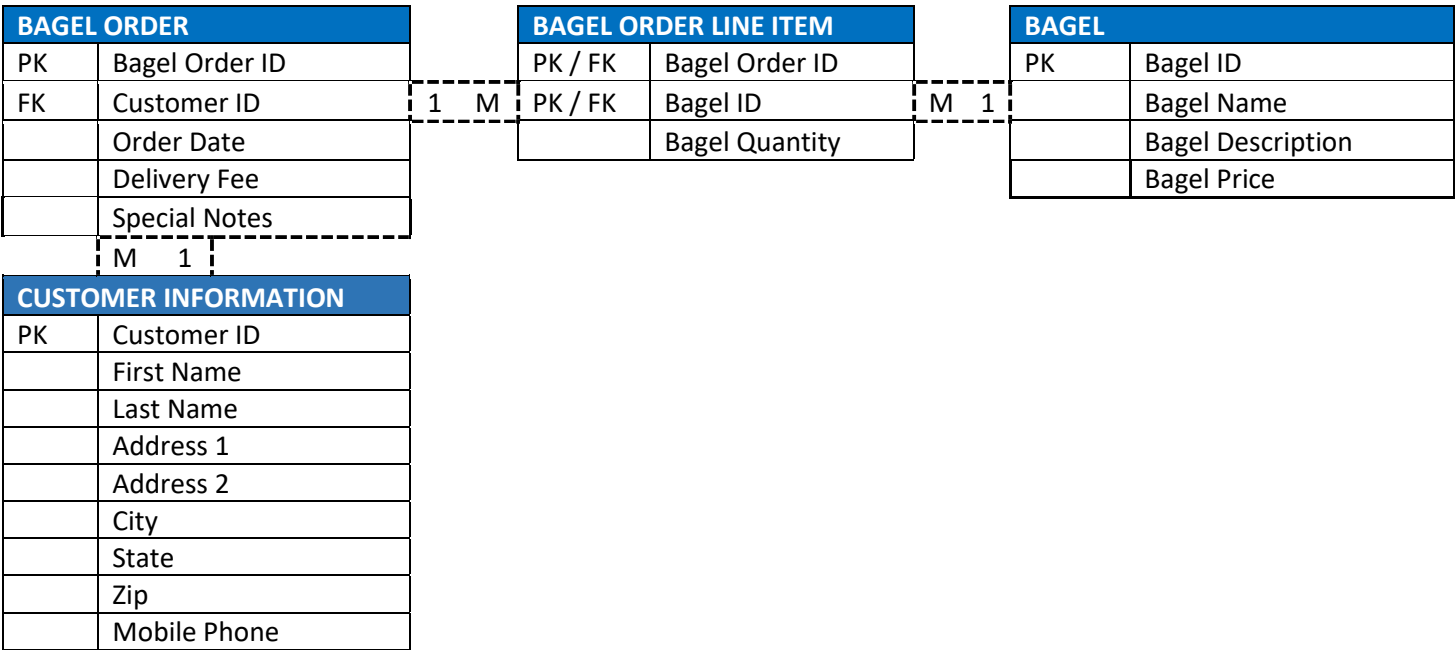


A1c. I chose the attributes based on what was important to each table. The bagel table doesn't need to know the customer's address. There should be one order form, Bagel Order, for potentially many different bagel orders, Line Item, and many line items for one type of bagel. That would achieve ordering different bagel types and different quantities of those types.

A2a-d.

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

Third Normal Form (3NF)



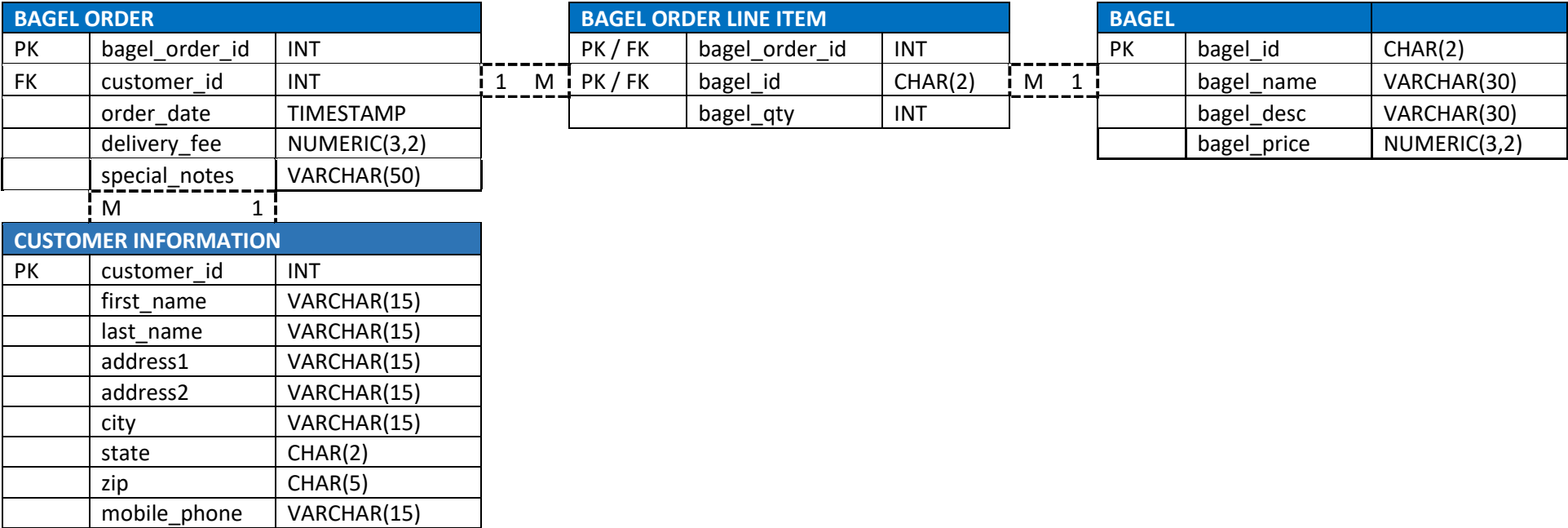
A2e.

I again chose the attributes based on what was important to each table, adding the customer information table, isolates the customer information from the bagel order. It makes the data more cohesive. So, a customer orders bagels, there is one customer on many bagel orders. There is one bagel order form for many bagel line items. And each bagel type gets a new bagel line item, so there are many bagel line items for one bagel type.

A3a-b.

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

Final Physical Database Model



B1a-b.

Employee Database

```
CREATE TABLE Employee
(
    employee_id INT,
    first_name VARCHAR(30),
    last_name VARCHAR(30),
    hire_date DATE,
    job_title VARCHAR(30),
    shop_id INT,
    PRIMARY KEY(employee_id),
    FOREIGN KEY(shop_id) REFERENCES Coffee_Shop(shop_id)
);
```

Database: MySQL v5.7 ▾ ▶ Run 📁 Save ↺ Load Example 👤 Collaborate → Sign in Have any feedback? 🐦

Schema SQL •

```
1 CREATE TABLE Coffee_Shop
2 (
3   shop_id INT,
4   shop_name VARCHAR(50),
5   city VARCHAR(50),
6   state CHAR(2),
7   PRIMARY KEY(shop_id)
8 );
9
10 CREATE TABLE Employee
11 (
12   employee_id INT,
13   first_name VARCHAR(30),
14   last_name VARCHAR(30),
15   hire_date DATE,
16   job_title VARCHAR(30),
17   shop_id INT,
18   PRIMARY KEY(employee_id),
19   FOREIGN KEY(shop_id) REFERENCES Coffee_Shop(shop_id)
20 );
```

Query successfully executed in 4ms ✕

Coffee Shop Database

```
CREATE TABLE Coffee_Shop
(
    shop_id INT,
    shop_name VARCHAR(50),
    city VARCHAR(50),
    state CHAR(2),
    PRIMARY KEY(shop_id)
);
```

Database: MySQL v5.7 ▾ ▶ Run 📁 Save ↺ Load Example 👤 Collaborate → Sign in Have any feedback? 🐦

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Fiddle Description

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Schema SQL •

```
1 CREATE TABLE Coffee_Shop
2 (
3   shop_id INT,
4   shop_name VARCHAR(50),
5   city VARCHAR(50),
6   state CHAR(2),
7   PRIMARY KEY(shop_id)
8 );
```

Text to DDL

Query SQL

1

Query successfully executed in 7ms ✕

Results

There are no results to be displayed.

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Coffee Database

CREATE TABLE Coffee

```
(
    coffee_id            INT,
    shop_id              INT,
    supplier_id          INT,
    coffee_name          VARCHAR(30),
    price_per_pound      NUMERIC(5,2),
    PRIMARY KEY (coffee_id),
    FOREIGN KEY (shop_id) REFERENCES Coffee_Shop(shop_id),
    FOREIGN KEY (supplier_id) REFERENCES Supplier(supplier_id)
);
```

Database: MySQL v5.7 Run Save Load Example Collaborate Sign in Have any feedback?

Schema SQL

```
1 CREATE TABLE Supplier (
2   supplier_id INT,
3   company_name VARCHAR(50),
4   country VARCHAR(30),
5   sales_contact_name VARCHAR(60),
6   email VARCHAR(50) NOT NULL,
7   PRIMARY KEY (supplier_id)
8 );
9
10
11 CREATE TABLE Coffee_Shop
12 (
13   shop_id INT,
14   shop_name VARCHAR(50),
15   city VARCHAR(50),
16   state CHAR(2),
17   PRIMARY KEY (shop_id)
18 );
19
20 CREATE TABLE Coffee
21 (
22   coffee_id INT,
23   shop_id INT,
24   supplier_id INT,
25   coffee_name VARCHAR(30),
26   price_per_pound NUMERIC(5,2),
27   PRIMARY KEY (coffee_id),
28   FOREIGN KEY (shop_id) REFERENCES Coffee_Shop(shop_id),
29   FOREIGN KEY (supplier_id) REFERENCES Supplier(supplier_id)
30 );
```

Query successfully executed in 6ms ×

Supplier Database

CREATE TABLE Supplier

```
(
    supplier_id          INT,
    company_name          VARCHAR(50),
    country              VARCHAR(30),
    sales_contact_name    VARCHAR(60),
    email                VARCHAR(50) NOT NULL,
    PRIMARY KEY (supplier_id)
);
```

Database: MySQL v5.7 Run Save Load Example Collaborate Sign in Have any feedback?

Fiddle Title

50 characters remaining.

Fiddle Description

300 characters remaining.

Schema SQL

```
1 CREATE TABLE Supplier (
2   supplier_id INT,
3   company_name VARCHAR(50),
4   country VARCHAR(30),
5   sales_contact_name VARCHAR(60),
6   email VARCHAR(50) NOT NULL,
7   PRIMARY KEY (supplier_id)
8 );
9
```

Query SQL

```
1
```

Query successfully executed in 12ms ×

B2a-b.

Supplier Database

```
INSERT INTO Supplier
VALUES (123, "Coffee Supplies", "USA", "Penny", "penny@coffeesupplies.com");
```

```
INSERT INTO Supplier
VALUES (124, "Coffee Cups and More", "USA", "Dan", "dan@ccandmore.com");
```

```
INSERT INTO Supplier
VALUES (125, "Hot Coffee Supplies", "USA", "George", "george@hcs.com");
```

Query SQL ●

```
1 INSERT INTO Supplier
2 VALUES (123, "Coffee Supplies", "USA", "Penny", "penny@coffeesupplies.com");
3
4 INSERT INTO Supplier
5 VALUES (124, "Coffee Cups and More", "USA", "Dan", "dan@ccandmore.com");
6
7 INSERT INTO Supplier
8 VALUES (125, "Hot Coffee Supplies", "USA", "George", "george@hcs.com");
9
```

Query #16 Execution time: 0ms

supplier_id	company_name	country	sales_contact_name	email
123	Coffee Supplies	USA	Penny	penny@coffeesupplies.com
124	Coffee Cups and More	USA	Dan	dan@ccandmore.com
125	Hot Coffee Supplies	USA	George	george@hcs.com

Coffee Shop Database

```
INSERT INTO Coffee_Shop
VALUES (10, "Coffee Me", "Chicago", "IL");
```

```
INSERT INTO Coffee_Shop
VALUES (11, "Starbucks", "Oklahoma City", "OK");
```

```
INSERT INTO Coffee_Shop
VALUES (12, "I Don't Drink Coffee Energy Co.", "Choctaw", "OK");
```

```
9
10 INSERT INTO Coffee_Shop
11 VALUES (10, "Coffee Me", "Chicago", "IL");
12
13 INSERT INTO Coffee_Shop
14 VALUES (11, "Starbucks", "Oklahoma City", "OK");
15
16 INSERT INTO Coffee_Shop
17 VALUES (12, "I Don't Drink Coffee Energy Co.", "Choctaw", "OK");
18
```

Query #13 Execution time: 1ms

shop_id	shop_name	city	state
10	Coffee Me	Chicago	IL
11	Starbucks	Oklahoma City	OK
12	I Don't Drink Coffee Energy Co.	Choctaw	OK

Coffee Database

INSERT INTO Coffee

VALUES (963, 10, 123, "Dark Roast", 9.65);

INSERT INTO Coffee

VALUES (969, 11, 124, "Light Roast", 4.52);

INSERT INTO Coffee

VALUES (999, 12, 125, "Hot Mama Roast", 19.65);

```
19 INSERT INTO Coffee
20 VALUES (963, 10, 123, "Dark Roast", 9.65);
21
22 INSERT INTO Coffee
23 VALUES (969, 11, 124, "Light Roast", 4.52);
24
25 INSERT INTO Coffee
26 VALUES (999, 12, 125, "Hot Mama Roast", 19.65);
--
```

Query #15 Execution time: 0ms

coffee_id	shop_id	supplier_id	coffee_name	price_per_pound
963	10	123	Dark Roast	9.65
969	11	124	Light Roast	4.52
999	12	125	Hot Mama Roast	19.65

Employee Database

INSERT INTO Employee

VALUES (1113, "Harry", "Knuckles", "1985-06-26", "Manager", 12);

INSERT INTO Employee

VALUES (1123, "Betty", "White", "2002-07-14", "Manager", 11);

INSERT INTO Employee

VALUES (1103, "John", "Doe", "2022-04-05", "Manager", 10);

```
27
28 INSERT INTO Employee
29 VALUES (1113, "Harry", "Knuckles", "1985-06-26", "Manager", 12);
30
31 INSERT INTO Employee
32 VALUES (1123, "Betty", "White", "2002-07-14", "Manager", 11);
33
34 INSERT INTO Employee
35 VALUES (1103, "John", "Doe", "2022-04-05", "Manager", 10);
36
```

Query #14 Execution time: 0ms

employee_id	first_name	last_name	hire_date	job_title	shop_id
1103	John	Doe	2022-04-05	Manager	10
1113	Harry	Knuckles	1985-06-26	Manager	12
1123	Betty	White	2002-07-14	Manager	11

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B3a.

CREATE VIEW EmployeeView AS

SELECT employee_id, CONCAT(first_name, ' ', last_name) AS employee_full_name, hire_date, job_title, shop_id
FROM Employee;

B3b.

Database: MySQL v5.7

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Schema SQL

```
6 email VARCHAR(50) NOT NULL,
7 PRIMARY KEY (supplier_id)
8 );
9
10 CREATE TABLE Coffee_Shop
11 (
12 shop_id INT,
13 shop_name VARCHAR(50),
14 city VARCHAR(50),
15 state CHAR(2),
16 PRIMARY KEY(shop_id)
17 );
18
19 CREATE TABLE Coffee(
20 coffee_id INT,
```

Text to DDL

Query SQL

```
40 SELECT *
41 FROM Employee;
42
43 SELECT *
44 FROM Coffee;
45
46 SELECT *
47 FROM Supplier;
48
49 CREATE VIEW EmployeeView AS
50 SELECT employee_id, CONCAT(first_name, ' ', last_name) AS employee_full_name, hire_date,
51 job_title, shop_id
52 FROM Employee;
53
54 SELECT *
55 FROM EmployeeView;
```

Results

There are no results to be displayed.

Copy as Markdown

Query #18 Execution time: 13ms

employee_id	employee_full_name	hire_date	job_title	shop_id
1103	John Doe	2022-04-05	Manager	10
1113	Harry Knuckles	1985-06-26	Manager	12
1123	Betty White	2002-07-14	Manager	11

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B4a.

CREATE INDEX Coffee_Index

ON Coffee(coffee_name);

B4b.

Database: MySQL v5.7

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Query SQL

```
13 INSERT INTO Coffee_Shop
14 VALUES (11, "Starbucks", "Oklahoma City", "OK");
15
16 INSERT INTO Coffee_Shop
17 VALUES (12, "I Don't Drink Coffee Energy Co.", "Choctaw", "OK");
18
19 INSERT INTO Coffee
20 VALUES (963, 10, 123, "Dark Roast", 9.65);
21
22 INSERT INTO Coffee
23 VALUES (969, 11, 124, "Light Roast", 4.52);
24
25 INSERT INTO Coffee
26 VALUES (999, 12, 125, "Hot Mama Roast", 19.65);
27
28 INSERT INTO Employee
29 VALUES (1113, "Harry", "Knuckles", "1985-06-26", "Manager", 12);
30
31 INSERT INTO Employee
32 VALUES (1123, "Betty", "White", "2002-07-14", "Manager", 11);
33
34 INSERT INTO Employee
35 VALUES (1103, "John", "Doe", "2022-04-05", "Manager", 10);
36
37 SELECT *
38 FROM Coffee_Shop;
39
40 SELECT *
41 FROM Employee;
42
43 SELECT *
44 FROM Coffee;
45
46 SELECT *
47 FROM Supplier;
48
49 CREATE INDEX Coffee_Index
50 ON Coffee(coffee_name);
```

Query successfully executed in 66ms

B5a.

SELECT *
FROM Coffee_Shop
WHERE state = "OK";

B5b.

Database: MySQL v5.7


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Query SQL

```
17 VALUES (12, "I Don't Drink Coffee Ennergy Co.", "Choctaw", "OK");
18
19 INSERT INTO Coffee
20 VALUES (963, 10, 123, "Dark Roast", 9.65);
21
22 INSERT INTO Coffee
23 VALUES (969, 11, 124, "Light Roast", 4.52);
24
25 INSERT INTO Coffee
26 VALUES (999, 12, 125, "Hot Mama Roast", 19.65);
27
28 INSERT INTO Employee
29 VALUES (1113, "Harry", "KnuckLes", "1985-06-26", "Manager", 12);
30
31 INSERT INTO Employee
32 VALUES (1123, "Betty", "White", "2002-07-14", "Manager", 11);
33
34 INSERT INTO Employee
35 VALUES (1103, "John", "Doe", "2022-04-05", "Manager", 10);
36
37 SELECT *
38 FROM Coffee_Shop;
39
40 SELECT *
41 FROM Employee;
42
43 SELECT *
44 FROM Coffee;
45
46 SELECT *
47 FROM Supplier;
48
49 CREATE INDEX Coffee_Index
50 ON Coffee(coffee_name);
51
52 SELECT *
53 FROM Coffee_Shop
54 WHERE state = "OK";
```

Query successfully executed in 71ms



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Query #18 Execution time: 1ms

shop_id	shop_name	city	state
11	Starbucks	Oklahoma City	OK
12	I Don't Drink Coffee Ennergy Co.	Choctaw	OK

B6a.

```
SELECT Coffee.coffee_name, Coffee_Shop.shop_name, Supplier.company_name
FROM Coffee
JOIN Coffee_Shop
ON Coffee.shop_id = Coffee_Shop.shop_id
JOIN Supplier
ON Coffee.supplier_id = Supplier.supplier_id;
```

B6b.

Query SQL

```
7 INSERT INTO Supplier
8 VALUES (125, "Hot Coffee Supplies", "USA", "George", "george@hcs.com");
9
10 INSERT INTO Coffee_Shop
11 VALUES (10, "Coffee Me", "Chicago", "IL");
12
13 INSERT INTO Coffee_Shop
14 VALUES (11, "Starbucks", "Oklahoma City", "OK");
15
16 INSERT INTO Coffee_Shop
17 VALUES (12, "I Don't Drink Coffee Energy Co.", "Choctaw", "OK");
18
19 INSERT INTO Coffee
20 VALUES (963, 10, 123, "Dark Roast", 9.65);
21
22 INSERT INTO Coffee
23 VALUES (969, 11, 124, "Light Roast", 4.52);
24
25 INSERT INTO Coffee
26 VALUES (999, 12, 125, "Hot Mama Roast", 19.65);
27
28 INSERT INTO Employee
29 VALUES (1113, "Harry", "Knuckles", "1985-06-26", "Manager", 12);
30
31 INSERT INTO Employee
32 VALUES (1123, "Betty", "White", "2002-07-14", "Manager", 11);
33
34 INSERT INTO Employee
35 VALUES (1103, "John", "Doe", "2022-04-05", "Manager", 10);
36
37
38 SELECT
39     Coffee.coffee_name, Coffee_Shop.shop_name, Supplier.company_name
40 FROM Coffee
41 JOIN Coffee_Shop
42 ON Coffee.shop_id = Coffee_Shop.shop_id
43 JOIN Supplier
44 ON Coffee.supplier_id = Supplier.supplier_id;
```

Query successfully executed in 29ms

coffee_name	shop_name	company_name
Dark Roast	Coffee Me	Coffee Supplies
Light Roast	Starbucks	Coffee Cups and More
Hot Mama Roast	I Don't Drink Coffee Energy Co.	Hot Coffee Supplies