

PART A: Nora's Bagel Bin Database Blueprints

Western Governors University – C170

Coots, Anthony

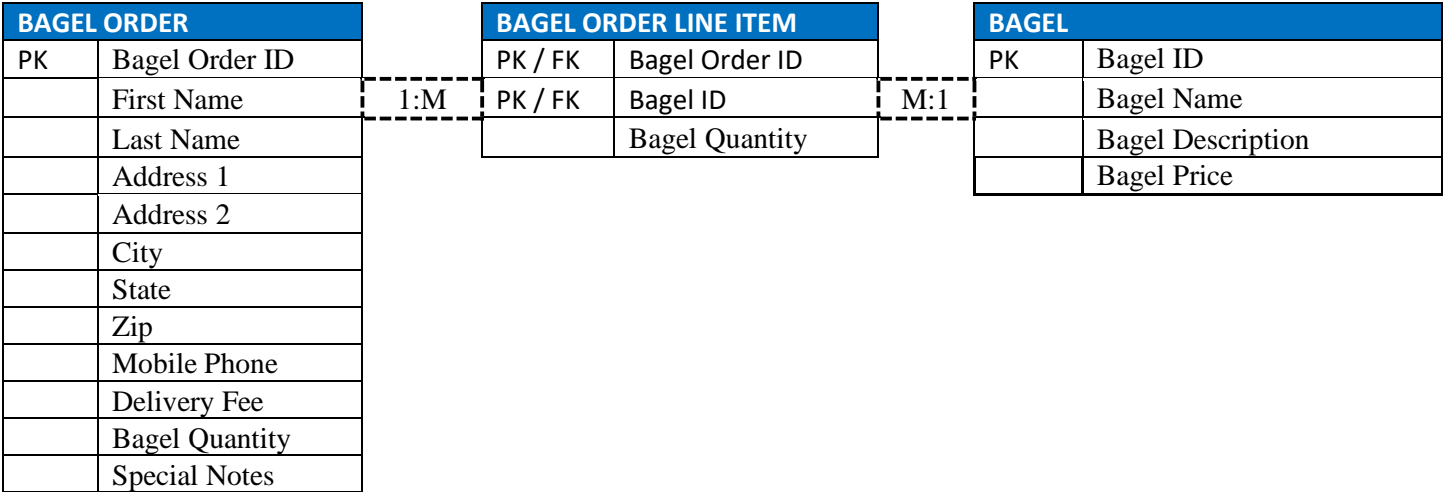
# Nora’s Bagel Bin Database Blueprints

## 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

# Nora’s Bagel Bin Database Blueprints

(2NF) Second Normal Form



## (2NF) Second Normal Form

- 1b.** For each one bagel order, assigned an ID for the one order, there may or may not be many bagels assigned with unique bagel IDs. Hence, the one-to-many (1:M) relationship.

For the potential many bagels, given each a unique bagel ID, there should only be one bagel for each many bagel IDs. Hence, the many-to-one (M:1) relationship.

- 1c.** Reading from left most table to right most table; The 'Bagel Order' table is assigned information related to the consumer along with the assigned bagel order ID. Each bagel order will generate its own new bagel order ID with input consumer information. As the one order ID is made, the order may consist of multiple (more than one) different bagels. Therefore, each bagel within the bagel order shall be separated to associated order ID, the unique ID of the bagel itself, and the quantity of such bagel within the order. Following the unique bagel ID is the information for each bagel, that being its matching bagel ID, name, description and price.

# Nora’s Bagel Bin Database Blueprints

(3NF) Third Normal Form

ORDER INFO	
PK	Bagel Order ID
FK	Consumer ID
	Special Notes
	Delivery Fee
	Order Date
	M:1

CONSUMER INFO	
PK	Consumer ID
	First Name
	Last Name
	Address 1
	Address 2
	City
	State
	Zip
	Mobile Phone

BAGEL ORDER LINE ITEM	
PK / FK	Bagel Order ID
PK / FK	Bagel ID
	Bagel Quantity

BAGEL	
PK	Bagel ID
	Bagel Name
	Bagel Description
	Bagel Price

### **(3NF) Third Normal Form**

**2d.** Describing the relationship from top to bottom; For the potential many orders a customer may have, there should only exist one record for each consumer ID, regardless of the number of order IDs that consumer ID may appear in. Hence the many-to-one (M:1) relationship.

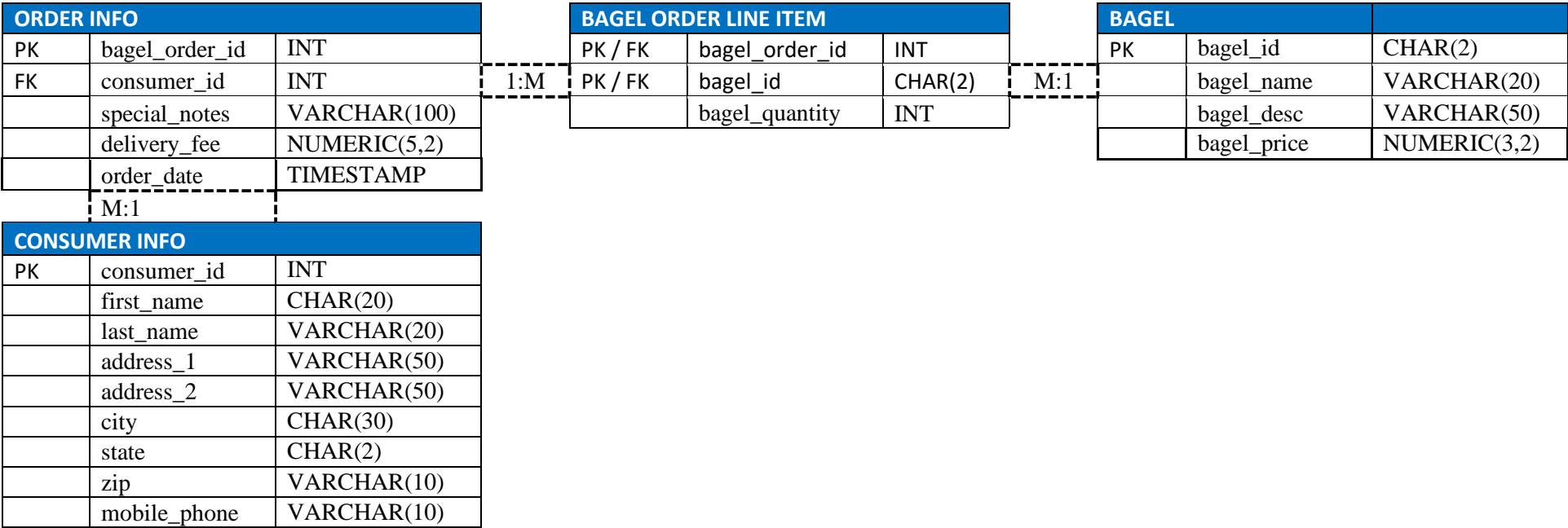
Now following the left most table to right most table; each order will contain a one unique bagel order ID, the bagel order ID may or may not return many bagel IDs as each order can consist of one or more (many) bagels. Hence the one-to-many (1:M) relationship.

For the potential many bagels, given each a unique bagel ID, there should only be one bagel for each many bagel IDs. Hence, the many-to-one (M:1) relationship. Note: There is no change from the 2NF and 3NF here.

**2e.** The changes from 2NF to 3NF only consist of one notable adjustment. Referencing (**1c.**), what was previously 'Bagel Order Info' table now splits to parent table 'Order Info' to child table 'Consumer Info'. Along with what already exists among section **1c's** information, now, the consumer info deviates into its own table consisting of first name, last name, addresses one and two, city, state, zip, and mobile phone now represented by its own 'Consumer ID' primary key, which is referenced by the foreign key in the now 'Order Info' parent table.

# Nora’s Bagel Bin Database Blueprints

## Final Physical Database Model



PART B: Jaunty Coffee Co. ERD

Western Governors University – C170

Coots, Anthony



B1.

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

```
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)  
);
```

```
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)  
);
```

```
CREATE TABLE COFFEE( -- created by acoots5@wgu.edu
  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 EMPLOYEE(shop_id),
  FOREIGN KEY (supplier_id) REFERENCES SUPPLIER(supplier_id)
);
```

B2.

INSERT INTO COFFEE\_SHOP VALUES

(100, 'Barstucks', 'Los Angeles', 'CA'),  
(101, 'Smooth Brew', 'New York City', 'NY'),  
(102, 'Top Pot', 'Arlington', 'TX');

INSERT INTO EMPLOYEE VALUES

(10201, 'Michael', 'Jordan', '1984-10-26', 'Manager', 102),  
(10101, 'Mikal', 'Bridges', '2018-10-17', 'Shift Lead', 101),  
(10001, 'LeBron', 'James', '2003-10-29', 'Owner', 100);

INSERT INTO SUPPLIER VALUES

(1, 'Big Face Brand', 'United States of America', 'Jimmy Butler', 'jimmygbuckets@bigfacecomp.net'),  
(2, 'Beans n\' Stuff', 'United States of America', 'Adam Silver', 'Adam\_Silver@real\_domain.net'),  
(3, 'Java James Naismith', 'Canada', 'Dr. James Naismith', 'PeachBasketAthletics@JJCo.com');

INSERT INTO COFFEE VALUES

(1, 100, 3, 'G.O.A.T Fuel', 6.23),  
(2, 102, 2, 'Six A.M. Energy', 4.50),  
(3, 101, 1, 'DOUBLESTAR', 5.22);

B3.

CREATE VIEW full\_name AS

SELECT employee\_id,

CONCAT(first\_name, ' ', last\_name) AS employee\_full\_name,

first\_name,

last\_name,

hire\_date,

job\_title,

shop\_id

FROM EMPLOYEE;

B4.

```
CREATE INDEX coffee_name_index  
ON COFFEE(coffee_name);
```

B5.

```
SELECT city  
FROM COFFEE_SHOP  
WHERE shop_id = 100;
```

```
SELECT email  
FROM SUPPLIER  
WHERE email LIKE '%.net';
```

B6.

```
SELECT cs.shop_name
```

```
    ,cs.city
```

```
    ,cs.state
```

```
    ,emp.first_name
```

```
    ,emp.last_name
```

```
    ,emp.job_title
```

```
    ,cfe.coffee_name
```

```
FROM COFFEE_SHOP cs INNER JOIN EMPLOYEE emp
```

```
    ON cs.shop_id = emp.shop_id INNER JOIN COFFEE cfe
```

```
        ON cs.shop_id = cfe.shop_id AND emp.employee_id = 10001;
```

B1.

SQL Fiddle MySQL 5.6

```
2 shop_id INT,
3 shop_name VARCHAR(50),
4 city VARCHAR(50),
5 state CHAR(2),
6 PRIMARY KEY (shop_id)
7 );
8
9 CREATE TABLE EMPLOYEE(
10 employee_id INT,
11 first_name VARCHAR(30),
12 last_name VARCHAR(30),
13 hire_date DATE,
14 job_title VARCHAR(30),
15 shop_id INT,
16 PRIMARY KEY (employee_id),
17 FOREIGN KEY (shop_id) REFERENCES COFFEE_SHOP(shop_id)
18 );
19
20 CREATE TABLE SUPPLIER(
21 supplier_id INT,
22 company_name VARCHAR(50),
23 country VARCHAR(30),
24 sales_contact_name VARCHAR(60),
25 email VARCHAR(50) NOT NULL,
26 PRIMARY KEY (supplier_id)
27 );
28
29 CREATE TABLE COFFEE( -- created by acoots@gu.edu
30 coffee_id INT,
31 shop_id INT,
32 supplier_id INT,
33 coffee_name VARCHAR(30),
34 price_per_pound NUMERIC(5,2),
35 PRIMARY KEY (coffee_id),
36 FOREIGN KEY (shop_id) REFERENCES EMPLOYEE(shop_id),
37 FOREIGN KEY (supplier_id) REFERENCES SUPPLIER(supplier_id)
38 );
```

Build Schema Edit Fullscreen Browser Run SQL Edit Fullscreen

Schema Ready

Improve Entity Framework Performance

 Bulk Insert  Bulk Delete

 Bulk Update  Bulk Merge

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SQL Fiddle MySQL 5.6

```
14 job_title VARCHAR(30),
15 shop_id INT,
16 PRIMARY KEY (employee_id),
17 FOREIGN KEY (shop_id) REFERENCES COFFEE_SHOP(shop_id)
18 );
19
20 CREATE TABLE SUPPLIER(
21 supplier_id INT,
22 company_name VARCHAR(50),
23 country VARCHAR(30),
24 sales_contact_name VARCHAR(60),
25 email VARCHAR(50) NOT NULL,
26 PRIMARY KEY (supplier_id)
27 );
28
29 CREATE TABLE COFFEE( -- created by acoots@gu.edu
30 coffee_id INT,
31 shop_id INT,
32 supplier_id INT,
33 coffee_name VARCHAR(30),
34 price_per_pound NUMERIC(5,2),
35 PRIMARY KEY (coffee_id),
36 FOREIGN KEY (shop_id) REFERENCES EMPLOYEE(shop_id),
37 FOREIGN KEY (supplier_id) REFERENCES SUPPLIER(supplier_id)
38 );
```

Build Schema Edit Fullscreen Browser Run SQL Edit Fullscreen

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
coffee_shop	0	PRIMARY	1	shop_id	A	0	(null)	(null)		BTREE		

Record Count: 1, Execution Time: 15ms [link](#)

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
employee	0	PRIMARY	1	employee_id	A	0	(null)	(null)		BTREE		
employee	1	shop_id	1	shop_id	A	0	(null)	(null)	YES	BTREE		

Record Count: 2, Execution Time: 2ms [link](#)

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
supplier	0	PRIMARY	1	supplier_id	A	0	(null)	(null)		BTREE		

Record Count: 1, Execution Time: 2ms [link](#)

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
coffee	0	PRIMARY	1	coffee_id	A	0	(null)	(null)		BTREE		
coffee	1	shop_id	1	shop_id	A	0	(null)	(null)	YES	BTREE		
coffee	1	supplier_id	1	supplier_id	A	0	(null)	(null)	YES	BTREE		

Record Count: 3, Execution Time: 2ms [link](#)



B2.

WGU Performance Assessment x SQL Fiddle x +

Not secure sqfiddle.com/#9/e0a6e9/1

SQL Fiddle MySQL 5.6 View Sample Fiddle Clear Text to DDL Donate About

```
39
40 INSERT INTO COFFEE_SHOP VALUES
41 (100, 'Barstucks', 'Los Angeles', 'CA'),
42 (101, 'Smooth Brew', 'New York City', 'NY'),
43 (102, 'Top Pot', 'Arlington', 'TX');
44
45 INSERT INTO EMPLOYEE VALUES
46 (10201, 'Michael', 'Jordan', '1984-10-26', 'Manager', 102),
47 (10101, 'Mikal', 'Bridges', '2018-10-17', 'Shift Lead', 101),
48 (10001, 'LeBron', 'James', '2003-10-29', 'Owner', 100);
49
50 INSERT INTO SUPPLIER VALUES
51 (1, 'Big Face Brand', 'United States of America', 'Jimmy Butler', 'jimmybuckets@bigfacecomp.net'),
52 (2, 'Beans n\' Stuff', 'United States of America', 'Adam Silver', 'Adam_Silver@real_domain.net'),
53 (3, 'Java James Naismith', 'Canada', 'Dr. James Naismith', 'PeachBasketAthletics@JCo.com');
54
55 INSERT INTO COFFEE VALUES
56 (1, 100, 3, 'G.O.A.T Fuel', 6.23),
57 (2, 102, 2, 'Six A.M. Energy', 4.50),
58 (3, 101, 1, 'DOUBLESTAR', 5.22);
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
```

```
1 SELECT *
2 FROM COFFEE_SHOP;
3
4 SELECT *
5 FROM EMPLOYEE;
6
7 SELECT *
8 FROM SUPPLIER;
9
10 SELECT *
11 FROM COFFEE;
```

Build Schema Edit Fullscreen Browser [.]

shop_id	shop_name	city	state
100	Barstucks	Los Angeles	CA
101	Smooth Brew	New York City	NY
102	Top Pot	Arlington	TX

Record Count: 3; Execution Time: 7ms View Execution Plan link

employee_id	first_name	last_name	hire_date	job_title	shop_id
10001	LeBron	James	2003-10-29	Owner	100
10101	Mikal	Bridges	2018-10-17	Shift Lead	101
10201	Michael	Jordan	1984-10-26	Manager	102

Record Count: 3; Execution Time: 6ms View Execution Plan link

supplier_id	company_name	country	sales_contact_name	email
-------------	--------------	---------	--------------------	-------

B3.

WGU Student Portal x WGU Performance Assessment x SQL Fiddle x +

Not secure | sqlfiddle.com/#19/4d2666/1

SQL Fiddle MySQL 5.6 View Sample Fiddle Clear Text to DDL Donate About

```
70
71 CREATE VIEW full_name AS
72 SELECT employee_id,
73        CONCAT(first_name, ' ', last_name) AS employee_full_name,
74        first_name,
75        last_name,
76        hire_date,
77        job_title,
78        shop_id
79 FROM EMPLOYEE;
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
```

```
1 SELECT *
2 FROM full_name;
```

Build Schema Edit Fullscreen Browser [.]

employee_id	employee_full_name	first_name	last_name	hire_date	job_title	shop_id
10001	LeBron James	LeBron	James	2003-10-29	Owner	100
10101	Mikal Bridges	Mikal	Bridges	2018-10-17	Shift Lead	101
10201	Michael Jordan	Michael	Jordan	1984-10-26	Manager	102

Run SQL Edit Fullscreen [.]

Record Count: 3; Execution Time: 5ms View Execution Plan link

Did this query solve the problem? If so, consider donating \$5 to help make sure SQL Fiddle will be here next time you need help with a database problem. Thanks!

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Bulk Insert Bulk Delete Bulk Update Bulk Merge

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B4.

WGU Performance Assessment

SQL Fiddle

Not secure

sqlfiddle.com/9/9/52b4b0/2

Update

SQL FiddleMySQL 5.6View Sample FiddleClearText to DDLDonateAbout

```
31 shop_id INT,
32 supplier_id INT,
33 coffee_name VARCHAR(30),
34 price_per_pound NUMERIC(5,2),
35 PRIMARY KEY (coffee_id),
36 FOREIGN KEY (shop_id) REFERENCES EMPLOYEE(shop_id),
37 FOREIGN KEY (supplier_id) REFERENCES SUPPLIER(supplier_id)
38 );
39
40 INSERT INTO COFFEE_SHOP VALUES
41 (100, 'Barnstucks', 'Los Angeles', 'Ca'),
42 (101, 'Smooth Brew', 'New York City', 'NY'),
43 (102, 'Top Pot', 'Arlington', 'TX');
44
45 INSERT INTO EMPLOYEE VALUES
46 (10201, 'Michael', 'Jordan', '1984-10-26', 'Manager', 102),
47 (10101, 'Mikal', 'Bridges', '2018-10-17', 'Shift Lead', 101),
48 (10001, 'LeBron', 'James', '2003-10-29', 'Owner', 100);
49
50 INSERT INTO SUPPLIER VALUES
51 (1, 'Big Face Brand', 'United States of America', 'Jimmy Butler', 'jimmybuckets@bigfacecomp.net'),
52 (2, 'Beans n\' Stuff', 'United States of America', 'Adam Silver', 'Adam_Silver@real_domain.net'),
53 (3, 'Java James Hainsmith', 'Canada', 'Dr. James Hainsmith', 'PeachBasketAthletics@JCo.com');
54
55 INSERT INTO COFFEE VALUES
56 (1, 100, 3, 'G.O.A.T Fuel', 6.23),
57 (2, 102, 2, 'Six A.M. Energy', 4.50),
58 (3, 101, 1, 'DOUBLESTAR', 5.22);
59
60 CREATE VIEW full_name AS
61 SELECT CONCAT(first_name, ' ', last_name) AS employee_full_name
62 FROM EMPLOYEE;
63
64 CREATE INDEX coffee_name_index
65 ON COFFEE(coffee_name);
66
67
```

```
1 SHOW INDEX FROM COFFEE
2 WHERE Key_name = 'coffee_name_index';
```

Build Schema Edit Fullscreen Browser [.] Run SQL Edit Fullscreen [.]

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment	Index_comment
coffee	1	coffee_name_index	1	coffee_name	A	3	(null)	(null)	YES	BTREE		

Record Count: 1, Execution Time: 11ms link

Did this query solve the problem? If so, consider donating \$5 to help make sure SQL Fiddle will be here next time you need help with a database problem. Thanks!

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Bulk Insert

Bulk Delete

Bulk Update

Bulk Merge

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B5.

WGU Performance Assessment

SQL Fiddle

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SQL Fiddle MySQL 5.6 View Sample Fiddle Clear Text to DDL

Update Donate About

```
30 corree_id INT,
31 shop_id INT,
32 supplier_id INT,
33 coffee_name VARCHAR(30),
34 price_per_pound NUMERIC(5,2),
35 PRIMARY KEY (coffee_id),
36 FOREIGN KEY (shop_id) REFERENCES EMPLOYEE(shop_id),
37 FOREIGN KEY (supplier_id) REFERENCES SUPPLIER(supplier_id)
38 );
39
40 INSERT INTO COFFEE_SHOP VALUES
41 (100, 'Barnstucks', 'Los Angeles', 'CA'),
42 (101, 'Smooth Brew', 'New York City', 'NY'),
43 (102, 'Top Pot', 'Arlington', 'TX');
44
45 INSERT INTO EMPLOYEE VALUES
46 (10201, 'Michael', 'Jordan', '1984-10-26', 'Manager', 102),
47 (10101, 'Mikal', 'Bridges', '2019-10-17', 'Shift Lead', 101),
48 (10001, 'LeBron', 'James', '2003-10-29', 'Owner', 100);
49
50 INSERT INTO SUPPLIER VALUES
51 (1, 'Big Face Brand', 'United States of America', 'Jimmy Butler', 'jimmybuckets@bigfacecomp.net'),
52 (2, 'Beans n\' Stuff', 'United States of America', 'Adam Silver', 'Adam_Silver@real_domain.net'),
53 (3, 'Java James Naismith', 'Canada', 'Dr. James Naismith', 'PeachBasketAthletics@JCo.com');
54
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56 (1, 100, 3, 'G.O.A.T Fuel', 6.23),
57 (2, 102, 2, 'Six A.M. Energy', 4.50),
58 (3, 101, 1, 'DOUBLESTAR', 5.22);
59
60 CREATE VIEW full_name AS
61 SELECT CONCAT(first_name, ' ', last_name) AS employee_full_name
62 FROM EMPLOYEE;
63
64 CREATE INDEX coffee_name_index
65 ON COFFEE(coffee_name);
66
```

Build Schema Edit Fullscreen Browser

```
1 SELECT city
2 FROM COFFEE_SHOP
3 WHERE shop_id = 100;
4
5 SELECT email
6 FROM SUPPLIER
7 WHERE email LIKE '%.net'
```

Run SQL Edit Fullscreen

city

Los Angeles

Record Count: 1; Execution Time: 25ms View Execution Plan link

email

jimmybuckets@bigfacecomp.net

Adam\_Silver@real\_domain.net

Record Count: 2; Execution Time: 1ms View Execution Plan link

Did this query solve the problem? If so, consider donating \$5 to help make sure SQL Fiddle will be here next time you need help with a database problem. Thanks!

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Bulk Insert

Bulk Delete

Bulk Update

Bulk Merge

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B6.

WGU Performance Assessment

SQL Fiddle

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Update

SQL FiddleMySQL 5.6View Sample FiddleClearText to DDLDonateAbout

```
5 state CHAR(2),
6 PRIMARY KEY (shop_id)
7 );
8
9 CREATE TABLE EMPLOYEE(
10 employee_id INT,
11 first_name VARCHAR(30),
12 last_name VARCHAR(30),
13 hire_date DATE,
14 job_title VARCHAR(30),
15 shop_id INT,
16 PRIMARY KEY (employee_id),
17 FOREIGN KEY (shop_id) REFERENCES COFFEE_SHOP(shop_id)
18 );
19
20 CREATE TABLE SUPPLIER(
21 supplier_id INT,
22 company_name VARCHAR(50),
23 country VARCHAR(30),
24 sales_contact_name VARCHAR(60),
25 email VARCHAR(50) NOT NULL,
26 PRIMARY KEY (supplier_id)
27 );
28
29 CREATE TABLE COFFEE( -- created by acoots@wgu.edu
30 coffee_id INT,
31 shop_id INT,
32 supplier_id INT,
33 coffee_name VARCHAR(30),
34 price_per_pound NUMERIC(5,2),
35 PRIMARY KEY (coffee_id),
36 FOREIGN KEY (shop_id) REFERENCES EMPLOYEE(shop_id),
37 FOREIGN KEY (supplier_id) REFERENCES SUPPLIER(supplier_id)
38 );
39
40 INSERT INTO COFFEE_SHOP VALUES
41 (100, 'Barstucks', 'Los Angeles', 'CA');
```

```
1 SELECT cs.shop_name
2 ,cs.city
3 ,cs.state
4 ,emp.first_name
5 ,emp.last_name
6 ,emp.job_title
7 ,cfe.coffee_name
8 FROM COFFEE_SHOP cs INNER JOIN EMPLOYEE emp
9 ON cs.shop_id = emp.shop_id INNER JOIN COFFEE cfe
10 ON cs.shop_id = cfe.shop_id AND emp.employee_id = 10001;
```

Build SchemaEdit FullscreenBrowser[...]

Run SQLEdit Fullscreen[...]

shop_name	city	state	first_name	last_name	job_title	coffee_name
Barstucks	Los Angeles	CA	LeBron	James	Owner	G.O.A.T Fuel

Record Count: 1; Execution Time: 10msView Execution Planlink

Did this query solve the problem? If so, consider donating \$5 to help make sure SQL Fiddle will be here next time you need help with a database problem. Thank!

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Bulk Insert

Bulk Delete

Bulk Update

Bulk Merge

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