Group 3 Submission Document

GitHub repo we used

Deliverable 1

Place all your your group members names and email contacts in your assignment.

• Michael Stacy: jmst231@uky.edu

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• Tag Howard: <u>tag@jthoward.dev</u>

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Note in your submission if you did this Deliverable by Deliverable or read the complete assignment prior to starting.

We read the entire assignment prior to starting

Deliverable 2

Show the commands you used to build your table(s).

```
CREATE TABLE Entity_Table (
  Entity ID INT NOT NULL AUTO INCREMENT,
  Street Name VARCHAR (50) NOT NULL,
 Zip varchar(5) NOT NULL,
 City varchar(128) NOT NULL,
  StateName char(2) NOT NULL,
 EntityName varchar(128) NOT NULL,
 PRIMARY KEY (Entity ID)
CREATE TABLE Receipt Table (
 Transaction Number INT NOT NULL AUTO INCREMENT,
  Seller Key INT NOT NULL,
 Buyer Key INT NOT NULL,
 Picture BLOB,
 Zip varchar(5) NOT NULL,
 StateName char(2) NOT NULL,
 Number Of Items INT NOT NULL,
 Total_Sales decimal(15, 2) NOT NULL,
 Highest_Price decimal(15, 2) NOT NULL,
 Lowest Price decimal(15, 2) NOT NULL,
 PRIMARY KEY (Transaction_Number),
 FOREIGN KEY (Seller_Key) REFERENCES Entity_Table(Entity_ID),
 FOREIGN KEY (Buyer_Key) REFERENCES Entity_Table(Entity_ID)
CREATE TABLE Telephone_Numbers (
 Telephone Number varchar (32) NOT NULL,
 Entity ID INT NOT NULL,
 PRIMARY KEY (Telephone_Number),
 FOREIGN KEY (Entity_ID) REFERENCES Entity_Table(Entity_ID)
```

Deliverable 3

Show the commands you used to load your table(s).

```
INSERT INTO Entity_Table(Entity_ID, Street_Name, Zip, City, StateName, EntityName)
VALUES
(3, '82 Beaver St Room 1301', '10005', 'New York', 'NY', 'John Wick');
INSERT INTO Entity_Table(Entity_ID, Street_Name, Zip, City, StateName, EntityName)
```

```
VALUES
(40, '4081 Finn Way', '40503', 'Lexington', 'KY', 'J. Alexander''s Restaurant');
```

Show two of the commands you used to load a receipt entity data into your table(s).

```
INSERT INTO Receipt_Table(Transaction_Number, Seller_Key, Buyer_Key, Picture, Zip, StateName, Total_Sales, Number_Of_Items, Highest_Price, Lowest_Price)
VALUES
(1, 13, 1, NULL, '40503', 'KY', 25, 5, 5);

INSERT INTO Receipt_Table(Transaction_Number, Seller_Key, Buyer_Key, Picture, Zip, StateName, Total_Sales, Number_Of_Items, Highest_Price, Lowest_Price)
VALUES
(2, 33, 31, NULL, '40504', 'KY', 30, 5, 6.99, 3.49),
```

Deliverable 4

run show tables; from your database prompt after connecting to your database.

```
| Tables_in_jtho264 |
+-----+
| Entity_Table |
| Receipt_Table |
| Telephone_Numbers |
```

Deliverable 5

run select * from ; where is the name of the table(s) you created in your database.

SELECT * from Entity_Table;				
Entity_ID Street_Name	-+ Zip	City	StateName	EntityName

Bucrea Tro	Street_Name 			L	Entityname
1	300 Rose Street Room 102 Hardymon Building	40506	Lexington	KY	Mr. Ray L. Hyatt Jr.
2	301 Hilltop Avenue, Room 102	40506	Lexington	KY	Mr. Ray L. Hyatt Jr.
3	82 Beaver St Room 1301	10005	New York	NY	John Wick
4	200 Park Avenue Penthouse	10001	New York	NY	Tony Stark
5	117A Bleecker Street	10001	New York	NY	Dr. Stephen Strange
6	200 Park Avenue Apartment 221	10001	New York	NY	Bob C. Smith
7	#1 Avenue of Champions	40506	Lexington	KY	Bowman F. Wildcat
8			_	KY	Bob C. Smith
9	1 Dead End Row Room 200	12347	Dallas	TX	Bob Porter c/o Intech
10	1 Dead End Row Room 200	12347	Dallas	TX	Mr. Bob Sydell c/o Intech
11	2299 Richmond Rd	40502	Lexington	KY	Chick-fil-A
	471 Rose St			KY	President Eli Capilouto
13	150 W Lowry Ln #190		_	KY	Kroger
· ·	· · · · · · · · · · · · · · · · · · ·			KY	Culver's
	1180 Seven Seas Dr		Lake Buena Vista	FL	Magic Kingdom Park
	500 W New Circle Rd			KY	Walmart Supercenter
17	123 NotAReal St			KY	Tag Howard
18	1600 Pennsylvania Ave NW			DC	White House
	1400 Defense Pentagon		•	DC	Pentagon
·	101 Cochran Rd		•	KY	Joella's Hot Chicken
21	867 South Broadway			KY	Jersey Mike's Subs
	· •			MO	Busch Stadium
23	Antarctic Support Contract 7400 S. Tucson Way	80112	Centennial	CO	Palmer Station (Antarctica)
	1386 Lexington Rd			KY	Headliners Music Hall
	867 South Broadway	I 40504	Lexington	KY	Mivako Poke Bowl
	899 Manchester St			KY	Manchester Music Hall
	1649 M-32			MI	E-Free Church Gaylord Campus
	7345 Delridge Way SW		_	WA	The Home Depot
	500 S Upper St STE 110			KY	Target
	211 NE Revere Avenue	97701		OR	Blockbuster
31	1837 Plaudit Pl	40509	Lexington	KY	Michael Stacy
	525 Alakawa St			HI	Costco Wholesale
	2021 Harrodsburg Rd	40504	Lexington	KY	The Home Depot
·	2039 El Camino Real		_	CA	Patel Brothers
	918 Natural Bridge Rd	1 40376		KY	Thatcher Barbecue Company
·	867 S Broadway	•	•	KY	DV8 Kitchen
	3400 Vine St		=	OH	Cincinnati Zoo & Botanical Garden
				KY	Kentucky Native Café
			=		Lowe's
				KY	J. Alexander's Restaurant

SELECT * from Receipt	_Table; 	4	L	L	.	L	.		
Transaction_Number	Seller_Key	Buyer_Key	Picture	Zip	StateName	Number_Of_Items	Total_Sales	Highest_Price	Lowest_Price
1	13	1	NULL	40503	+ KY		25.00	5.00	5.00
1 2	33	31	NULL	40504	KY	5	30.00	6.99	3.49
3	11	4	NULL	40502	KY	3	29.75	13.37	6.49
4	29	17	NULL	40509	KY	5	36.04	12.00	2.89
1 5	36	3	NULL	40504	KY	4	30.02	15.00	3.00
1 6	13	5	NULL	40503	KY	5	22.10	6.49	0.24
7	24	17	NULL	40508	KY	1	16.53	16.53	16.53
8	13	2	NULL	40503	KY	5	47.44	23.00	4.49
9	14	12	NULL	40509	KY	4	25.00	9.99	4.00
10	15	9	NULL	32830	FL	6	78.25	15.99	9.99
11	16	8	NULL	40511	KY	4	57.80	20.83	10.87
12	29	17	NULL	40508	KY	6	80.97	30.67	5.87
13	21	31	NULL	40527	KY	4	40.28	15.60	6.00
14	22	31	NULL	20500	DC	2	36217.34	36213.35	3.99
15	18	19	NULL	20301	DC	1	705392000000.00	705392000000.00	705392000000.00
+	+	+	·	+	+	+	+		+

15 rows in set (0.001 sec)

Deliverable 6

the query you wrote

Select EntityName as "Customer/Business Full Name", Concat(Street_Name, ", ", City, ", ", StateName, ", ", Zip) As "Delivery Address" FROM Entity_Table;

the output it produced

	Delivery Address
Mr. Ray L. Hyatt Jr. Mr. Ray L. Hyatt Jr. John Wick Tony Stark Dr. Stephen Strange Bob C. Smith Bowman F. Wildcat Bob Porter c/o Intech Mr. Bob Sydell c/o Intech Chick-fil-A President Eli Capilouto Kroger Culver's Magic Kingdom Park Walmart Supercenter Tag Howard White House Pentagon Joella's Hot Chicken Jersey Mike's Subs Busch Stadium Palmer Station (Antarctica) Headliners Music Hall Miyako Poke Bowl Manchester Music Hall E-Free Church Gaylord Campus The Home Depot Target Blockbuster	300 Rose Street Room 102 Hardymon Building, Lexington, KY, 40506 301 Hilltop Avenue, Room 102, Lexington, KY, 40506 82 Beaver St Room 1301, New York, NY, 10005 200 Park Avenue Penthouse, New York, NY, 10001 117A Bleecker Street, New York, NY, 10001 200 Park Avenue Apartment 221, New York, NY, 10001 ### Avenue of Champions, Lexington, KY, 40506 200 Park Avenue, Lexington, KY, 40507 1 Dead End Row Room 200, Dallas, TX, 12347 1 Dead End Row Room 200, Dallas, TX, 12347 1 Dead End Row Room 200, Dallas, TX, 12347 2299 Richmond Rd, Lexington, KY, 40502 471 Rose St, Lexington, KY, 40508 150 W Lowry Ln #190, Lexington, KY, 40509 1180 Seven Seas Dr, Lake Buena Vista, FL, 32830 500 W New Circle Rd, Lexington, KY, 40501 123 NotAReal St, Lexington, KY, 40502 1600 Pennsylvania Ave NW, Washington, DC, 20500 1400 Defense Pentagon, Washington, DC, 20301 101 Cochran Rd, Lexington, KY, 40502 867 South Broadway, Lexington, KY, 40504 700 Clark Ave, St. Louis, MO, 63102 Antarctic Support Contract 7400 S. Tucson Way, Centennial, CO, 80112 1386 Lexington Rd, Louisville, KY, 40504 867 South Broadway, Lexington, KY, 40504 8687 South Broadway, Lexington, KY, 40504 869 Manchester St, Lexington, KY, 40508 1649 M-32, Gaylord, MI, 49735 7345 Delridge Way SW, Seattle, WA, 98106 500 S Upper St STE 110, Lexington, KY, 40508 211 NE Revere Avenue, Bend, OR, 97701
	1837 Plaudit Pl, Lexington, KY, 40509
	525 Alakawa St, Honolulu, HI, 96817
	2021 Harrodsburg Rd, Lexington, KY, 40504
	2039 El Camino Real, Santa Clara, CA, 95050
	918 Natural Bridge Rd, Slade, KY, 40376
	867 S Broadway, Lexington, KY, 40504
	3400 Vine St, Cincinnati, OH, 45220
-	417 E Maxwell St Unit B, Lexington, KY, 40508
	4055 Nichols Park Dr, Lexington, KY, 40503
	4081 Finn Way, Lexington, KY, 40503

Deliverable 7

Show the command you used to modify the table(s)

```
ALTER TABLE Entity_Table
ADD Primary_Telephone_Number varchar(32);

ALTER TABLE Entity_Table
ADD CONSTRAINT fk_Telephone_Number
FOREIGN KEY (Primary_Telephone_Number) REFERENCES Telephone_Numbers(Telephone_Number);
```

Show the command(s) you used to modify the entities when you added the phone numbers

```
-- Primary phone numbers
INSERT INTO Telephone_Numbers(Telephone_Number , Entity_ID)
('555-555-5555', 3),
('555-555-3142', 4),
('(555)555-4321', 5),
('(859)335-9856', 11),
('859-257-1701', 12),
('(859) 278-6228', 13),
('(859)263-7777', 14),
('(407)939-5277', 15),
('(859)381-9370', 16),
('(859)684-8444', 17),
('(202)456-1414', 18),
('(703)697-1776', 19),
('(859) 269-9593', 20),
('(859)288-0008', 21),
('13143459600', 22),
('(502) 584-8088', 24),
('(859)469-9098', 25),
('(859) 537-7321', 26),
('19897322647', 27),
('12067622126', 28),
('18592863352', 29),
('(541)385-9111', 30),
('(859)789-0812', 31),
('(808)526-6100', 32),
('(859) 373-0594', 33),
('14082613555', 34),
('(606)947-8040', 35),
('(859) 955-0388', 36),
('(513)281-4700', 37),
('(859)281-1718', 38),
('(859) 971-8300', 39),
('(859)687-0099', 40);
-- Citation: https://stackoverflow.com/questions/2015527/copy-one-column-from-one-table-to-another
-- UPDATE results, build
-- SET results.platform_to_insert = build.correct_platform
-- WHERE results.BuildID = build.BuildID
UPDATE Entity Table, Telephone Numbers
SET Entity_Table.Primary_Telephone_Number = Telephone_Numbers.Telephone_Number
WHERE Entity_Table.Entity_ID = Telephone_Numbers.Entity_ID;
-- Other phone numbers
INSERT INTO Telephone Numbers (Telephone Number , Entity ID)
VALUES
('1-800-591-3869', 29),
('(859)260-9410', 33),
('(859)260-9404', 33);
```

Show the select statement(s) you wrote

```
SELECT
   EntityName as 'Customer Name',
   Telephone_Number as 'Phone number',
   Zip as 'Zip code'
FROM
   Entity_Table
   LEFT JOIN Telephone_Numbers ON Telephone_Numbers.Entity_ID = Entity_Table.Entity_ID
WHERE
```

```
Zip = (
   SELECT
     Zip
   FROM
    Entity_Table
   GROUP BY
    Zip
   ORDER BY
     COUNT(Zip) DESC
   LIMIT
     1
 OR Zip = (
   SELECT
    Zip
   FROM
    Entity_Table
   GROUP BY
    Zip
   ORDER BY
     COUNT(Zip) DESC
   LIMIT
    1, 1
ORDER BY
 Zip;
```

Show the output your queries produced

+	.+	
Customer Name	Phone number	Zip code
Jersey Mike's Subs Miyako Poke Bowl The Home Depot The Home Depot The Home Depot DV8 Kitchen President Eli Capilouto Manchester Music Hall Target Target	(859)288-0008 (859)469-9098 (859) 373-0594 (859)260-9404 (859)260-9410 (859) 955-0388 859-257-1701 (859) 537-7321 1-800-591-3869 18592863352 (859)281-1718	40504 40504 40504 40504 40504 40504 40508 40508 40508 40508 40508 40508
11 rows in set (0.00 sec)		'

Show the output from select * from for each of your tables.

SELECT * from Entity_Table;

Entity_ID		Zip	City		EntityName 	Primary_Telephone_Number
1	'	'	'	 KY	Mr. Ray L. Hyatt Jr.	NULL
1 2	301 Hilltop Avenue, Room 102	40506	Lexington	KY	Mr. Ray L. Hyatt Jr.	NULL
3	82 Beaver St Room 1301	10005	New York	NY	John Wick	555-555-5555
4	200 Park Avenue Penthouse	10001	New York	NY	Tony Stark	555-555-3142
5	117A Bleecker Street	10001	New York	NY	Dr. Stephen Strange	(555)555-4321
6	200 Park Avenue Apartment 221	10001	New York	NY	Bob C. Smith	NULL
7	#1 Avenue of Champions	40506	Lexington	KY	Bowman F. Wildcat	NULL
8	200 Park Avenue	40507	Lexington	KY	Bob C. Smith	NULL
9	1 Dead End Row Room 200	12347	Dallas	TX	Bob Porter c/o Intech	NULL
10	1 Dead End Row Room 200	12347	Dallas	TX	Mr. Bob Sydell c/o Intech	NULL
11	2299 Richmond Rd	40502	Lexington	KY	Chick-fil-A	(859)335-9856
12	471 Rose St	40508	Lexington	KY	President Eli Capilouto	859-257-1701
13	150 W Lowry Ln #190	40503	Lexington	KY	Kroger	(859) 278-6228
14	2161 Paul Jones Way	40509	Lexington	KY	Culver's	(859)263-7777
15	1180 Seven Seas Dr	32830	Lake Buena Vista	FL	Magic Kingdom Park	(407)939-5277
16	500 W New Circle Rd	40511	Lexington	KY	Walmart Supercenter	(859)381-9370
17	111 Avenue of Champions Holmes Hall 803	40527	Lexington	KY	Tag Howard	(859)684-8444
18	1600 Pennsylvania Ave NW	20500	Washington	DC	White House	(202)456-1414
19	1400 Defense Pentagon	20301	Washington	DC	Pentagon	(703)697-1776
20	101 Cochran Rd	40502	Lexington	KY	Joella's Hot Chicken	(859) 269-9593
21	867 South Broadway	40504	Lexington	KY	Jersey Mike's Subs	(859)288-0008
22	700 Clark Ave	63102	St. Louis	MO	Busch Stadium	13143459600
23	Antarctic Support Contract 7400 S. Tucson Way	80112	Centennial	l CO	Palmer Station (Antarctica)	NULL
24	1386 Lexington Rd	40206	Louisville	KY	Headliners Music Hall	(502) 584-8088
25	867 South Broadway	40504	Lexington	KY	Miyako Poke Bowl	(859) 469-9098
26	899 Manchester St	40508	Lexington	KY	Manchester Music Hall	(859) 537-7321

	27 1649 M-32	49735 Gaylord	MI	E-Free Church Gaylord Campus	19897322647	
1	28 7345 Delridge Way SW	98106 Seattle	WA	The Home Depot	12067622126	
1	29 500 S Upper St STE 110	40508 Lexington	KY	Target	18592863352	
1	30 211 NE Revere Avenue	97701 Bend	OR	Blockbuster	(541)385-9111	
1	31 1837 Plaudit Pl	40509 Lexington	KY	Michael Stacy	(859)789-0812	
1	32 525 Alakawa St	96817 Honolulu	HI	Costco Wholesale	(808)526-6100	
1	33 2021 Harrodsburg Rd	40504 Lexington	KY	The Home Depot	(859) 373-0594	
1	34 2039 El Camino Real	95050 Santa Clara	CA	Patel Brothers	14082613555	
1	35 918 Natural Bridge Rd	40376 Slade	KY	Thatcher Barbecue Company	(606)947-8040	
1	36 867 S Broadway	40504 Lexington	KY	DV8 Kitchen	(859) 955-0388	
1	37 3400 Vine St	45220 Cincinnati	OH	Cincinnati Zoo & Botanical Garden	(513)281-4700	
1	38 417 E Maxwell St Unit B	40508 Lexington	KY	Kentucky Native Café	(859)281-1718	
	39 4055 Nichols Park Dr	40503 Lexington	KY	Lowe's	(859) 971-8300	
	40 4081 Finn Way	40503 Lexington	KY	J. Alexander's Restaurant	(859)687-0099	

40 rows in set (0.00 sec)

SELECT * from Receipt_Table;

Transaction_Number	Seller_Key	Buyer_Key	Picture	Zip	StateName	 Number_Of_Items	Total_Sales	 Highest_Price	Lowest_Price
1	13	1	NULL	40503	KY	,	25.00	5.00	5.00
2	33	31	NULL	40504	KY	5	30.00	6.99	3.49
3	11	29	NULL	40502	KY	3	29.75	13.37	6.49
4	29	17	NULL	40509	KY	5	36.04	12.00	2.89
5	36	3	NULL	40504	KY	4	30.02	15.00	3.00
6	13	5	NULL	40503	KY	5	22.10	6.49	0.24
7	24	17	NULL	40508	KY	1	16.53	16.53	16.53
8	13	32	NULL	40503	KY	5	47.44	23.00	4.49
9	14	21	NULL	40509	KY	4	25.00	9.99	4.00
10	15	29	NULL	32830	FL	6	78.25	15.99	9.99
11	16	29	NULL	40511	KY	4	57.80	20.83	10.87
12	29	17	NULL	40508	KY	6	80.97	30.67	5.87
13	21	31	NULL	40527	KY	4	40.28	15.60	6.00
14	22	31	NULL	20500	DC	2	36217.34	36213.35	3.99
15	18	19	NULL	20301	l DC	1	705392000000.00	705392000000.00	705392000000.00

15 rows in set (0.00 sec)

SELECT * from Telephone_Numbers;

JEDECI IIOM ICICPI	ione_Numbers,
Telephone_Number	Entity_ID
555-555-5555	3
555-555-3142	4
(555) 555-4321	5 1
(859) 335-9856	11
859-257-1701	12
(859) 278-6228	13
(859) 263-7777	14
(407) 939-5277	15
(859)381-9370	16
(859)684-8444	17
(202) 456-1414	18
(703)697-1776	19
(859) 269-9593	20
(859)288-0008	21
13143459600	22
(502) 584-8088	24
(859) 469-9098	25
(859) 537-7321	26
19897322647	27
12067622126	28
1-800-591-3869	29
18592863352	29
(541)385-9111	30
(859) 789-0812	31
(808)526-6100	32
(859) 373-0594	33
(859)260-9404	33
(859)260-9410	33
14082613555	34
(606) 947-8040	35
(859) 955-0388	36
(513) 281-4700	37
(859) 281-1718	38
(859) 971-8300	39
(859) 687-0099	40
35	\\

35 rows in set (0.00 sec)

Deliverable 8

the query you wrote

```
SELECT

Buyer.EntityName AS "Customer name",

Seller.EntityName AS "Business Name",

ReceiptTable.Highest_Price AS "Highest Price",

ReceiptTable.Total_Sales AS "Total Sale",

ReceiptTable.StateName AS "State"

FROM Receipt_Table AS ReceiptTable

INNER JOIN Entity_Table AS Seller ON ReceiptTable.Seller_Key = Seller.Entity_ID

INNER JOIN Entity_Table AS Buyer ON ReceiptTable.Buyer_Key = Buyer.Entity_ID;
```

the output it produced

Customer name	Business Name	Highest Price	Total Sale	State
Mr. Ray L. Hyatt Jr.	Kroger	5.00	25.00	 КҮ
Michael Stacy	The Home Depot	6.99	30.00	KY
Tony Stark	Chick-fil-A	13.37	29.75	KY
Tag Howard	Target	12.00	36.04	KY
John Wick	DV8 Kitchen	15.00	30.02	KY
Dr. Stephen Strange	Kroger	6.49	22.10	KY
Tag Howard	Headliners Music Hall	16.53	16.53	KY
Mr. Ray L. Hyatt Jr.	Kroger	23.00	47.44	KY
President Eli Capilouto	Culver's	9.99	25.00	KY
Bob Porter c/o Intech	Magic Kingdom Park	15.99	78.25	FL
Bob C. Smith	Walmart Supercenter	20.83	57.80	KY
Tag Howard	Target	30.67	80.97	KY
Michael Stacy	Jersey Mike's Subs	15.60	40.28	KY
Michael Stacy	Busch Stadium	36213.35	36217.34	DC
Pentagon	White House	705392000000.00	705392000000.00	l DC

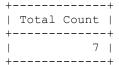
Deliverable 9

the query you wrote

```
SELECT
COUNT(EntityName) as 'Total Count'
FROM
Entity_Table
WHERE
```

-- Based on https://www.kalzumeus.com/2010/06/17/falsehoods-programmers-believe-about-names/ there is no reliable way to determine if a name is a first name or last name. EntityName LIKE '%Bo%';

the output it produced



Deliverable 10

the query you wrote

```
SELECT Zip,
  Total_Sales AS "Total Sales"
FROM Receipt_Table
ORDER BY Total_Sales DESC;
```

the output it produced

+-		++
	Zip	Total Sales
+-		++

20301	705392000000.00
20500	36217.34
40508	80.97
32830	78.25
40511	57.80
40503	47.44
40527	40.28
40509	36.04
40504	30.02
40504	30.00
40502	29.75
40509	25.00
40503	25.00
40503	22.10
40508	16.53

Deliverable 11

Show the commands you used to do this and place these in your submission.

```
/usr/bin/mysqldump -h mysql.cs.uky.edu -p -u jtho264 --single-transaction --databases jtho264 > cs405.group3.sql
```

Deliverable 12

The information we had at hand influenced the project in several ways. For example, as mentioned in deliverable 1, we read the entire assignment before beginning. We did this to ensure all complexities of the assignment were understood before starting, allowing us to meet project requirements. Due to this, we formatted our receipt table to include the highest and lowest-valued items from the beginning. We may not have included these values in the initial table creation if we had not known this information. Despite reading the entire assignment beforehand, our stereotypical college student haste meant we missed and misinterpreted some details of the project initially. Our initial design did not include the ability to store multiple phone numbers per entity. Addressing this, we repurposed our initial phone number column in the entity table as our primary phone number and made it a foreign key to a new table, ensuring each entity only had one primary phone number while allowing multiple non-primary phone numbers. The new table stored all phone numbers associated with an entity ID. Based on what we learned, information availability can influence how database projects start and evolve over time. At times, previous knowledge helped our team complete the project more efficiently; however, essential details can be missed if too much information is presented simultaneously in the design plan. We experienced information overload in the second example. From the experience gained, we believe a company needs to plan sufficiently to allow a database to evolve by providing adequate information to complete tasks with room to grow.