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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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

CREATE TABLE Entity_Table (

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

```
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.

Deliverable 5

SELECT * from Entity_Table;

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

Entity_ID	Street_Name 	 Zip	City	StateName	EntityName
1 1	300 Rose Street Room 102 Hardymon Building				Mr. Ray L. Hyatt Jr.
			_		Mr. Ray L. Hyatt Jr.
3			_	NY	John Wick
4	200 Park Avenue Penthouse	10001	New York	NY	Tony Stark
5	117A Bleecker Street	10001	New York		Dr. Stephen Strange
6	200 Park Avenue Apartment 221	10001	New York	NY	Bob C. Smith
		40506	Lexington	KY	Bowman F. Wildcat
8	200 Park Avenue	40507	Lexington	KY	Bob C. Smith
9			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		Chick-fil-A
12	471 Rose St	40508	Lexington	KY	President Eli Capilouto
13			=		Kroger
14	2161 Paul Jones Way	40509	Lexington	KY	Culver's
15	1180 Seven Seas Dr	32830	Lake Buena Vista	FL	Magic Kingdom Park
16	500 W New Circle Rd	40511	Lexington	KY	Walmart Supercenter
17	123 NotAReal St	40502	Lexington	KY	Tag Howard
18	1600 Pennsylvania Ave NW	20500	Washington	DC	White House
19	1400 Defense Pentagon	20301	Washington	DC	Pentagon
20	101 Cochran Rd	40502	Lexington	KY	Joella's Hot Chicken
21	867 South Broadway	40504	Lexington	KY	Jersey Mike's Subs
22	700 Clark Ave	63102	St. Louis	MO	Busch Stadium
23	Antarctic Support Contract 7400 S. Tucson Way	80112	Centennial	CO	Palmer Station (Antarctica)
24	1386 Lexington Rd	40206	Louisville	KY	Headliners Music Hall
25	867 South Broadway	40504	Lexington	KY	Miyako Poke Bowl
26	899 Manchester St	40508	Lexington	KY	Manchester Music Hall
27	1649 M-32	49735	Gaylord	MI	E-Free Church Gaylord Campus
28	7345 Delridge Way SW	98106	Seattle	WA	The Home Depot
29	500 S Upper St STE 110	40508	Lexington	KY	Target
30	211 NE Revere Avenue	97701	Bend	OR	Blockbuster
31	1837 Plaudit Pl	40509	Lexington	KY	Michael Stacy
32	525 Alakawa St	96817	Honolulu	HI	Costco Wholesale
33	2021 Harrodsburg Rd	40504	Lexington	KY	The Home Depot
34	2039 El Camino Real	95050	Santa Clara	CA	Patel Brothers
35	918 Natural Bridge Rd	40376	Slade	KY	Thatcher Barbecue Company
36	867 S Broadway	40504	Lexington	KY	DV8 Kitchen
37	3400 Vine St	45220	Cincinnati	OH I	Cincinnati Zoo & Botanical Garden
38	417 E Maxwell St Unit B	40508	Lexington	KY	Kentucky Native Café
39			. ,	KY	Lowe's
40	4081 Finn Way +		5	KY	J. Alexander's Restaurant

Transaction_Number	Seller_Key	Buyer_Key	Picture	Zip	StateName	Number_Of_Items	Total_Sales	Highest_Price	Lowest_Price
1	13	1	NULL	+ 40503	KY	5	25.00	5.00	5.00
2	33	31	NULL	40504	KY	5	30.00	6.99	3.4
3	11	4	NULL	40502	KY] 3	29.75	13.37	6.4
4	29	17	NULL	40509	KY	5	36.04	12.00	2.8
5	36	3	NULL	40504	KY	4	30.02	15.00	3.0
6	13	5	NULL	40503	KY	5	22.10	6.49	0.2
7	24	17	NULL	40508	KY	1	16.53	16.53	16.5
8	13	2	NULL	40503	KY	5	47.44	23.00	4.4
9	14	12	NULL	40509	KY	4	25.00	9.99	4.0
10	15	9	NULL	32830	FL	1	78.25	15.99	9.9
11	16	8	NULL	40511	KY	4	57.80	20.83	10.8
12	29	17	NULL	40508	KY	1	80.97	30.67	5.8
13	21	31	NULL	40527	KY	4	40.28	15.60	6.0
14	22	31	NULL	20500	DC	2	36217.34	36213.35	3.9
15	18	19	NULL	20301	DC	1	705392000000.00	705392000000.00	705392000000.0

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

Customer/Business Full Name	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 C. Smith Bob Porter c/o Intech	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 #1 Avenue of Champions, Lexington, KY, 40506 200 Park Avenue, Lexington, KY, 40507 1 Dead End Row Room 200, Dallas, TX, 12347
Mr. Bob Sydell c/o Intech Chick-fil-A President Eli Capilouto Kroger	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, 40503
Magic Kingdom Park Walmart Supercenter Tag Howard	2161 Paul Jones Way, Lexington, KY, 40509 1180 Seven Seas Dr, Lake Buena Vista, FL, 32830 500 W New Circle Rd, Lexington, KY, 40511 123 NotAReal St, Lexington, KY, 40502
Pentagon	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
Palmer Station (Antarctica) Headliners Music Hall Miyako Poke Bowl Manchester Music Hall	700 Clark Ave, St. Louis, MO, 63102 Antarctic Support Contract 7400 S. Tucson Way, Centennial, CO, 80112 1386 Lexington Rd, Louisville, KY, 40206 867 South Broadway, Lexington, KY, 40504 899 Manchester St, Lexington, KY, 40508
The Home Depot	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
Costco Wholesale	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
Cincinnati Zoo & Botanical Garden Kentucky Native Café Lowe's	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

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
```

```
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
     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	40504
11 rows in set (0.00 sec)		. '

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

	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
	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
	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
	35	918 Natural Bridge Rd	40376	Slade	KY	Thatcher Barbecue Company	(606)947-8040
	36	867 S Broadway	40504	Lexington	KY	DV8 Kitchen	(859) 955-0388
	37	3400 Vine St	45220	Cincinnati	OH	Cincinnati Zoo & Botanical Garden	(513)281-4700
	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
1	40 I	4081 Finn Way	1 40503 1	Lexinaton	l KY	L.T. Alexander's Restaurant	1 (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
İ	1	13	1	NULL	40503	KY	5	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	DC	1	705392000000.00	705392000000.00	705392000000.00
+	+				+	+	+	+	++	

15 rows in set (0.00 sec)

SELECT * from 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 24
(502) 584-8088 (859)469-9098	24 25
(859) 537-7321	25 26
1 19897322647	27
1 12067622126	1 28 1
1-800-591-3869	1 29 1
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 rows in set (0.00	sec)

the query you wrote

```
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	KY
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 +	70539200000.00 +	705392000000.00	DC

Deliverable 9

the query you wrote

```
SELECT
EntityName AS "Total Number"
FROM Entity_Table
WHERE EntityName LIKE '%bob%';
```

the output it produced

```
| Total Number | Hob C. Smith | Bob C. Smith | Bob Porter c/o Intech | Mr. Bob Sydell c/o Intech | Hob ```

# **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 | Ī |
|-------|-----------------|---|
| 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           |   |
|       |                 |   |

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.