Project Report

"HUMANE" Non Profit Organization.

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- Logical model (relational model)
- Implementation in MySQL
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- Application to access database (Python or R)

Use Case Project

PROJECT PROPOSAL

HUMANE, is a non profit organization mainly focused on providing essentials to the needful. Food, Clothes, Medicines, Electronics and Furniture are the items that the organization would be dealing with. We plan on collecting these items from individual donors or merchants and delivering it to the people in need by organizing an event where donations would be accepted and distributed to shelter homes on a daily requirement basis.

The donations are sub-categorized into 4 departments: Food, Clothes, Electronics/
Furniture and Medicines. Each department will be addressed by a unique department id
(unique key). These products can either come from individuals or from merchandised
donors.

The leftover food will be collected from or delivered by restaurants to our organized food banks to narrow down the wastage of food that happens in restaurants at the end of the day. We record basic information of restaurants such as Restaurant Name, Restaurant ID, Address, Zip-Code, Leftover food quantity, Pick up/drop off option, Date and Time.

Similarly, Clothes bank, Electronics/Furniture and Medicines will be collected either from individuals or merchants willing to donate. Basic information would be collected of the donors such as for individual donors: Name, SSN, Address, Contact Details, Items, Quantity, Date, Time and Courier Details (if couriering from a different city or state). For merchandised contribution, information like: Company Name, Company ID, Items,

Quantity, Address, Contact Details, Date, Time, Pick up/Drop off option and Courier Details will be collected.

Volunteers are always an integral part of any non-profit organization. Their participation is what keeps the organization running. Hence, this organization is also always looking out for volunteers to help it in providing to the needy. The volunteers will be subdivided into Transportation and Packaging activities. We record personal data of the volunteers such as: Department ID(department they wish to work under), Name, SSN, Contact Details, Zip-code, Available hours, Date and Time.

Transportation for pick-up/ drop-off of the donations will be held on a daily basis by the volunteers. They will transport the donations received on that particular day depending upon the requests from shelter homes.

Transportation is sub-categorized into pick-up option and drop-off option. For pick-up option: Time, Date, Quantity, Address, Zip-code, Restaurant ID, Restaurant Name/Company ID, Company Name and Contact Details will be recorded. For drop-off options: Time, Date, Quantity, Address, Zip-code, Shelter_Home ID, Shelter_Home Name and Contact Details will be collected.

Drop-off will happen on a daily basis (giving food priority) to the shelter homes. The following data will be collected from the shelter homes for delivery: Shelter_Home Name, Shelter_Home ID, Zip-code, Address, Contact Details, No. Of People and Quantity.

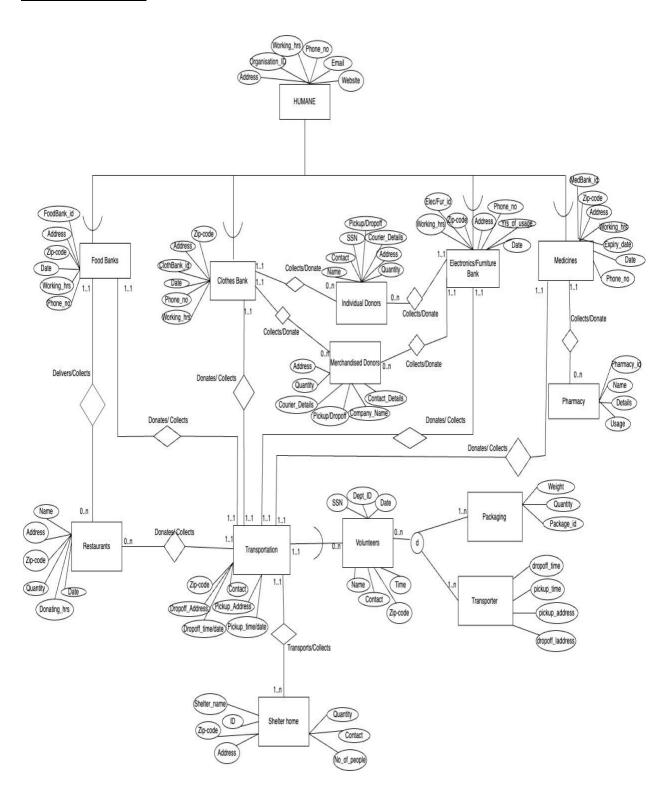
Other requirements:

- A Food Bank can collect food from zero to infinity restaurants, whereas restaurants can donate their leftover food to one and only one food bank(Humane).
- Clothes Bank can collect clothes from zero to infinite individuals or merchants, whereas these contributors can contribute to one and only one cloth bank.

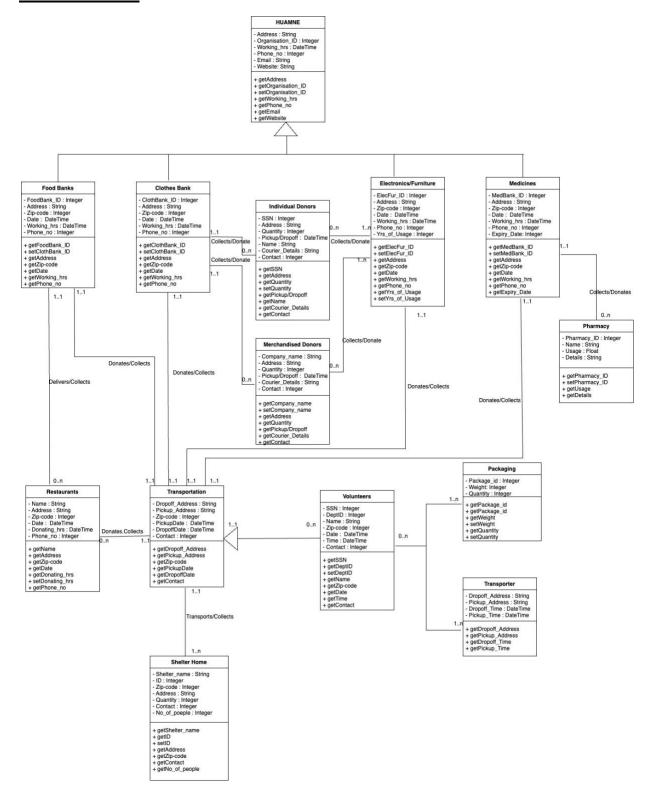
- Electronics/Furniture Bank can collect items from zero to infinite individuals or merchants, whereas these contributors can contribute to one and only one electronics/furniture bank.
- Medicines Bank can collect medicines from zero to infinite individuals or merchants, whereas these contributors can contribute to one and only one Medicines bank.
- Transport will collect from either one food/ cloth/ electronics/ furniture/ medicines banks and deliver to zero to infinite shelter homes.
- Volunteers can work in one or infinite departments, whereas departments can have zero to infinity volunteers.

CONCEPTUAL MODEL

EER MODEL



UML MODEL



LOGICAL MODEL(RELATIONAL MODEL)

HUMANE(Organisation_ID, Address, Working_hrs, Phone_no, Email, Website)

Food_Banks(**FoodBank_ID**, Address, Zip-code, Date, Working_hrs, Phone_no, Restaurant_ID, Volunteer_SSN, H_Organisation_ID)

- FoodBank_ID Primary key
- H_Organisation_ID Foreign key refers to Organisation_ID in relation HUMANE and NULL not allowed
- Restaurant_ID Foriegn keys refers to name in relation Restaurant and NULL not allowed
- Volunteer_SSN Foriegn keys refers to SSN in relation Volunteers and NULL not allowed

Clothes_Banks(<u>ClothBank_ID</u>, Address, Zip-code, Date, Working_hrs, Phone_no, Individual Donors SSN,Merchandised Donors ID,Volunteer SSN,H Organisation ID)

- ClothBank_ID Primary Key
- Individual_Donors_SSN Foriegn keys refers to SSN in relation Individual Donors and NULL not allowed
- Merchandised_Donors_ID Foriegn keys refers to Company_ID in relation
 Merchanised Donors and NULL not allowed
- Volunteer_SSN Foriegn keys refers to SSN in relation Volunteers and NULL not allowed
- H_Organisation_ID Foreign key refers to Organisation_ID in relation HUMANE and NULL not allowed

Electronics/Furniture(<u>ElecFur_ID</u>, Address, Zip-code, Date, Working_hrs, Phone_no,Yrs_of_Usage,Individual_Donors_SSN, Merchandised_Donors_ID, Volunteer_SSN)

- ElecFur_ID Primary Key
- Individual_Donors_SSN Foriegn keys refers to SSN in relation Individual Donors and NULL not allowed
- Merchandised_Donors_ID Foriegn keys refers to Company_ID in relation
 Merchanised Donors and NULL not allowed
- Volunteer_SSN Foriegn keys refers to SSN in relation Volunteers and NULL not allowed
- H_Organisation_ID Foreign key refers to Organisation_ID in relation HUMANE and NULL not allowed

Individual_Donors(<u>SSN</u>, Address, Quantity, Pickup/Dropoff, Name, Courier_Details, Contact, *ClothBank_ID,ElecFur_ID*)

- SSN Primary Key
- ClothBank_ID Foriegn keys refers to ClothBank_ID in relation Clothes Bank and NULL not allowed
- ElecFur_ID Foriegn keys refers to ElecFur_ID in relation Electronics/Furniture
 Bank and NULL not allowed

Merchandised_Donors(<u>Company_ID</u>,Company_name, Address, Quantity, Pickup/Dropoff, Courier_Details, Contact, *ClothBank_ID,ElecFur_ID*)

- Company_ID Primary Key
- ClothBank_ID Foriegn keys refers to ClothBank_ID in relation Clothes Bank and NULL not allowed

ElecFur_ID - Foriegn keys refers to ElecFur_ID in relation Electronics/Furniture
 Bank and NULL not allowed

Medicines(<u>MedBank_ID</u>, Address, Zip-code, Date, Working_hrs, Phone_no, Expiry_date, *Pharm_ID*, *Volunteer_SSN*, *H_Organisation_ID*)

- MedBank_ID Primary Key
- Pharm_ID Foreign key refers to Pharmacy_ID in relation Pharmacy and NULL not allowed
- Volunteer_SSN Foriegn keys refers to SSN in relation Volunteers and NULL not allowed
- H_Organisation_ID Foreign key refers to Organisation_ID in relation HUMANE and NULL not allowed

Pharmacy (Pharmacy ID, MedBank_ID, Name, Details, Usage)

- Pharmacy_ID Primary Key
- MedBank_ID Foriegn keys refers to MedBank_ID in relation Medicines and NULL not allowed

Restaurants(<u>Res_ID</u>, FoodBank_ID, Volunteer_SSN, Name, Address, Zip-code, Quantity, Date, Donating_hrs, Phone_no)

- Res_ID Primary Key
- FoodBank_ID Foriegn keys refers to FoodBank_ID IN relation Food_Banks and NULL not allowed
- Volunteer_SSN Foriegn keys refers to SSN in relation Volunteers and NULL not allowed

Transportation(<u>Volunteer_SSN</u>, ShelterHome_ID,Restuarant_ID, FoodBank_ID, ClothBank_ID, ElecFur_ID, MedBank_ID, Dropoff_Address, Pickup_Address, Zip-code, PickupDate, DropoffDate, Contact)

- Volunteer_SSN Foriegn keys refers to SSN in relation Volunteers and NULL not allowed
- ShelterHome_ID Foriegn keys refers to Shelter_Home_ID in relation
 Shelter_Home and NULL not allowed
- Restuarant_ID Foriegn keys refers to name in relation Restaurant
- FoodBank_ID Foriegn keys refers to FoodBank_ID IN relation Food_Banks
- ClothBank_ID Foriegn keys refers to ClothBank_ID in relation Clothes Bank
- ElecFur_ID Foriegn keys refers to ElecFur_ID in relation Electronics/Furniture
 Bank
- MedBank_ID Foriegn keys refers to MedBank_ID in relation Medicines

Volunteers(**SSN**, *Dept_ID*, Name, Zip-code, Date, Time, Contact)

- SSN Primary Key
- Dept_ID Foriegn keys refers to FoodBank_ID / ClothBank_ID / ElecFur_ID \
 MedBank_ID in relation Food Banks / ClothesBank / Electronics Furniture Bank /
 Medicines

Packaging(<u>Volunteer_SSN</u>, Dept_ID, Package_ID, Volunteer_SSN, Weight, Quantity)
Transporters(<u>Volunteer_SSN</u>, Dept_ID, Dropoff_Address, Pickup_Address,
Dropoff_Time, Pickup_Time)

- Volunteer_SSN Foriegn keys refers to SSN in relation Volunteers and NULL not allowed
- Dept_ID Foriegn keys refers to FoodBank_ID / ClothBank_ID / ElecFur_ID \
 MedBank_ID in relation Food Banks / ClothesBank / Electronics Furniture Bank /
 Medicines

Shelter_Home(<u>Shelter_home_ID</u>, *Volunteer_SSN*, Shelter_name, Zip-code, Address, Quantity, Contact, No_of_poeple)

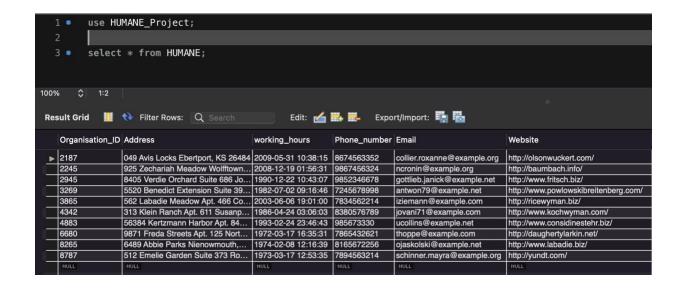
- Shelter_Home_ID Primary Key
- Volunteer_SSN Foriegn keys refers to SSN in relation Volunteers and NULL not allowed.

IMPLEMENTATION IN MYSQL

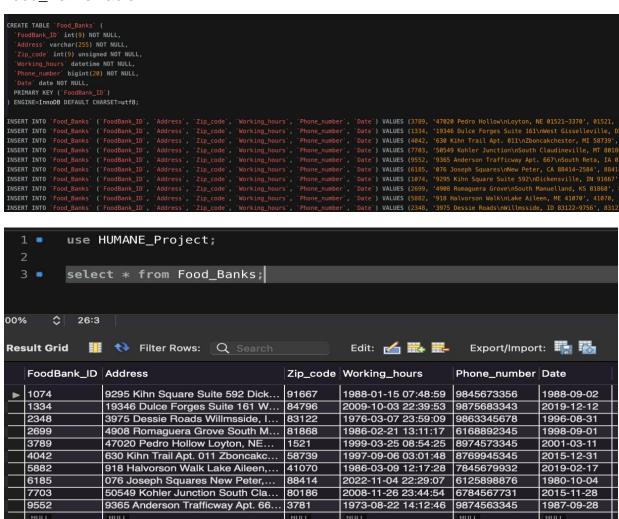
- For implementation in SQL we created a database and connected it to MYSQL Workbench, where we implemented correlated, nested, joins etc queries.
- We have 14 tables that are related to each other.

HUMANE Table -

```
CREATE TABLE 'HUMANE' (
'Organisation_ID' int(9) NOT NULL,
'Address' varchar(255) NOT NULL,
'working_hours' datetime NOT NULL,
'Phone_number' bigint(20) NOT NULL,
'Email' varchar(255) NOT NULL,
'Mebsite' varchar(255) NOT NULL,
'Mebsite' varchar(255) NOT NULL,
'Phone_number' bigint(20) NOT NULL,
'Mebsite' varchar(255) NOT NULL,
'PRIMARY KEY ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (2945, '8405 Verdie Orchard Suite 686\n]ohnnieland, CT 58901-
'INSERT INTO 'HUMANE' ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (8265, '6489 Abbie Parks\nNienowmouth, AK 05205', '1974-02-06
'INSERT INTO 'HUMANE' ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (8265, '6489 Abbie Parks\nNienowmouth, AK 05205', '1974-02-06
'INSERT INTO 'HUMANE' ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (4342, '313 Klein Ranch Apt. 611\nSusanport, UT 68733', '1986
'INSERT INTO 'HUMANE' ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (4883, '56384 Kertzmann Harbor Apt. 844\nOfeliaborough, WI IZ
'INSERT INTO 'HUMANE' ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (6680, '9871 Freda Streets Apt. 125\nNorth Shannon, CA 39204'
'INSERT INTO 'HUMANE' ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (6680, '9871 Freda Streets Apt. 125\nNorth Shannon, CA 39204'
'INSERT INTO 'HUMANE' ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (6680, '9871 Freda Streets Apt. 125\nNorth Shannon, CA 39204'
'INSERT INTO 'HUMANE' ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (6680, '9871 Freda Streets Apt. 125\nNorth Shannon, CA 39204'
'INSERT INTO 'HUMANE' ('Organisation_ID', 'Address', 'working_hours', 'Phone_number', 'Email', 'Website') VALUES (6680, '9871 Freda Streets Apt. 125\n
```



Food Banks Table -



Clothes_Bank Table -

```
ATE TABLE 'Clothes_Bank' (
ClothBank_ID' int(9) NOT NULL,
                int(9) unsigned NOT NULL,
    'Date' date NOT NULL,
PRIMARY KEY ('ClothBank ID')
   ) ENGINE=InnoDB DEFAULT CHARSET=utf8;
  INSERT INTO 'Clothes_Bank' ('ClothBank_ID', 'Address', 'Zip_code', 'Working_hours', 'Phone_number', 'Date') VALUES (8976, '935 Ebony Meadox\nNorth Josephine, CO 49496-900.
INSERT INTO 'Clothes_Bank' ('ClothBank_ID', 'Address', 'Zip_code', 'Working_hours', 'Phone_number', 'Date') VALUES (9087, '711 Beatty Mountains Apt. 557\nLuettgenchester,
INSERT INTO 'Clothes_Bank' ('ClothBank_ID', 'Address', 'Zip_code', 'Working_hours', 'Phone_number', 'Date') VALUES (9765, '7450 Herzog Fields Apt. 445\nAnaistown, NC 34965
                                                                                                                      Date ) VALUES (9765, '7450 Herzog Fields Apt. 445\nAnaistown, NC 34965' Date') VALUES (7685, '9030 Lowe Turnpike Suite 270\nWest Austyn, NH 90' Date') VALUES (8796, '07006 Barton Harbors\nSouth Bernhard, UT 38669-4
  INSERT INTO 'Clothes_Bank' ('ClothBank_ID', 'Address', 'Zip_code', 'Working_hours', INSERT INTO 'Clothes_Bank' ('ClothBank_ID', 'Address', 'Zip_code', 'Working_hours',
   INSERT INTO
  INSERT INTO 'Clothes_Bank' ('ClothBank_ID', 'Address',
INSERT INTO 'Clothes_Bank' ('ClothBank_ID', 'Address',
                                                                                                                       'Date') VALUES (2582, '71422 Gottlieb Glens\nEastermouth, PA 39623-0599
'Date') VALUES (2427, '424 Gene Park Suite 684\nNew Jermeyton, TX 2068k
'Date') VALUES (3331, '95763 Dora Alley Apt. 417\nNew Ava, SC 80417-96:
   INSERT INTO
                 use HUMANE_Project;
  1 .
                 select * from Clothes_Bank;
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    ClothBank_ID Address
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    767
                                                                                    61315
                                                                                                       1977-03-05 21:11:40 9856438809
                                                                                                                                                                      1985-05-09
                             9753 Jasper Dam Reganhaven,...
                             3781 Tobin Path Gerholdburgh,...
    1235
                                                                                                       2014-11-02 06:26:57
                                                                                                                                         8630924634
                                                                                                                                                                      1996-11-14
                             424 Gene Park Suite 684 New J... 20680
    2427
                                                                                                      1996-02-13 09:23:41 93476982356
                                                                                                                                                                     1977-01-24
    2582
                             71422 Gottlieb Glens Eastermo... 39623
                                                                                                      1981-05-24 19:41:47 9813509327
                                                                                                                                                                     2017-07-15
    3331
                             95763 Dora Alley Apt. 417 New...
                                                                                   80417
                                                                                                       2019-04-29 06:25:16 9435871243
                                                                                                                                                                      2014-06-06
                                                                                                      2007-03-30 10:14:57 9076589423
    7685
                             9030 Lowe Turnpike Suite 270...
                                                                                     90964
                                                                                                                                                                      1990-09-22
                             07006 Barton Harbors South Be... 38669
    8796
                                                                                                      2006-10-25 14:38:06 8956326168
                                                                                                                                                                     1977-02-18
                             935 Ebony Meadow North Jose... 49496
                                                                                                       1995-02-11 21:35:08 9047952206
                                                                                                                                                                     2006-06-27
    8976
```

1970-10-18 21:48:39 | 8819875467

2007-03-25 09:02:20 8932675321

1999-04-30

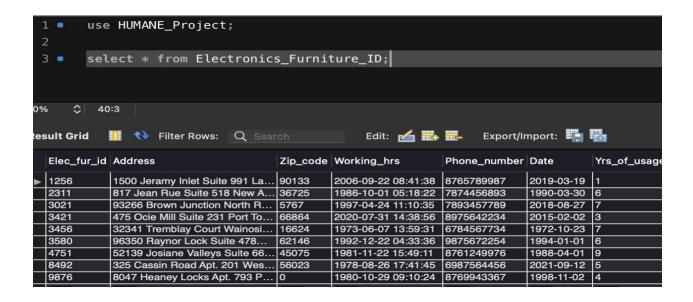
2011-06-17

Electronics_Furniture_Bank Table -

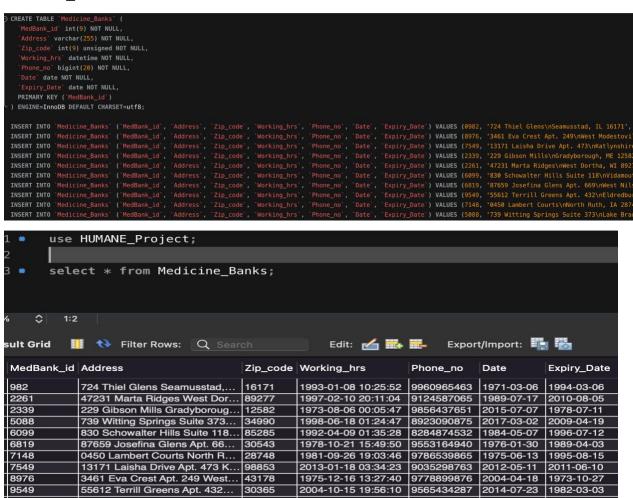
9765

711 Beatty Mountains Apt. 557 L... 94626

7450 Herzog Fields Apt. 445 An... 34965



Medicine Banks Table -



Pharmacy Table -

```
CREATE TABLE 'Pharmacy' (
    'Pharmacy_id' int(9) NOT NULL,
    'Name' varchar(100) NOT NULL,
    'dosage' float(10,4) NOT NULL,
    'Med_Details' varchar(255) NOT NULL,
    PRIMARY KEY ('Pharmacy_id'), 'Name', 'dosage', 'Med_Details') VALUES (8765, 'Tremayne Becker', '13.49', 'Paracemtol.');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (8809, 'Damon Moen', '15.901', 'Disprin');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (8809, 'Damon Moen', '15.901', 'Disprin');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (1588, 'Georgette O\'Conner V', '19.84', 'Paracemtol');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (2518, 'Nicolette Gislason', '10.00', 'Asprin');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (2626, 'Casandra Koss', '10.00', 'Asprin');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (7083, 'Jayden Kuhic', '22.30', 'Paracemtol');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (2833, 'Amalia Hansen', '43.75', 'Disprin');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (2833, 'Amalia Hansen', '43.75', 'Disprin');

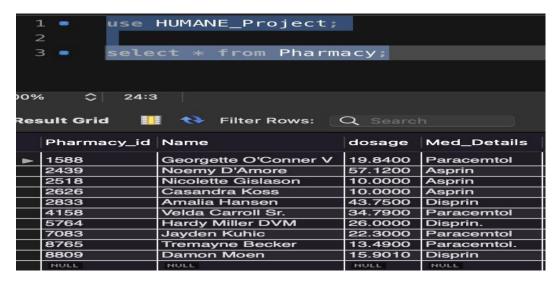
INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (2839, 'Noemy D\'Amore', '57.12', 'Asprin');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (2439, 'Noemy D\'Amore', '57.12', 'Asprin');

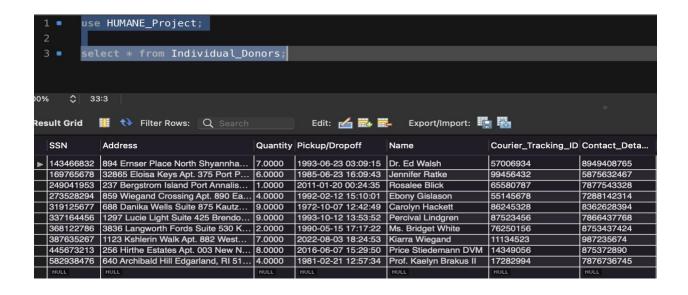
INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (2439, 'Noemy D\'Amore', '57.12', 'Asprin');

INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (2439, 'Noemy D\'Amore', '57.12', 'Asprin');

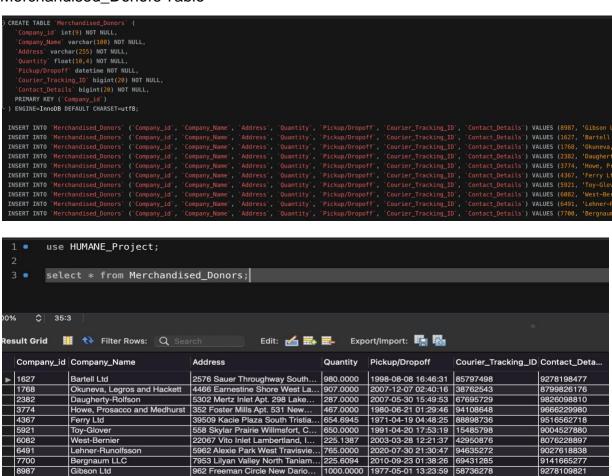
INSERT INTO 'Pharmacy' ('Pharmacy_id', 'Name', 'dosage', 'Med_Details') VALUES (2439, 'Noemy D\'Amore', '57.12', 'Asprin');
```



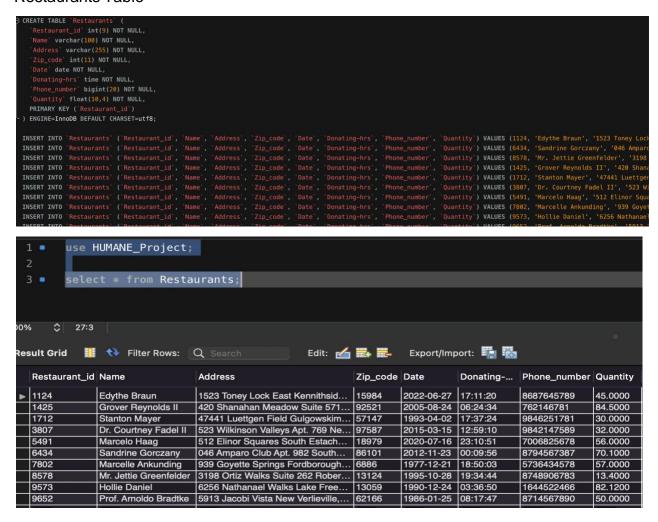
Individual Donors Table -



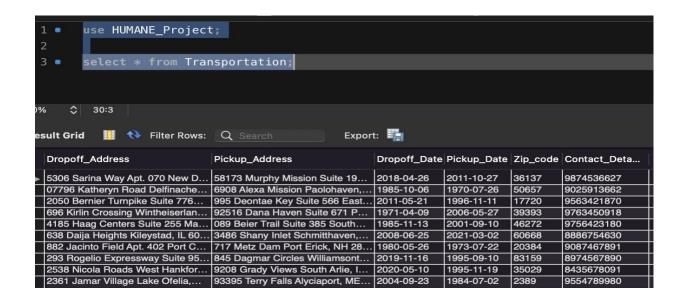
Merchandised Donors Table -



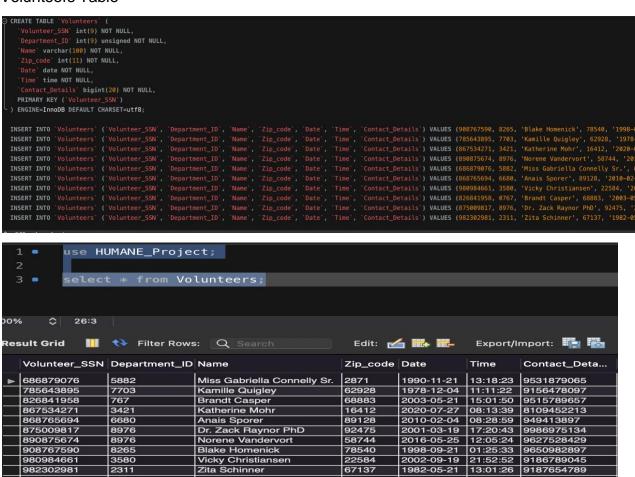
Restaurants Table -



Transportation Table -



Volunteers Table -

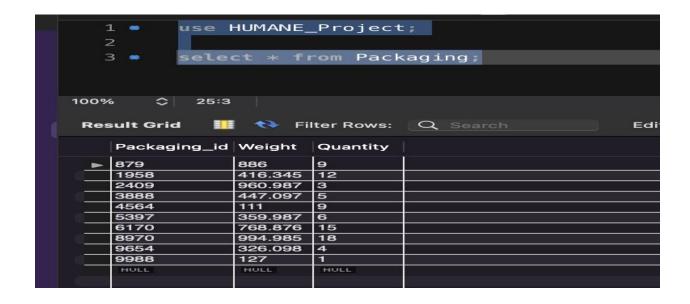


Transporter Table -

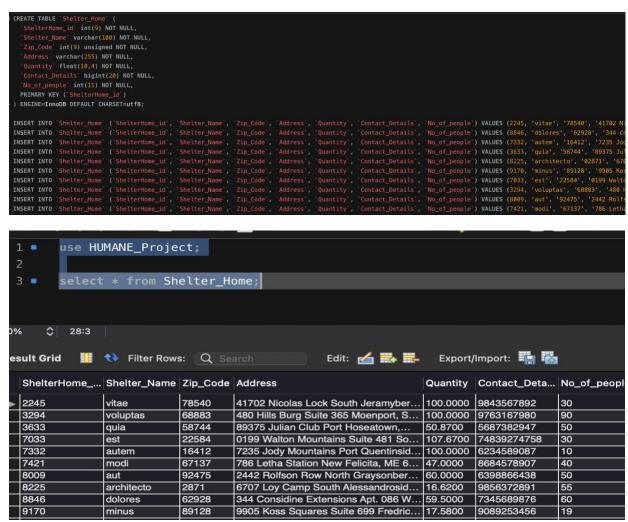
```
Dropoff_Address' varchar(255) NOT NULL.
       Time' time NOT NULL
 ENGINE=InnoDB DEFAULT CHARSET=utf8:
INSERT INTO 'Transporter' ('Dropoff_Address', 'Pickup_Address', 'Dropoff_time', 'Pickup_Time') VALUES ('47501 Laisha Corners Suite 036\nKreigermouth, DC 33151', '72980 Jen INSERT INTO 'Transporter' ('Dropoff_Address', 'Pickup_Address', 'Dropoff_time', 'Pickup_Time') VALUES ('461 Eli Stream Apt. 604\nLake Stephaniaview, PA 08003', '573 Logan INSERT INTO 'Transporter' ('Dropoff_Address', 'Pickup_Address', 'Dropoff_time', 'Pickup_Time') VALUES ('290 Raphaelle Crossing Suite 331\nWaldoport, SC 63049-8332', '43384
NSERT INTO
                                                        'Dropoff_time', 'Pickup_Time') VALUES ('325 Wilbert Fork\nNew Clovishaven, NV 64480-0749', '120 Judge Corne
'Dropoff_time', 'Pickup_Time') VALUES ('27563 Bridie Stravenue Apt. 667\nAlexiefurt, ME 75706', '6874 Zemla
NSERT INTO
NSERT INTO
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                   use HUMANE_Project;
      2
                   select * from Transporter;
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       290 Raphaelle Crossing Suite 33... 43384 Joanne Oval Apt. 382 Ha...
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       7621 Kessler Mission Suite 970... 40922 Corkery Gateway Apt. 81...
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       325 Wilbert Fork New Clovishave... 120 Judge Corner Apt. 871 Sout...
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                                                                                                                                17:56:07
       27563 Bridie Stravenue Apt. 667...
                                                         6874 Zemlak Trafficway Apt. 643...
                                                                                                                                17:40:31
       297 Rick Pike Apt. 409 Osinskich... 820 Greenfelder Well Goodwinh...
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       974 Heidi Forks Dulcestad, MT 6... 1221 Colt Views Suite 410 West...
                                                                                                           06:00:06
                                                                                                                               13:19:09
       6191 Alison Island Suite 897 Eas... 082 Schimmel Gateway Winthei...
                                                                                                                               11:32:29
                                                                                                           13:12:54
```

Packaging Table -

```
CREATE TABLE `Packaging` (
  Packaging_id` int(9) NOT NULL,
  'Weight' float NOT NULL,
  `Quantity` int(9) unsigned NOT NULL,
 PRIMARY KEY (`Packaging_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
INSERT INTO `Packaging` (`Packaging_id`, `Weight`, `Quantity`) VALUES (0879, '886.000', 9);
INSERT INTO `Packaging` (`Packaging_id`, `Weight`, `Quantity`) VALUES (4564, '111.000', 9);
INSERT INTO `Packaging` (`Packaging_id`, `Weight`, `Quantity`) VALUES (2409, '960.987', 3);
INSERT INTO `Packaging`
                       (`Packaging_id`, `Weight`, `Quantity`) VALUES (3888, '447.097', 5);
                       (`Packaging_id`, `Weight`,
INSERT INTO `Packaging`
                                                    'Quantity') VALUES (9654, '326.098', 4);
                        (`Packaging_id`,
                                                    Quantity') VALUES (9988, '127.000', 1);
INSERT INTO
                                                    Quantity') VALUES (8970, '994.985', 18);
INSERT INTO
            'Packaging'
INSERT INTO `Packaging`
                                                    `Quantity`) VALUES (1958, '416.345', 12);
                       (`Packaging_id`, `Weight`, `Quantity`) VALUES (5397, '359.987', 6);
INSERT INTO `Packaging`
INSERT INTO `Packaging`
                       (`Packaging_id`, `Weight`, `Quantity`) VALUES (6170, '768.876', 15);
```



Shelter_Home Table -



SQL QUERIES

Query 1. Write a query to find unique Medicine Details present in Pharmacy

select distinct (Med_Details)from Pharmacy;

Query 2. Write a query to find Electronics and Furniture ID, Address, Zip-code, Phone no and their Years of Usage with Years of Usage between 3 years and 9 years

select Elec_fur_id, Address, Zip_code, Phone_number, Yrs_of_usage
 from Electronics_Furniture_ID
 where Yrs_of_usage between 3 and 9;

Query 3. Write a query to find total Quantity as Sum_Quantity where Quantity is greater than "500"

select sum(Quantity) as Sum_Quantity
 from Merchandised_Donors
 where Quantity > 500;

Query 4. Write a query to find Medicine Details and total Dosage as Total_Dosage where Medicine is "Asprin"

 select Med_Details,sum(dosage) as Total_Dosage from Pharmacy group by Med_Details having Med_Details = 'Asprin';

Query 5. Write a query to find Pharmacy id and Name where Medicine Date is greater than "2012-05-11" (Use Exists)

select Pharmacy_id, Name from Pharmacy p
 where exists (select * from Medicine_Banks m
 where p.Pharmacy_id = m.Pharmacy_id having date > "2012-05-11");

Query 6. Retrieve Department ID along with SNN, Name, Time and Date of availability and contact details of volunteers who are assigned to the Electronics/Furniture department

select Department_ID,Volunteer_SSN,Name,Date,Time,Contact_Details
from Volunteers v
where v.Department_ID in (select Elec_fur_id from Electronics_Furniture_ID e
where e.Elec_fur_id = v.Department_ID);

Query 7. Retrieve volunteers information based on the date they are available for transportation

select Volunteer_SSN, Name, Date, Time from Volunteers v
where v.date in (select Pickup_Date
from Transportation t
where t.Pickup_Date = v.Date);

Query 8. Retrieve FoodBank_ID Restaurant_ID, Name, Address, Date and Quantity after date "2000-01-01" where Quantity is greater than '13.0000'.

select f.FoodBank_ID, r.Restaurant_id, r.Name, r.Address, f.Date, r.Quantity from Food_Banks f inner join Restaurants r
 where f.Restaurant_id = r.Restaurant_id
 and f.Date > '2000-01-01'
 and r.Quantity > 13.0000;

Query 9. Retrieve MedBank_id, Expiry_Date, Pharmacy_id, dosage, Med_Details and name where Pharmacy_id > '1000' and plot the graph between medicine name and Expiry_Date.

 select MedBank_id, Expiry_Date, Pharmacy_id from Medicine_Banks where Pharmacy_id in (select Pharmacy_id from Pharmacy where Pharmacy_id > '1000');

Query 10. Retrieve the Foodbank ID of the restaurant who delivers the highest quantity of food.

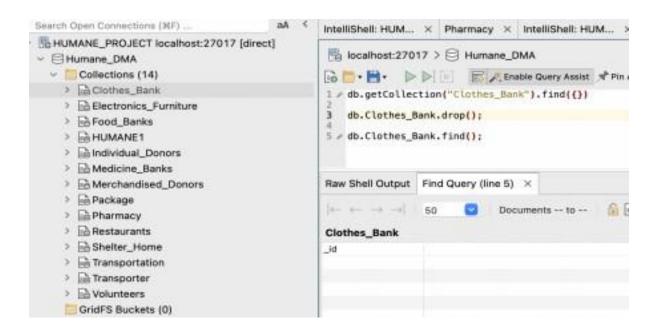
select FoodBank_ID, Zip_code, Address from Food_Banks where Restaurant_id IN (select Restaurant_id from Restaurants where Quantity >= ANY (select Quantity from Restaurants));

IMPLEMENTATION IN NoSQL (MangoDB)

 Connected our database and created a collection in MongoDB with implementation of NoSQL querying deploying drop, insert, update and aggregate functions.

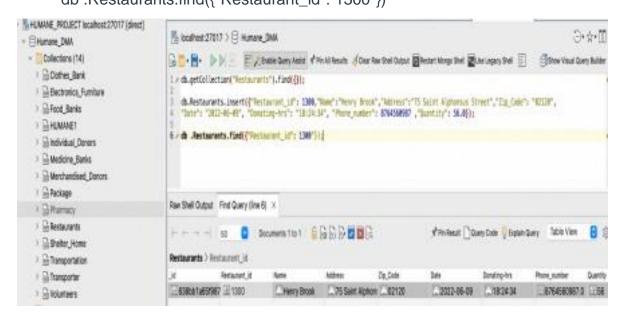
1. DROP -

db.Clothes_Bank.drop();



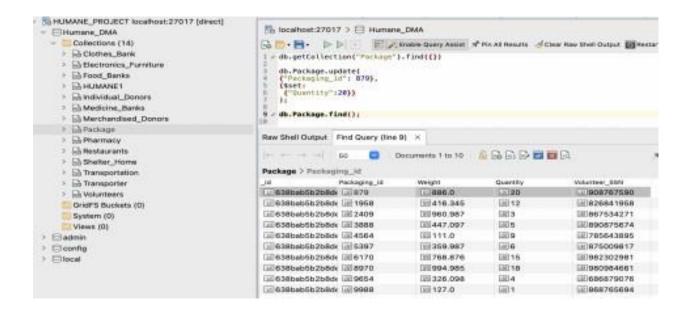
2. INSERT -

db.Restaurants.insert({"Restaurant_id": 1300,"Name":"Henry
 Brook","Address":"75 Saint Alphonsus Street","Zip_Code": "02120","Date":
 "2022-06-09", "Donating-hrs": "18:24:34", "Phone_number": 8764560987
 ,"Quantity": 56.0});
 db .Restaurants.find({"Restaurant_id": 1300"})



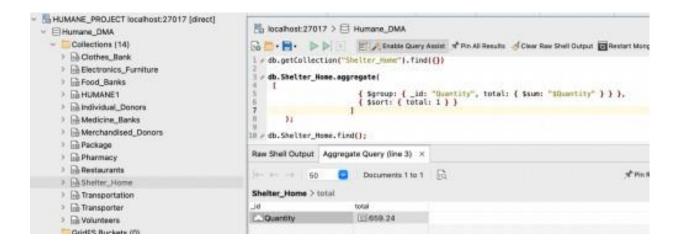
3. UPDATE

db.getCollection("Package").find({})
 db.Package.update({"Packaging_id": 879},
 {\$set:
 {"Quantity":20}}
); db.Package.find();



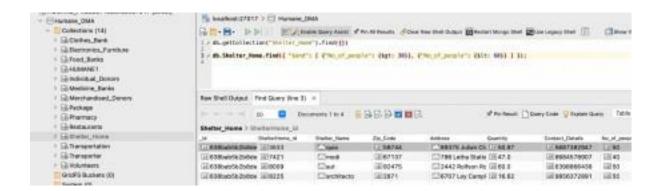
4. Aggregate

db.Shelter_Home.aggregate([
);
{ \$group: { _id: "Quantity", total: { \$sum: "\$Quantity" } } },
{ \$sort: { total: 1 } }]



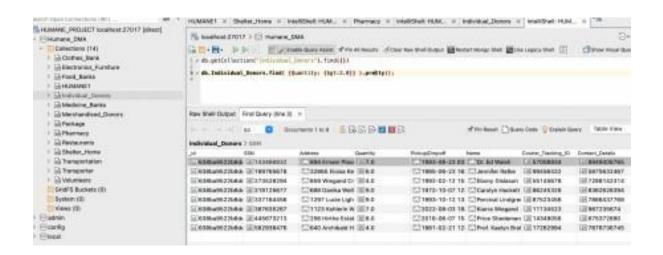
5. Greater than - Lesser than

db.Shelter_Home.find({ "\$and": [{"No_of_people": {\$gt: 30}}, {"No_of_people": {\$lt: 60}}] });



6. Pretty()

db.Individual_Donors.find({Quantity: {\$gt:2.0}}).pretty();

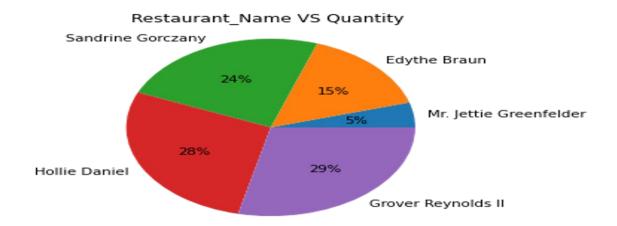


Application to access database (Python)

- Application to access database using python to analyze and perform data insights
- Retrieve FoodBank_ID Restaurant_ID, Name, Address, Date and Quantity
 after date "2000-01-01" where Quantity is greater than '13.4000" and plot pie
 chart between date and quantity.

```
select f.FoodBank_ID, r.Restaurant_id, r.Name, r.Address, f.Date, r.Quantity from Food_Banks f inner join Restaurants r where f.Restaurant_id = r.Restaurant_id and f.Date > '2000-01-01' and r.Quantity > 13.0000;
```

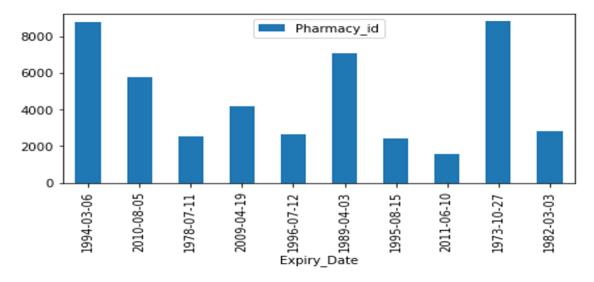
```
In [16]: df_1 = pd.read_sql_query('''select f.FoodBank_ID, r.Restaurant_id, r.Name, r.Address, f.Date, r.Quantity from Food_Bank
In [17]: df_1
Out[171:
              FoodBank_ID Restaurant_id
                                                  Name
                                                                                          Address
                                                                                                       Date Quantity
           0
                    1334
                                 8578 Mr. Jettie Greenfelder
                                                          3198 Ortiz Walks Suite 262\nRobertsfort, OR 13124 2019-12-12
                                                                                                               13.40
                    3789
           1
                                 1124
                                             Edythe Braun
                                                          1523 Toney Lock\nEast Kennithside, IN 15984-5692 2001-03-11
                     4042
                                 6434 Sandrine Gorczany 046 Amparo Club Apt. 982\nSouth Kristyborough,... 2015-12-31
                                                                                                               70.10
                     5882
                                 9573
                                             Hollie Daniel
                                                          6256 Nathanael Walks\nLake Freeman, MD 13059 2019-02-17
                                                                                                               82.12
                                 1425
                                         Grover Reynolds II 420 Shanahan Meadow Suite 571\nNorth Camron, C... 2015-11-28
In [18]: df complete = pd.DataFrame({'data': df 1['Quantity'], 'labels': df 1['Name']})
          plt.pie(df complete['data'], labels=df complete['labels'], autopct='%.0f%%')
          plt.axis('equal')
          plt.title('Restaurant_Name VS Quantity')
          plt.show()
```



 Retrieve MedBank_id, Expiry_Date, Pharmacy_id, dosage, Med_Details and name where Pharmacy_id > '1000' and plot the graph between medicine name and Expiry_Date. Plot the bar graph between Expiry Date and Pharmacy id.

select MedBank_id, Expiry_Date, Pharmacy_id from Medicine_Banks where Pharmacy_id in (select Pharmacy_id from Pharmacy where Pharmacy_id > '1000');

dî_	f_2				
	MedBank_id	Expiry_Date	Pharmacy_id		
0	982	1994-03-06	8765		
1	2261	2010-08-05	5764		
2	2339	1978-07-11	2518		
3	5088	2009-04-19	4158		
4	6099	1996-07-12	2626		
5	6819	1989-04-03	7083		
6	7148	1995-08-15	2439		
7	7549	2011-06-10	1588		
8	8976	1973-10-27	8809		
9	9549	1982-03-03	2833		



- 3. Retrieve the Foodbank ID from the restaurant who delivers the highest quantity of food and create a scatter plot between zip code and foodbank id.
 - select FoodBank_ID, Zip_code, Address from Food_Banks where Restaurant_id IN (select Restaurant_id from Restaurants where Quantity >= ANY (select Quantity from Restaurants));

