SQL Lab-1 ANSWERS

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1. Create Database named “Lab1”
2. List all the databases in your SQL server
3. Change your current database to Lab1
4. List all the tables in Lab1 Database

```
postgres=# CREATE DATABASE lab1;
CREATE DATABASE
postgres=# \l
                                                 List of databases
   Name    |  Owner   | Encoding |          Collate           |           Ctype            |   Access privileges
-----------+----------+----------+----------------------------+----------------------------+-----------------------
 lab1      | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 postgres  | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
 template0 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
 template1 | postgres | UTF8     | English_United States.1252 | English_United States.1252 | =c/postgres          +
           |          |          |                            |                            | postgres=CTc/postgres
 waypoint  | postgres | UTF8     | English_United States.1252 | English_United States.1252 |
(5 rows)


postgres=# \c lab1
You are now connected to database "lab1" as user "postgres".
lab1=# \dt
Did not find any relations.
```

5. Create CUSTOMER table with the proper attribute name and types.

Customer_Id	Customer_Name	Street	City	State	Zipcode	Item_Id	Purchase_Date	Purchase_Time
123	Alfreds Futterkiste	123 Ocean Ct	Edison	NJ	63343	2430	current date	current time
134	Ana Trujillo	45 West 14th St	NYC	NY	10012	2540	current date	current time
143	Luis Hamptons	77 East Pkw	Piscataway	NJ	64334	7764	current date	current time
111	Henry Polsberg	232 Leichester Rd	Brooklyn	NY	12566	2321	current date	current time
125	Susan Mayer	222 West 45th St	NYC	NY	10036	12111	current date	current time
123	Alfreds Futterkiste	123 Ocean Ct	Edison	NJ	63343	3330	current date	current time
176	Hanna Tailor	3 West 4th St	NYC	NY	10001	1287	current date	current time
134	Ana Trujillo	45 West 4th St	NYC	NY	10012	7764	current date	current time
126	Adam Broody	234 East 3th St	NYC	NY	10022	4533	current date	current time
155	Markus Mark	10 8th Ave	Brooklyn	NY	11220	3233	current date	current time

```
lab1=# CREATE TABLE customer
lab1-# (customer_id int NOT NULL,
lab1(# customer_name VARCHAR(255) NOT NULL,
lab1(# street VARCHAR(255) NOT NULL,
lab1(# city VARCHAR(255) NOT NULL,
lab1(# state VARCHAR(255) NOT NULL,
lab1(# zipcode int NOT NULL,
lab1(# item_id int NOT NULL,
lab1(# purchase_date date NOT NULL,
lab1(# purchase_time time NOT NULL);
CREATE TABLE
lab1=# \dt
          List of relations
 Schema |   Name   | Type  |  Owner
--------+----------+-------+----------
 public | customer | table | postgres
(1 row)
```

6. List all the customer information for the customers who lives in NY state.

```
lab1=# SELECT * FROM customer WHERE state = 'NY';
 customer_id | customer_name  |      street       |   city   | state | zipcode | item_id | purchase_date | purchase_time
-------------+----------------+-------------------+----------+-------+---------+---------+---------------+---------------
         134 | Ana Trujillo   | 45 West 14th St   | NYC      | NY    |   10012 |    2549 | 2021-04-15    | 10:45:00
         111 | Henry Polsberg | 232 Leichester Rd | Brooklyn | NY    |   12566 |    2321 | 2021-04-15    | 10:45:00
         125 | Susan Mayer    | 222 West 45th St  | NYC      | NY    |   10036 |   12111 | 2021-04-15    | 10:45:00
         176 | Hanna Tailor   | 3 West 4th St     | NYC      | NY    |   10001 |    1287 | 2021-04-15    | 10:45:00
         134 | Ana Trujillo   | 45 West 14th St   | NYC      | NY    |   10012 |    7764 | 2021-04-15    | 10:45:00
         126 | Adam Broody    | 234 East 3rd St   | NYC      | NY    |   10022 |    4533 | 2021-04-15    | 10:45:00
         155 | Markus Mark    | 10 8th Ave        | Brooklyn | NY    |   11220 |    3233 | 2021-04-15    | 10:45:00
(7 rows)
```

7. List all customer information for the customers who lives in NYC.

```
lab1=# select * from customer where city = 'NYC';
 customer_id | customer_name |      street       | city | state | zipcode | item_id | purchase_date | purchase_time
-------------+---------------+-------------------+------+-------+---------+---------+---------------+---------------
         134 | Ana Trujillo  | 45 West 14th St   | NYC  | NY    |   10012 |    2549 | 2021-04-15    | 10:45:00
         125 | Susan Mayer   | 222 West 45th St  | NYC  | NY    |   10036 |   12111 | 2021-04-15    | 10:45:00
         176 | Hanna Tailor  | 3 West 4th St     | NYC  | NY    |   10001 |    1287 | 2021-04-15    | 10:45:00
         134 | Ana Trujillo  | 45 West 14th St   | NYC  | NY    |   10012 |    7764 | 2021-04-15    | 10:45:00
         126 | Adam Broody   | 234 East 3rd St   | NYC  | NY    |   10022 |    4533 | 2021-04-15    | 10:45:00
(5 rows)
```

8. List all customer information for the customers with customer number less than 150.

```
lab1=# select * from customer where customer_id < 150;
 customer_id |   customer_name    |      street       |    city    | state | zipcode | item_id | purchase_date | purchase_time
-------------+--------------------+-------------------+------------+-------+---------+---------+---------------+---------------
         134 | Ana Trujillo       | 45 West 14th St   | NYC        | NY    |   10012 |    2549 | 2021-04-15    | 10:45:00
         143 | Luis Hamptons      | 77 East Pkw       | Piscataway | NJ    |   64334 |    7764 | 2021-04-15    | 10:45:00
         111 | Henry Polsberg     | 232 Leichester Rd | Brooklyn   | NY    |   12566 |    2321 | 2021-04-15    | 10:45:00
         125 | Susan Mayer        | 222 West 45th St  | NYC        | NY    |   10036 |   12111 | 2021-04-15    | 10:45:00
         134 | Ana Trujillo       | 45 West 14th St   | NYC        | NY    |   10012 |    7764 | 2021-04-15    | 10:45:00
         126 | Adam Broody        | 234 East 3rd St   | NYC        | NY    |   10022 |    4533 | 2021-04-15    | 10:45:00
         123 | Alfred Futterkiste | 123 Ocean Ct      | Edison     | NJ    |   63343 |    2430 | 2021-04-15    | 10:45:00
         123 | Alfred Futterkiste | 123 Ocean Ct      | Edison     | NJ    |   63343 |    3330 | 2021-04-15    | 10:45:00
(8 rows)
```

9. List all customer information for the customers with customer number greater than or equal to 150.

```
lab1=# select * from customer where customer_id >= 150;
 customer_id | customer_name |    street     |   city   | state | zipcode | item_id | purchase_date | purchase_time
-------------+---------------+---------------+----------+-------+---------+---------+---------------+---------------
         176 | Hanna Tailor  | 3 West 4th St | NYC      | NY    |   10001 |    1287 | 2021-04-15    | 10:45:00
         155 | Markus Mark   | 10 8th Ave    | Brooklyn | NY    |   11220 |    3233 | 2021-04-15    | 10:45:00
(2 rows)
```

10. List all customer information.

```
lab1=# select * from customer;
 customer_id |   customer_name    |      street       |    city    | state | zipcode | item_id | purchase_date | purchase_time
-------------+--------------------+-------------------+------------+-------+---------+---------+---------------+---------------
         134 | Ana Trujillo       | 45 West 14th St   | NYC        | NY    |   10012 |    2549 | 2021-04-15    | 10:45:00
         143 | Luis Hamptons      | 77 East Pkw       | Piscataway | NJ    |   64334 |    7764 | 2021-04-15    | 10:45:00
         111 | Henry Polsberg     | 232 Leichester Rd | Brooklyn   | NY    |   12566 |    2321 | 2021-04-15    | 10:45:00
         125 | Susan Mayer        | 222 West 45th St  | NYC        | NY    |   10036 |   12111 | 2021-04-15    | 10:45:00
         176 | Hanna Tailor       | 3 West 4th St     | NYC        | NY    |   10001 |    1287 | 2021-04-15    | 10:45:00
         134 | Ana Trujillo       | 45 West 14th St   | NYC        | NY    |   10012 |    7764 | 2021-04-15    | 10:45:00
         126 | Adam Broody        | 234 East 3rd St   | NYC        | NY    |   10022 |    4533 | 2021-04-15    | 10:45:00
         155 | Markus Mark        | 10 8th Ave        | Brooklyn   | NY    |   11220 |    3233 | 2021-04-15    | 10:45:00
         123 | Alfred Futterkiste | 123 Ocean Ct      | Edison     | NJ    |   63343 |    2430 | 2021-04-15    | 10:45:00
         123 | Alfred Futterkiste | 123 Ocean Ct      | Edison     | NJ    |   63343 |    3330 | 2021-04-15    | 10:45:00
(10 rows)
```

11. List all customer name and address whose name is alphabetically comes after letter 'K'

```
lab1=# SELECT customer_name,street,city,state,zipcode FROM customer WHERE customer_name > 'K';
 customer_name |      street       |    city    | state | zipcode
---------------+-------------------+------------+-------+---------
 Luis Hamptons | 77 East Pkw       | Piscataway | NJ    |   64334
 Susan Mayer   | 222 West 45th St  | NYC        | NY    |   10036
 Markus Mark   | 10 8th Ave        | Brooklyn   | NY    |   11220
(3 rows)
```

12. List all customer name and customer id for the customers whose name is alphabetically comes before 'Kate'

```
lab1=# SELECT customer_id,customer_name FROM customer WHERE customer_name < 'Kate';
 customer_id |   customer_name
-------------+--------------------
         134 | Ana Trujillo
         111 | Henry Polsberg
         176 | Hanna Tailor
         134 | Ana Trujillo
         126 | Adam Broody
         123 | Alfred Futterkiste
         123 | Alfred Futterkiste
(7 rows)
```

13. List unique customer names.

```
lab1=# SELECT DISTINCT customer_name FROM customer;
   customer_name
--------------------
 Hanna Tailor
 Ana Trujillo
 Adam Broody
 Henry Polsberg
 Susan Mayer
 Luis Hamptons
 Markus Mark
 Alfred Futterkiste
(8 rows)
```

14. List all the customer information whose customer id is between 120 and 151.

```
lab1=# SELECT * FROM customer WHERE customer_id BETWEEN 120 AND 151;
 customer_id |   customer_name    |      street       |    city    | state | zipcode | item_id | purchase_date | purchase_time
-------------+--------------------+-------------------+------------+-------+---------+---------+---------------+---------------
         134 | Ana Trujillo       | 45 West 14th St   | NYC        | NY    |   10012 |    2549 | 2021-04-15    | 10:45:00
         143 | Luis Hamptons      | 77 East Pkw       | Piscataway | NJ    |   64334 |    7764 | 2021-04-15    | 10:45:00
         125 | Susan Mayer        | 222 West 45th St  | NYC        | NY    |   10036 |   12111 | 2021-04-15    | 10:45:00
         134 | Ana Trujillo       | 45 West 14th St   | NYC        | NY    |   10012 |    7764 | 2021-04-15    | 10:45:00
         126 | Adam Broody        | 234 East 3rd St   | NYC        | NY    |   10022 |    4533 | 2021-04-15    | 10:45:00
         123 | Alfred Futterkiste | 123 Ocean Ct      | Edison     | NJ    |   63343 |    2430 | 2021-04-15    | 10:45:00
         123 | Alfred Futterkiste | 123 Ocean Ct      | Edison     | NJ    |   63343 |    3330 | 2021-04-15    | 10:45:00
(7 rows)
```

15. Create PRODUCT table with the proper attribute name and types.

Item_Id	Product_Description	Product_Type	Manufacturer	Origin	Quantity
2430	Ogx Shampoo	Cleaning	Ogx Group	USA	5
2540	Nescafe Coffee Machine	Small Appliances	Nescafe Electronics	USA	13
7764	Braun Mixer	Small Appliances	Braun	Germany	23
2321	Ogx Conditioner	Cleaning	Ogx Group	USA	65
12111	Emily Sofabed	Furniture	Zinus	China	26
3330	Earrings	Accessories	Christian Dior	France	32
1287	JBL Headphones	Electronics	JBL	USA	2
2888	Laptop	Electronics	Lenovo	China	21
5666	Alarm	Electronics	Sony	Japan	5

16. List all the tables in your current database

```
lab1=# \dt
          List of relations
 Schema |   Name   | Type  |  Owner
--------+----------+-------+----------
 public | customer | table | postgres
 public | product  | table | postgres
(2 rows)
```

17. List everything in your Product Table.

```
lab1=# SELECT * FROM product;
 item_id |  product_description   |   product_type    |    manufacturer     | origin  | quantity
---------+------------------------+-------------------+---------------------+---------+----------
    2430 | Ogx Shampoo            | Cleaning          | Ogx Group           | USA     |        5
    2540 | Nescafe Coffee Machine | Small Applicances | Nescafe Electronics | USA     |       13
    7764 | Braun Mixer            | Small Applicances | Braun               | Germany |       23
    2321 | Ogx Conditioner        | Cleaning          | Ogx Group           | USA     |       65
   12111 | Emily Sofabed          | Furniture         | Zinus               | China   |       26
    3330 | Earrings               | Accessories       | Christian Dior      | France  |       32
    1287 | JBL Headphones         | Electronics       | JBL                 | USA     |        2
    2888 | Laptop                 | Electronics       | Lenovo              | China   |       21
    5666 | Alarm                  | Electronics       | Sony                | Japan   |        5
(9 rows)
```

18. List all Ogx Group products with product ID, description and their quantities.

```
lab1=# SELECT item_id,product_description,quantity FROM product WHERE manufacturer='Ogx Group';
 item_id | product_description | quantity
---------+---------------------+----------
    2430 | Ogx Shampoo         |        5
    2321 | Ogx Conditioner     |       65
(2 rows)
```

19. List all product descriptions and quantities from Product table

```
lab1=# SELECT product_description,quantity FROM product;
  product_description   | quantity
------------------------+----------
 Ogx Shampoo            |        5
 Nescafe Coffee Machine |       13
 Braun Mixer            |       23
 Ogx Conditioner        |       65
 Emily Sofabed          |       26
 Earrings               |       32
 JBL Headphones         |        2
 Laptop                 |       21
 Alarm                  |        5
(9 rows)
```

20. List all cleaning product IDs and descriptions.

```
lab1=# SELECT item_id,product_description FROM product WHERE product_type='Cleaning';
 item_id | product_description
---------+---------------------
    2430 | Ogx Shampoo
    2321 | Ogx Conditioner
(2 rows)
```

21. List all the manufacturers located in China.

```
lab1=# SELECT manufacturer FROM product WHERE origin='China';
 manufacturer
--------------
 Zinus
 Lenovo
(2 rows)
```

22. Your manager asked you to re-order some of the products whose quantity is less than 10 items for your inventory. Write a query that finds out product ids and manufacturers of those products.

```
lab1=# SELECT item_id,manufacturer FROM product WHERE quantity<10;
 item_id | manufacturer
---------+--------------
    2430 | Ogx Group
    1287 | JBL
    5666 | Sony
(3 rows)
```

23. List all the electronic and furniture manufacturers.

```
lab1=# SELECT manufacturer FROM product WHERE product_type='Electronics' OR product_type='Furniture';
 manufacturer
--------------
 Zinus
 JBL
 Lenovo
 Sony
(4 rows)
```

24. List all customer names, customer ids, item IDs they bought and item descriptions.

```
lab1=# SELECT customer.customer_name,customer.customer_id,customer.item_id,product.product_description FROM customer INNER JOIN product on custom
er.item_id=product.item_id;
   customer_name    | customer_id | item_id | product_description
--------------------+-------------+---------+---------------------
 Luis Hamptons      |         143 |    7764 | Braun Mixer
 Henry Polsberg     |         111 |    2321 | Ogx Conditioner
 Susan Mayer        |         125 |   12111 | Emily Sofabed
 Hanna Tailor       |         176 |    1287 | JBL Headphones
 Ana Trujillo       |         134 |    7764 | Braun Mixer
 Alfred Futterkiste |         123 |    2430 | Ogx Shampoo
 Alfred Futterkiste |         123 |    3330 | Earrings
(7 rows)
```

25. List all the customer names who bought electronics.

```
lab1=# SELECT customer_name FROM customer INNER JOIN product ON customer.item_id = product.item_id AND product.product_type='Electronics';
 customer_name
---------------
 Hanna Tailor
(1 row)
```