**ASSIGNMENT NO.5**

**Name – Indranil Bain**

**Enrollment NO. – 2020CSB039**

**Branch – Computer Science and Technology**

**Group - GX**

**Subject – DBMS Laboratory**

**Q1)**

**<A. Creation of tables:>**

**Customer Table**

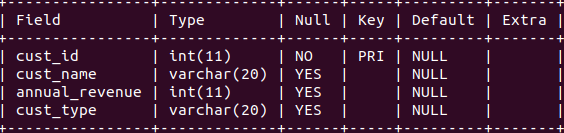
create table Customer(

-> cust\_id int primary key check(cust\_id between 100 and 10000),

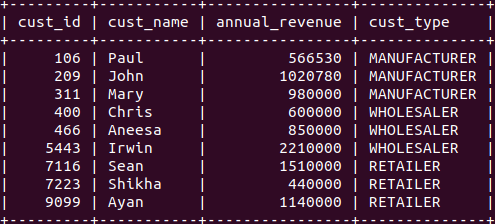
-> cust\_name varchar(20),

-> annual\_revenue int,

-> cust\_type varchar(20) check(cust\_type in ('MANUFACTURER','WHOLESALER','RETAILER')));



**After insertion of values:-**

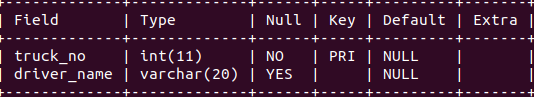


**Truck Table**

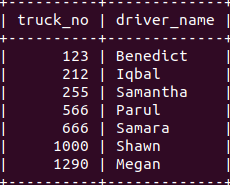
create table Truck(

-> truck\_no int primary key,

-> driver\_name varchar(20));

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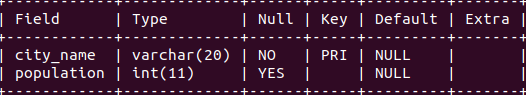
**After insertion of values:-**

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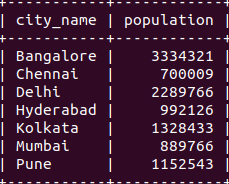
**City Table**

create table City(

-> city\_name varchar(20) primary key,

-> population int);

**After insertion of values:-**



**Shipment Table**

create table Shipment

-> shipment\_no int,

-> cust\_id int references Customer(cust\_id) on delete cascade,

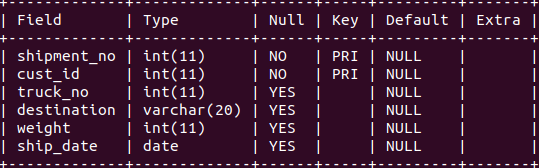
-> truck\_no int references Truck(truck\_no) on delete set NULL,

-> destination varchar(20) references City(city\_name),

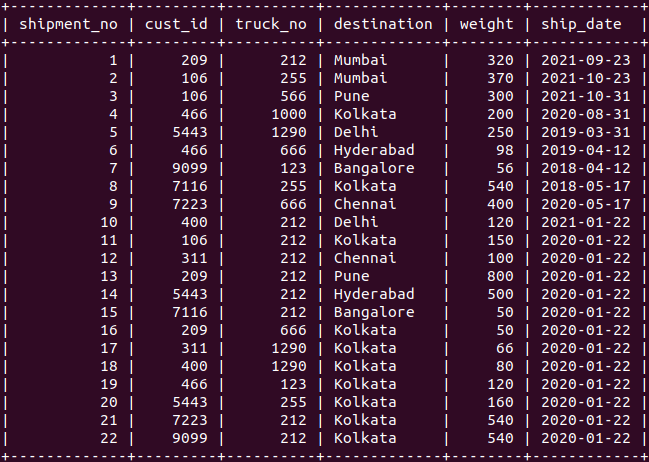
-> weight int check(weight<1000),

-> ship\_date date,

-> primary key(shipment\_no,cust\_id));



**After insertion of values:-**

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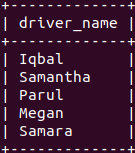
**<B. Queries >**

**a) Give names of customers who have sent packages (shipments) to Kolkata, Chennai and Mumbai.**

SELECT cust\_name from customer NATURAL JOIN shipment WHERE shipment.destination='Kolkata' OR shipment.destination='Chennai' OR shipment.destination='Mumbai'

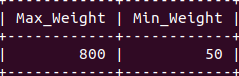
**b) List the names of the driver who have delivered shipments weighing over 200 pounds.**

select distinct(driver\_name) from Truck,Shipment where Truck.truck\_no= Shipment.truck\_no and weight>200;

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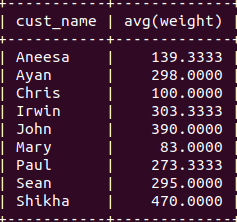
**c) Retrieve the maximum and minimum weights of the shipments. Rename the output as Max\_Weight and Min\_Weight respectively.**

select max(weight) as 'Max\_Weight', min(weight) as 'Min\_Weight' from Shipment;



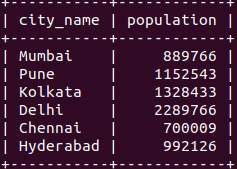
**d) For each customer, what is the average weight of the package sent by the customer?**

select distinct(cust\_name),avg(weight) from Shipment,Customer where Shipment.cust\_id=Customer.cust\_id group by cust\_name;



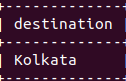
**e) List the names and populations of cities that have received shipments weighing over 100 pounds.**

select distinct(city\_name),population from Shipment,City where destination=city\_name and weight>100;



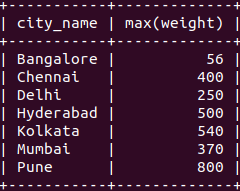
**f) List cities that have received shipments from every customer.**

select destination from Shipment group by destination having count(distinct cust\_id)=(select count(cust\_id) from Customer);



**g) For each city, what is the maximum weight of a package sent to that city?**

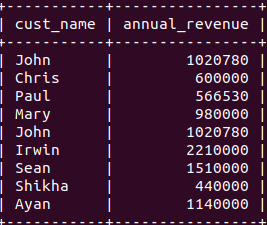
select city\_name,max(weight) from Shipment,City where Shipment.destination=City.city\_name group by city\_name;



**h) List the name and annual revenue of customers whose shipments have been delivered**

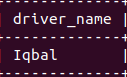
**by truck driver ‘IQBAL’.**

select cust\_name,annual\_revenue from Customer,Shipment,Truck where Customer.cust\_id=Shipment.cust\_id and Truck.truck\_no=Shipment.truck\_no and driver\_name='Iqbal';



**i) List drivers who have delivered shipments to every city.**

select driver\_name from Truck,Shipment where Shipment.truck\_no=Truck.truck\_no group by driver\_name having count(distinct destination)=(select count(city\_name) from City);

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**j) For each city, with a population over 1 million, what is the minimum weight of a package sent to that city.**

select destination,min(weight) from Shipment, City where city\_name=destination and population>1000000 group by destination;

