## **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')));

Field	Туре	Null	Key	Default	Extra
cust_name   annual_revenue	int(11)   varchar(20)   int(11)   varchar(20)	YES YES	: :	NULL NULL NULL NULL	

#### After insertion of values:-

106   Paul   566530   MANUFACTURER   209   John   1020780   MANUFACTURER   311   Mary   980000   MANUFACTURER   400   Chris   600000   WHOLESALER
466   Aneesa   850000   WHOLESALER   5443   Irwin   2210000   WHOLESALER   7116   Sean   1510000   RETAILER   7223   Shikha   440000   RETAILER

#### **Truck Table**

create table Truck(

- -> truck\_no int primary key,
- -> driver\_name varchar(20));

	Type	Null	Key	Default	Extra
truck_no	int(11)   varchar(20)	NO	PRI		

#### After insertion of values:-

truck_no	driver_name
123	Benedict
212	Iqbal
255	Samantha
566	Parul
666	Samara
1000	Shawn
1290	Megan
+	+

### **City Table**

create table City(

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

Field   Type			Default	
city_name   varcha   population   int(1:	ar(20)   NO	PRI		

#### After insertion of values:-

city_name	population
Bangalore	3334321
Chennai	700009
Delhi	2289766
Hyderabad	992126
Kolkata	1328433
Mumbai	889766
Pune	1152543

### **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));

Field	Туре	Null   I	Key	Default	Extra
	int(11)   int(11)		ij		

#### After insertion of values:-

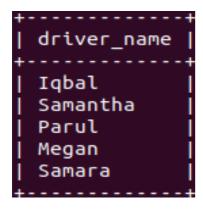
+	+	+		++	
shipment_no	cust_id	truck_no	destination	weight	ship_date
1	209	212	Mumbai	320	2021-09-23
2	106	255	Mumbai	370	2021-10-23
3	106	566	Pune	300	2021-10-31
4	466	1000	Kolkata	200	2020-08-31
5	5443	1290	Delhi	250	2019-03-31
6	466	666	Hyderabad	98	2019-04-12
7	9099	123	Bangalore	56	2018-04-12
8	7116	255	Kolkata	540	2018-05-17
9	7223	666	Chennai	400	2020-05-17
10	400	212	Delhi	120	2021-01-22
11	106	212	Kolkata	150	2020-01-22
12	311	212	Chennai	100	2020-01-22
13	209	212	Pune	800	2020-01-22
14	5443	212	Hyderabad	500	2020-01-22
15	7116	212	Bangalore	50	2020-01-22
16	209	666	Kolkata	50	2020-01-22
17	311	1290	Kolkata	66	2020-01-22
18	400	1290	Kolkata	80	2020-01-22
19	466	123	Kolkata	120	2020-01-22
20	5443	255	Kolkata	160	2020-01-22
21	7223	212	Kolkata	540	2020-01-22
22	9099	212	Kolkata	540	2020-01-22

#### <B. Queries >

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

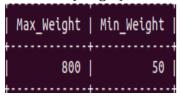
SELECT cust\_name from customer NATURAL JOIN shipment WHERE shipment.destination='Kolkata' OR shipment.destination='Chennai' OR shipment.destination='Mumbai'

**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;



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;

cust_name	avg(weight)
Aneesa	139.3333
Ayan	298.0000
Chris	100.0000
Irwin	303.3333
John	390.0000
Mary	83.0000
Paul	273.3333
Sean	295.0000
Shikha	470.0000
+	<del></del>

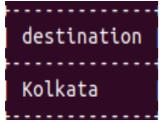
e) List the names and populations of cities that have received shipments weighing over 100 pounds.

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

city_name	population
Mumbai	889766
Pune	1152543
Kolkata	1328433
Delhi	2289766
Chennai	700009
Hyderabad	992126
+	++

#### 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;

city_name	max(weight)
Bangalore   Chennai   Delhi   Hyderabad   Kolkata   Mumbai   Pune	56   400   250   500   540   370

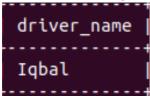
# h) List the name and annual revenue of customers whose shipments have been delivered by truck driver 'IQBAL'.

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';

cust_name	annual_revenue
John Chris Paul Mary John Irwin	1020780   600000   566530   980000   1020780   2210000
Shikha   Ayan	440000   1140000

### 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);



# 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;

population recover group by accumument,	
destination	min(weight)
Bangalore Delhi	50   120
Kolkata Pune	50   300