# Assignment 1

Customer (cust-id, cust-name, annual-revenue, cust-type) [cust-id needs to maintain a sequence starting from 100 and cust-type must be manufacturer, wholesaler, retailer or distributor]

Truck (truck-no, driver-name)

City (city-name, population)

Shipment (shipment-no, cust-id, weight, truck-no, start-city, destination-city). [start-city & destination-city both refers to city-name of City table]

Create table through appropriate SQL commands. Define all integrity constraints and enter sufficient data.

Write SQL commands for the following queries.

i) Give the details for those shipments where the start-city and destination-city are same.

ii) Give the driver names who participated in maximum numbers of shipments?

iii) Give the name of the city never appears in destination-city.

iv) Give the name of the cities whose population is more the average of all the cities.

v) Give the shipment details where the starting character of customer name and the last character of driver

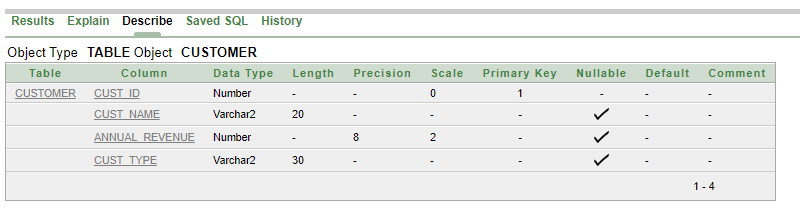
name is ‘A’.

# Solution

## Table creation:

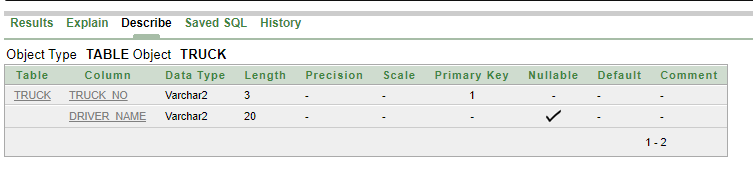
### Customer

create table customer(cust\_id smallint primary key, cust\_name varchar2(20), annual\_revenue decimal(8,2), cust\_type varchar2(30), check(cust\_id >= 100), check(cust\_type in ('manufacturer', 'wholesaler', 'distributor', 'retailer')));



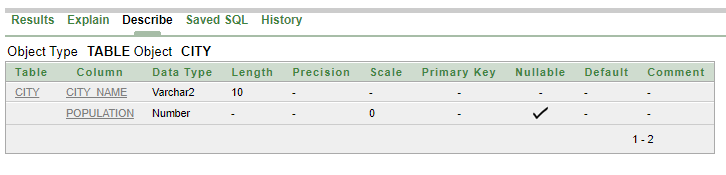
### Truck

create table truck(truck\_no varchar2(3) primary key, driver\_name varchar2(20));



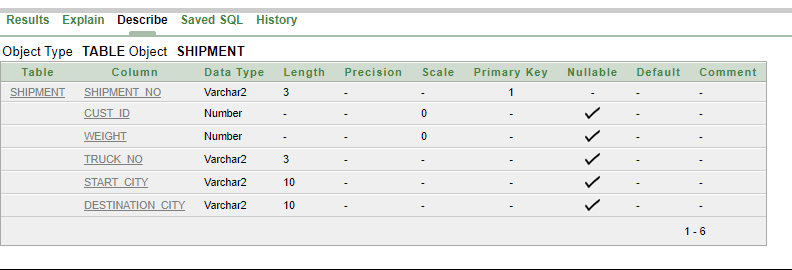
### City

create table city(city\_name varchar2(10) not null, population int, unique(city\_name));



### Shipment

create table shipment(shipment\_no varchar2(3) primary key, cust\_id smallint, weight smallint, truck\_no varchar2(3), start\_city varchar2(10), destination\_city varchar2(10), foreign key (cust\_id) references customer(cust\_id), foreign key (truck\_no) references truck(truck\_no), foreign key (start\_city) references city(city\_name), foreign key (destination\_city) references city(city\_name));



## Value Insertion

### Customer

insert into customer values(100, 'Akash Patra', 1000, 'wholesaler');

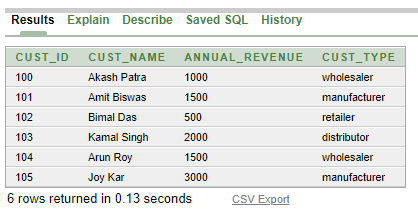
insert into customer values(101, 'Amit Biswas', 1500, 'manufacturer');

insert into customer values(102, 'Bimal Das', 500, 'retailer');

insert into customer values(103, 'Kamal Singh', 2000, 'distributor');

insert into customer values(104, 'Arun Roy', 1500, 'wholesaler');

insert into customer values(105, 'Joy Kar', 3000, 'manufacturer');



### truck

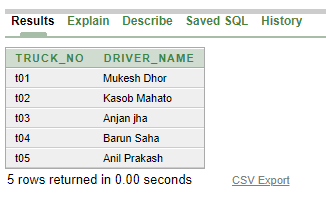
insert into truck values('t01', 'Mukesh Dhor');

insert into truck values('t02', 'Kasob Mahato');

insert into truck values('t03', 'Anjan jha');

insert into truck values('t04', 'Barun Saha');

insert into truck values('t05', 'Anil Prakash');



### City

insert into city values('Kolkata', 50000);

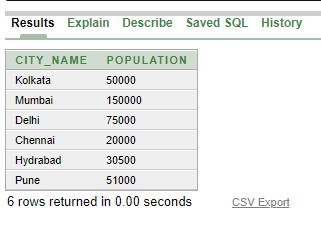
insert into city values('Mumbai', 150000);

insert into city values('Delhi', 75000);

insert into city values('Chennai', 20000);

insert into city values('Hydrabad', 30500);

insert into city values('Pune', 51000);



### Shipment

insert into shipment values('s01', 102, 10, 't03', 'Kolkata', 'Kolkata');

insert into shipment values('s02', 100, 32, 't03', 'Mumbai', 'Kolkata');

insert into shipment values('s03', 101, 25, 't03', 'Delhi', 'Mumbai');

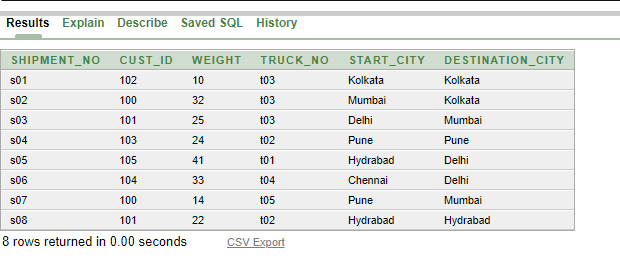
insert into shipment values('s04', 103, 24, 't02', 'Pune', 'Pune');

insert into shipment values('s05', 105, 41, 't01', 'Hydrabad', 'Delhi');

insert into shipment values('s06', 104, 33, 't04', 'Chennai', 'Delhi');

insert into shipment values('s07', 100, 14, 't05', 'Pune', 'Mumbai');

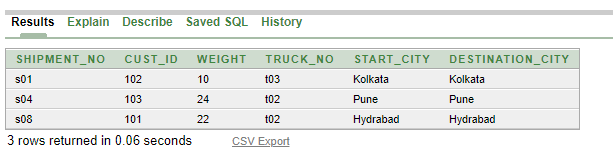
insert into shipment values('s08', 101, 22, 't02', 'Hydrabad', 'Hydrabad');



## Queries

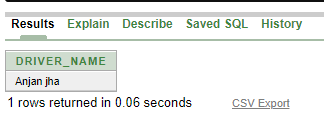
1. Give the details for those shipments where the start-city and destination-city are same.

ans. select \* from shipment where start\_city = destination\_city;



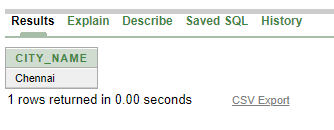
1. Give the driver names who participated in maximum numbers of shipments?

ans. select driver\_name from truck where truck\_no in (select truck\_no from shipment group by truck\_no having count(shipment\_no) = (select max(count(shipment\_no)) from shipment group by truck\_no));



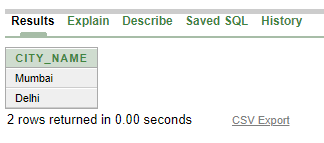
1. Give the name of the city never appears in destination-city.

ans. select city\_name from city minus select distinct destination\_city from shipment;



1. Give the name of the cities whose population is more the average of all the cities.

ans. select city\_name from city where population > (select avg(population) from city);



1. Give the shipment details where the starting character of customer name and the last character of driver name is ‘A’.

ans. select \* from customer natural join shipment natural join truck where (cust\_name like 'A%') and (driver\_name like '%a');

