**Experiment No. 1**

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**Roll\_no: 46**

**Div: B Batch: B2 Class: TY CSE**

**PRN: 21ST114282039**

**Title: Implement multi-valued attributes and inheritance in ORDBMS.**

**Problem statement:**

A. Implement multi-valued attributes in ORDBMS for a given dataset.

B. Implement inheritance in ORDBMS for a given dataset.

1. **Implement multi-valued attributes in ORDBMS for a given dataset.**

**Questions:**

**1. Create type name\_ty with following attributes:**

* **Fname varchar**
* **Lname varchar**

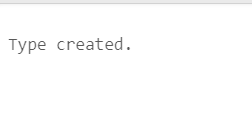
create type name\_ty as object

(

fname varchar(20),

lname varchar(20)

);



**2. Create type inv\_ty with following attributes:**

* **Inv\_no varchar**
* **Cust\_id varchar**

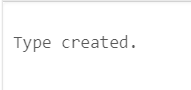
create type inv\_ty as object

(

inv\_no varchar(20),

cust\_id varchar(20)

);



**3. Create table Customer with following attributes:**

* **Cust\_id varchar**
* **Name name\_ty**
* **Area varchar**
* **Ph\_no integer**

create table customer

(

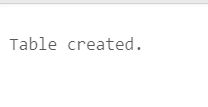
id varchar(20),

name name\_ty,

area varchar(20),

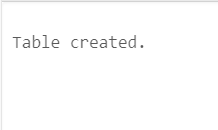
phn\_no int

);



**4. Create table invoice using inv\_ty.**

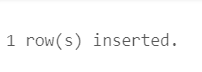
create table invoice of inv\_ty;



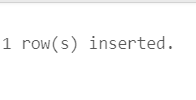
**5. Insert following data into customer table.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **cust\_id** | **name** | | **area** | **ph\_no** |
| **fname** | **lname** |
| a01 | Sumit | Kamble | sa | 723622 |
| a02 | Shubham | Chougule | mo | 237842 |
| a03 | ravi | kumar | bi | 545621 |
| a04 | sunita | rai | ch | 983724 |
| a05 | james | smith | wa | 636472 |

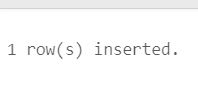
insert into customer(id,name,area,phn\_no) values ('a01',name\_ty('Kamble','Sumit'),'sa',723671);



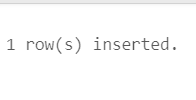
insert into customer(id,name,area,phn\_no)values('a02',name\_ty('Shubham','Chougule'),'mo',237842);



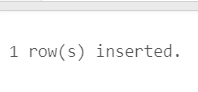
insert into customer(id,name,area,phn\_no)values('a03',name\_ty('ravi','kumar'),'bi',545621);



insert into customer(id,name,area,phn\_no)values('a04',name\_ty('sunita','rai'),'ch',983724);



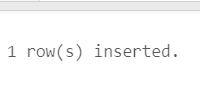
insert into customer(id,name,area,phn\_no)values('a05',name\_ty('james','smith'),'wa',636472);



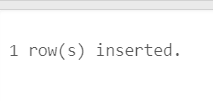
**6. Insert following data into invoice table.**

|  |  |
| --- | --- |
| **Inv\_no** | **Cust\_id** |
| i01 | a01 |
| i02 | a02 |
| i03 | a03 |
| i04 | a04 |
| i05 | a05 |

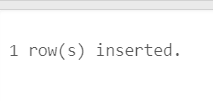
insert into invoice values ('i01','a01');



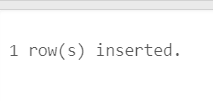
insert into invoice values ('i02','a02');



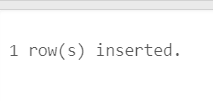
insert into invoice values ('i03','a03');



insert into invoice values ('i04','a04');

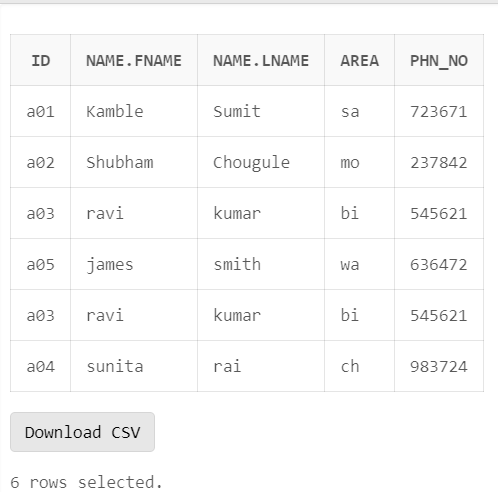


insert into invoice values ('i05','a05');

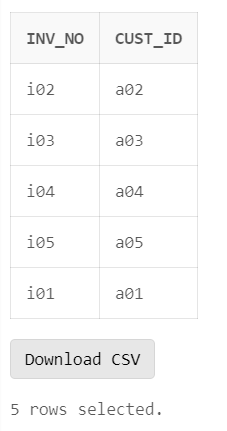


**7. Print both customer and invoice tables.**

select c.id,c.name.fname,c.name.lname,c.area,c.phn\_no from customer c;

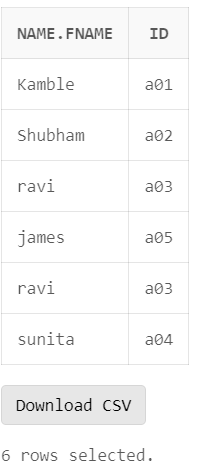


select \* from invoice;



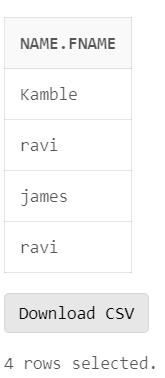
**8. Retrieve the list of first name and area for all the customers.**

select c.name.fname,c.id from customer c;



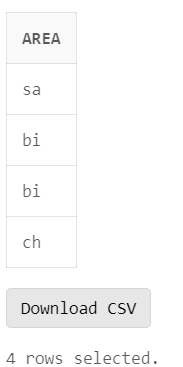
**9. Find the name of all the customers having ‘a’ as second letter in first name.**

select c.name.fname from customer c where c.name.fname like ‘\_a%’;



**10. Find the customers who stay in area sa or bi or ch.**

select area from customer where area=’sa’ or area= ‘bi’ or area= ‘ch’;

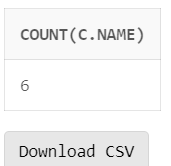


select area from customer where area IN(‘sa’,’bi’,’ch’);



**11. Count the total number of customers.**

select COUNT(c.name) from customer c;



**12. Find the customer name and area with invoice no ‘i04’.**

select c.name.fname,c.name.lname ,c.area from customer c where id in

(

select cust\_id from invoice where inv\_no='i04'

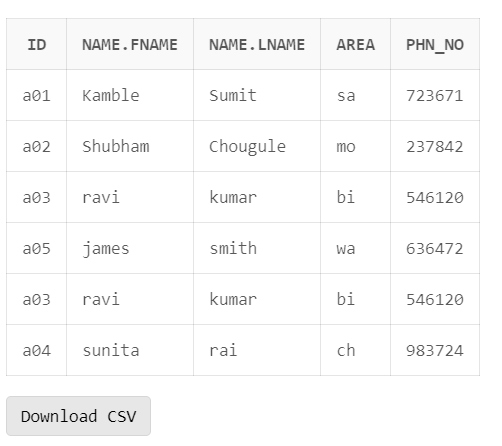
);



**13. Change the phone number of ravi to 546120.**

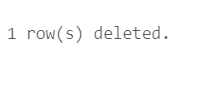
update customer set phn\_no=546120 where id='a03';





**14. Delete the record with invoice\_no ‘i04’.**

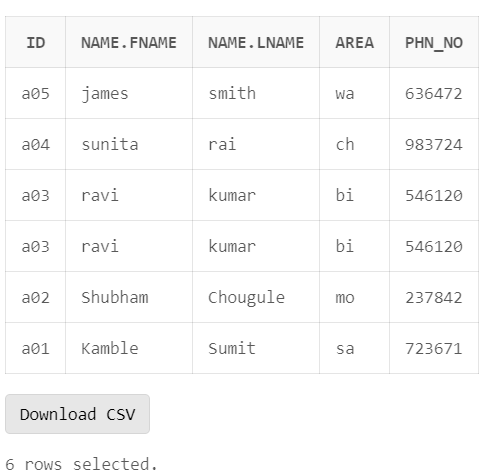
delete from invoice i where i.inv\_no='i04';



**15. Arrange the customer table in decreasing order of customer id.**

select c.id,c.name.fname,c.name.lname,c.area,c.phn\_no from customer c

ORDER BY c.id DESC;



**16. Delete all the records from customer and invoice table.**

delete from customer;



delete from invoice;



**B. Implement inheritance in ORDBMS for a given dataset.**

Questions:

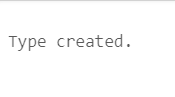
1. **Create type name\_ty with following attributes:**
   * + **Fname varchar**
     + **Lname varchar**

create type name\_ty1 as OBJECT

(

fname varchar(20),lname varchar(20)

)not final;



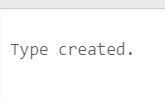
1. **Create type addr\_ty with following attributes:**
   * + **City varchar**
     + **Pincode number**

create type addr\_ty1 as OBJECT

(

city varchar(20),pincode number

)not final;



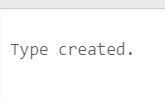
1. **Create type employee with following attributes:**
   * + **emp\_id number**
     + **name name\_ty**
     + **address addr\_ty.**

create type employee as OBJECT

(

emp\_id number,name name\_ty1,address addr\_ty1

)not final;



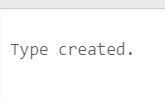
1. **Create type fulltime\_emp under type employee with following attribute:**
   * + **Salary number**

create type fulltime\_emp under employee

(

salary number

)not final;



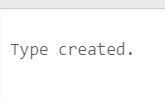
1. **Create type parttime\_emp under type employee with following attributes:**
   * + **Rate number**
     + **Hours number**

create type parttime\_emp under employee

(

rate number,hours number

);



1. **Create table Fulltime of type fulltime\_emp.**

create table fulltime of fulltime\_emp;



1. **Create table Parttime of type parttime\_emp.**

create table parttime of parttime\_emp;



1. **Insert the following data to Fulltime table:**

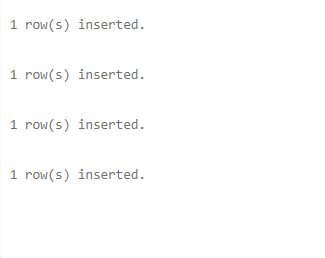
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **emp\_id** | **Name** | | **address** | | **salary** |
| **fanme** | **lname** | **city** | **pincode** |
| 1 | Rahul | Kumar | pune | 411234 | 50000 |
| 2 | Aniket | Sharma | Kolhapur | 410123 | 70000 |
| 3 | Abhi | Verma | Kolhapur | 410124 | 40000 |
| 4 | Rohan | Kumar | mumbai | 416605 | 60000 |

insert into fulltime values(1,name\_ty('rahul','kumar'),addr\_ty('pune',411234),50000);

insert into fulltime values(2,name\_ty('aniket','sharma'),addr\_ty('kop',410123),70000);

insert into fulltime values(3,name\_ty('abhi','verma'),addr\_ty('kop',410124),40000);

insert into fulltime values(4,name\_ty('rohan','kumar'),addr\_ty('mum',416605),60000);



1. **Insert the following data to Parttime table:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **emp\_id** | **Name** | | **address** | | **rate** | **hours** |
| **fanme** | **lname** | **city** | **pincode** |
| 5 | Vibhuti | mitra | sangli | 410298 | 1000 | 8 |
| 6 | Ketaki | Bhave | Kolhapur | 410222 | 500 | 7 |
| 7 | Mahesh | Kumbhar | pune | 416289 | 2000 | 5 |
| 8 | Raj | Patil | pune | 409256 | 800 | 4 |

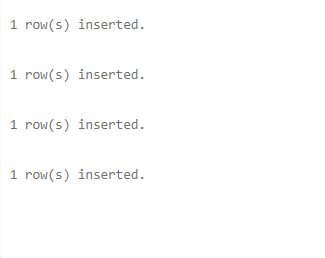
insert into parttime values(5,name\_ty('vibhuti','mitra'),addr\_ty('sangli',410298),1000,8);

insert into parttime values(6,name\_ty('ketaki','bhave'),addr\_ty('kop',410222),500,7);

insert into parttime values(7,name\_ty('mahesh','kumbhar'), addr\_ty('pune',416289),

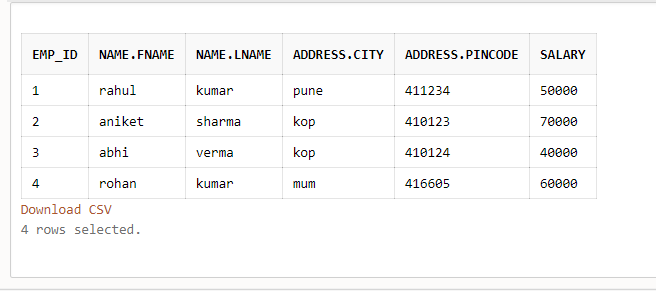
2000,5);

insert into parttime values(8,name\_ty('raj','patil'),addr\_ty('pune',409256),800,4);



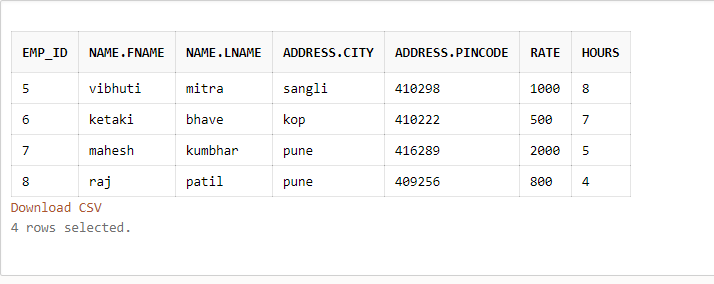
1. **Print the record of all Fulltime employees.**

select f.emp\_id,f.name.fname,f.name.lname,f.address.city,f.address.pincode,f.salary from fulltime f;



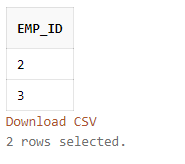
1. **Print the record of all Parttime employees.**

select p.emp\_id,p.name.fname,p.name.lname,p.address.city,p.address.pincode,p.rate,p.hours from parttime p;

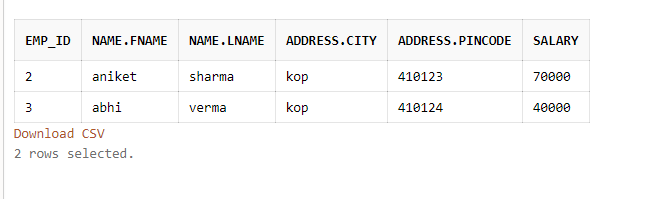


1. **Retrieve the record of all fulltime employees staying in Kolhapur.**

select f.emp\_id from fulltime f where f.address.city='kop';

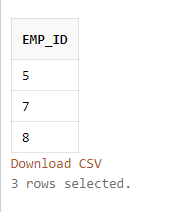


select f.emp\_id,f.name.fname,f.name.lname,f.address.city,f.address.pincode,f.salary from fulltime f where f.address.city='kop';



1. **Find all the employees whose rate is more than 500.**

select p.emp\_id from parttime p where p.rate>500;

  
select p.emp\_id,p.name.fname,p.name.lname,p.address.city,p.address.pincode,p.rate,p.hours from parttime p where p.rate>500;

