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Experiment No. 3

Implement Horizontal and Vertical Fragmentation and perform operations

Problem Statement

Create a global conceptual schema emp (eno, ename, city, salary) wit eno as a primary key and insert 10 records.

```
create table employer(
   e_no int primary key,
   ename varchar(20),
   city varchar(20),
   salary int);
```

```
insert into employer(e_no ,ename,city ,salary) VALUES(101,'SarahJohnson','Denver',75000);

insert into employer(e_no ,ename,city ,salary) VALUES(102,'David Smith','Seattle',68000);

insert into employer(e_no ,ename,city ,salary) VALUES(103,'Emily Davis','Chicago',72000);

insert into employer(e_no ,ename,city ,salary) VALUES(104,'Michael Brown','Austin',80000);

insert into employer(e_no ,ename,city ,salary) VALUES(105,'Jessica Lee','San Diego',65000);

insert into employer(e_no ,ename,city ,salary) VALUES(106,'Daniel Miller','Miami',78000);

insert into employer(e_no ,ename,city ,salary) VALUES(107,'Laura Wilson','Boston',73000);
```

insert into employer(e_no ,ename,city ,salary) VALUES(108,'James Taylor','Portland',67000);

insert into employer(e_no ,ename,city ,salary) VALUES(109,'Karen Anderson','Atlanta',69000);

insert into employer(e_no ,ename,city ,salary) VALUES(110,'Robert Thomas','Phoenix',70000);

Horizontal Fragmentation:

Divide emp into horizontal fragments using the condition that emph1 contains the tuples with salary<=70000 and emph2 with salary>70000.

CREATE TABLE emph1 AS

SELECT * FROM employer

WHERE salary <= 70000;

CREATE TABLE emph2 AS

SELECT * FROM employer

WHERE salary > 70000;

Vertical Fragmentation:

Divide emp into vertical fragments using the condition that empv1 contains the attributes (eno, ename) and empv2 contains the attributes (eno, city, salary)

CREATE TABLE empv1 AS

SELECT e_no, ename FROM employer;

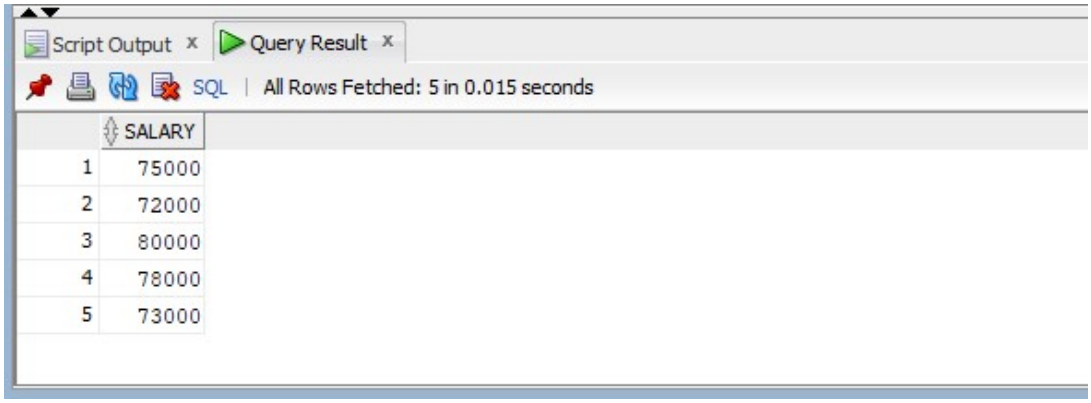
CREATE TABLE empv2 AS

SELECT e_no, city, salary FROM employer;

Answer below queries.

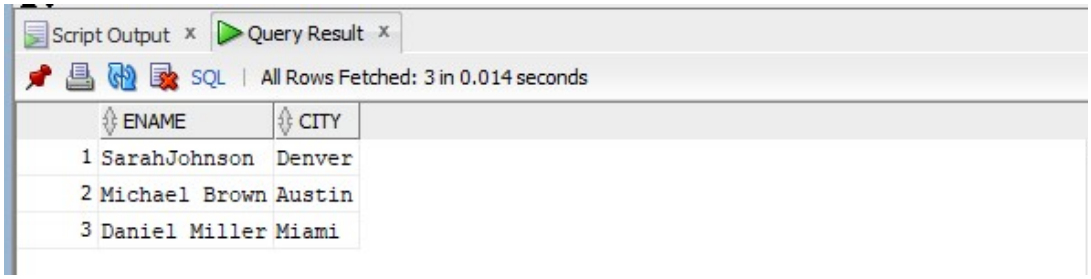
1. Find the salary of all employees.

SELECT salary FROM emph2;



2. Find the name of all employees where salary = 15000.
SELECT ename FROM employer WHERE salary = 70000;

3. Find the employee's name and city where employee salary is between 15000 to 25000.
SELECT ename, city FROM emph2 WHERE salary BETWEEN 75000 AND 80000;



4. Find the employee's name and city where employee number is known.
SELECT ename, city FROM employer WHERE e_no=102;