Experiment no-3

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Problem Statement

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

Horizontal Fragmentation:

Divide emp into horizontal fragments using the condition that emph1 contains thetuples with salary<=15000 and emph2 with salary>15000.

Vertical Fragmentation:

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

Code:

```
CREATE TABLE emp (
   eno INT PRIMARY KEY,
   ename VARCHAR(50),
   city VARCHAR(50),
   salary DECIMAL(10, 2)
);


INSERT INTO emp (eno, ename, city, salary) VALUES (1, 'Rohit', 'Pune', 12000);
INSERT INTO emp (eno, ename, city, salary) VALUES (2, 'Siddharth', 'Mumbai', 18000);
INSERT INTO emp (eno, ename, city, salary) VALUES (3, 'Vikas', 'Bangalore', 9000);
INSERT INTO emp (eno, ename, city, salary) VALUES (4, 'Pooja', 'Hyderabad', 22000);
INSERT INTO emp (eno, ename, city, salary) VALUES (5, 'Manoj', 'Chennai', 15000);
INSERT INTO emp (eno, ename, city, salary) VALUES (6, 'Rajesh', 'Pune', 17000);
INSERT INTO emp (eno, ename, city, salary) VALUES (7, 'Vivek', 'Kolkata', 13000);
```

INSERT INTO emp (eno, ename, city, salary) VALUES (8, 'Raghav', 'Jaipur', 25000);

INSERT INTO emp (eno, ename, city, salary) VALUES (9, 'Nishant', 'Lucknow', 8000);

INSERT INTO emp (eno, ename, city, salary) VALUES (10, 'Aditya', 'Ahmedabad', 16000);

-- Horizontal Fragmentation

CREATE TABLE emph1 AS

SELECT * FROM emp

WHERE salary <= 15000;

SELECT * FROM emph1;

	ENO	ENAME	CITY	SALARY
1	1	Rohit	Pune	12000
2	3	Vikas	Bangalore	9000
3	5	Manoj	Chennai	15000
4	7	Vivek	Kolkata	13000
5	9	Nishant	Lucknow	8000

CREATE TABLE emph2 AS

SELECT * FROM emp

WHERE salary > 15000;

SELECT * FROM emph2;

	ENO	ENAME	CITY	SALARY
1	2	Siddharth	Mumbai	18000
2	4	Pooja	Hyderabad	22000
3	6	Rajesh	Pune	17000
4	8	Raghav	Jaipur	25000
5	10	Aditya	Ahmedabad	16000

-- Vertical Fragmentation

CREATE TABLE empv1 AS

SELECT eno, ename FROM emp;

SELECT * FROM empv1;

	ENO	ENAME
1	1	Rohit
2	2	Siddharth
3	3	Vikas
4	4	Pooja
5	5	Manoj
6	6	Rajesh
7	7	Vivek
8	8	Raghav
9	9	Nishant
10	10	Aditya

CREATE TABLE empv2 AS

SELECT eno, city, salary FROM emp;

SELECT * FROM empv2;

	ENO	CITY	SALARY
1	1	Pune	12000
2	2	Mumbai	18000
3	3	Bangalore	9000
4	4	Hyderabad	22000
5	5	Chennai	15000
6	6	Pune	17000
7	7	Kolkata	13000
8	8	Jaipur	25000
9	9	Lucknow	8000
10	10	Ahmedabad	16000

-- Q1 Find salary of all employees

SELECT eno, salary FROM emph1

UNION

SELECT eno, salary FROM emph2;

	ENO	SALARY
1	1	12000
2	3	9000
3	5	15000
4	7	13000
5	9	8000
6	2	18000
7	4	22000
8	6	17000
9	8	25000
10	10	16000

-- Q2 Find the name of all employees where salary = 15000

```
SELECT empv1.ename

FROM empv1

JOIN emph1 ON empv1.eno = emph1.eno

WHERE emph1.salary = 15000;
```

	ENAME
1	Manoj

-- Q3 Find the employees name and city where employee salary is between 15000 to 25000

```
SELECT empv1.ename, empv2.city

FROM empv1

JOIN empv2 ON empv1.eno = empv2.eno

WHERE empv2.salary BETWEEN 15000 AND 25000;
```

	ENAME	CITY
1	Siddharth	Mumbai
2	Pooja	Hyderabad
3	Manoj	Chennai
4	Rajesh	Pune
5	Raghav	Jaipur
6	Aditya	Ahmedabad

-- Q4 Find the employees name and city where employee number is known

```
SELECT empv1.ename, empv2.city

FROM empv1

JOIN empv2 ON empv1.eno = empv2.eno

WHERE empv1.eno = 2;
```

	ENAME	CITY
1	Siddharth	Mumbai