

Experiment 03

Problem Statement 1:

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

- **Horizontal Fragmentation:**

- Divide emp into horizontal fragments using the condition that emph1 contains the tuples with salary \leq 15000 and emph2 with salary $>$ 15000.

- **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)

Answer queries below.

1. Find the salary of all employees.
2. Find the name of all employees where salary = 15000.
3. Find the employee's name and city where employee salary is between 15000 to 25000.
4. Find the employee's name and city where employee number is known.

Answers:

Create emp Table

```
CREATE TABLE emp (  
    eno NUMBER NOT NULL PRIMARY KEY,  
    ename VARCHAR(60),  
    city VARCHAR(60),  
    salary NUMBER  
);
```

Insert Data into the Employee Table

```
INSERT INTO emp (eno, ename, city, salary) VALUES (1, 'Aryan',  
'Aurangabad', 10000);  
INSERT INTO emp (eno, ename, city, salary) VALUES (2, 'Binod',  
'Bhopal', 15000);  
INSERT INTO emp (eno, ename, city, salary) VALUES (3, 'Chandan',  
'Calicut', 18000);  
INSERT INTO emp (eno, ename, city, salary) VALUES (4, 'David',  
'Dhanbad', 20000);  
INSERT INTO emp (eno, ename, city, salary) VALUES (5, 'Eshwar',  
'Ellapuram', 22000);
```

```

INSERT INTO emp (eno, ename, city, salary) VALUES (6, 'Farhan',
'Farhanabad', 23000);
INSERT INTO emp (eno, ename, city, salary) VALUES (7, 'Ganesh',
'Gangapur', 25000);
INSERT INTO emp (eno, ename, city, salary) VALUES (8, 'Harsh',
'Hyderabad', 26000);
INSERT INTO emp (eno, ename, city, salary) VALUES (9, 'Isha',
'Ichalkaranji', 27000);
INSERT INTO emp (eno, ename, city, salary) VALUES (10, 'Jason',
'Jaisalmer', 9000);
INSERT INTO emp (eno, ename, city, salary) VALUES (11, 'Karan',
'Kalyan', 15000);
INSERT INTO emp (eno, ename, city, salary) VALUES (12, 'Laxman',
'Lajpatnagar', 15000);

```

1. Find the salary of all employees.

```
SELECT * FROM emp;
```

	ENO	ENAME	CITY	SALARY
1	1	Aryan	Aurangabad	10000
2	2	Binod	Bhopal	15000
3	3	Chandan	Calicut	18000
4	4	David	Dhanbad	20000
5	5	Eshwar	Ellapuram	22000
6	6	Farhan	Farhanabad	23000
7	7	Ganesh	Gangapur	25000
8	8	Harsh	Hyderabad	26000
9	9	Isha	Ichalkaranji	27000
10	10	Jason	Jaisalmer	9000
11	12	Laxman	Lajpatnagar	15000
12	11	Karan	Kalyan	15000

2. Find the name of all employees where salary = 15000.

```
SELECT * FROM emp WHERE salary = 15000;
```

	ENO	ENAME	CITY	SALARY
1	2	Binod	Bhopal	15000
2	12	Laxman	Lajpatnagar	15000
3	11	Karan	Kalyan	15000

3. Find the employee's name and city where employee salary is between 15000 to 25000.

```
SELECT ename, city FROM emp WHERE salary BETWEEN 15000 AND 25000;
```

	ENAME	CITY
1	Binod	Bhopal
2	Chandan	Calicut
3	David	Dhanbad
4	Eshwar	Ellapuram
5	Farhan	Farhanabad
6	Ganesh	Gangapur
7	Laxman	Lajpatnagar
8	Karan	Kalyan

4. Find the employee's name and city where employee salary is between 15000 to 25000.

SELECT ename, city FROM emp WHERE eno = 7;

Script Output	Query Result
SQL All Rows Fetched: 1 in 0 seconds	
ENAME	CITY
1 Ganesh	Gangapur

Horizontal Fragmentation:

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

CREATE TABLE hfrag1 AS (SELECT * FROM emp WHERE salary <= 15000);

SELECT * FROM hfrag1;

ENO	ENAME	CITY	SALARY
1	1 Aryan	Aurangabad	10000
2	2 Binod	Bhopal	15000
3	10 Jason	Jaisalmer	9000
4	12 Laxman	Lajpatnagar	15000
5	11 Karan	Kalyan	15000

CREATE TABLE hfrag1 AS (SELECT * FROM emp WHERE salary <= 15000);

SELECT * FROM hfrag1;

ENO	ENAME	CITY	SALARY
1	3 Chandan	Calicut	18000
2	4 David	Dhanbad	20000
3	5 Eshwar	Ellapuram	22000
4	6 Farhan	Farhanabad	23000
5	7 Ganesh	Gangapur	25000
6	8 Harsh	Hyderabad	26000
7	9 Isha	Ichalkaranji	27000

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 vfrag1 AS (SELECT eno, ename FROM emp WHERE salary > 15000);  
SELECT * FROM vfrag1;
```

	ENO	ENAME
1	3	Chandan
2	4	David
3	5	Eshwar
4	6	Farhan
5	7	Ganesh
6	8	Harsh
7	9	Isha

```
CREATE TABLE vfrag2 AS (SELECT eno, city, salary FROM emp WHERE salary > 15000);  
SELECT * FROM vfrag2;
```

	ENO	CITY	SALARY
1	3	Calicut	18000
2	4	Dhanbad	20000
3	5	Ellapuram	22000
4	6	Farhanabad	23000
5	7	Gangapur	25000
6	8	Hyderabad	26000
7	9	Ichalkaranji	27000