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Roll no: C05

Assignment 3

```
CREATE TABLE employees (
    id INT NOT NULL,
    fname VARCHAR(25) NOT NULL,
    lname VARCHAR(25) NOT NULL,
    store_id INT NOT NULL,
    department_id INT NOT NULL,
    PRIMARY KEY (id)
)
PARTITION BY RANGE (id) (
    PARTITION p0 VALUES LESS THAN (5),
    PARTITION p1 VALUES LESS THAN (10),
    PARTITION p2 VALUES LESS THAN (15),
    PARTITION p3 VALUES LESS THAN (MAXVALUE)
);
```

```
INSERT ALL
    INTO employees (id, fname, lname, store_id, department_id) VALUES (1, 'A', 'Doe', 1, 1)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (2, 'B', 'Smith', 2, 2)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (3, 'C', 'Brown', 3, 3)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (4, 'D', 'Green', 4, 4)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (5, 'E', 'White', 5, 5)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (6, 'E', 'Black', 6, 6)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (7, 'F', 'Blue', 7, 7)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (8, 'G', 'Red', 8, 8)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (9, 'H', 'Yellow', 9, 9)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (10, 'I', 'Purple', 10, 10)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (11, 'J', 'Gray', 11, 11)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (12, 'K', 'Orange', 12, 12)
    INTO employees (id, fname, lname, store_id, department_id) VALUES (13, 'L', 'Pink', 13, 13)
```

```
   INTO employees (id, fname, lname, store_id, department_id) VALUES (14, 'M', 'Brown', 14, 14)
   INTO employees (id, fname, lname, store_id, department_id) VALUES (15, 'N', 'Green', 15, 15)
   INTO employees (id, fname, lname, store_id, department_id) VALUES (16, 'O', 'Red', 16, 16)
   INTO employees (id, fname, lname, store_id, department_id) VALUES (17, 'P', 'Blue', 17, 17)
   INTO employees (id, fname, lname, store_id, department_id) VALUES (18, 'Q', 'White', 18, 18)
   INTO employees (id, fname, lname, store_id, department_id) VALUES (19, 'R', 'Black', 19, 19)
   INTO employees (id, fname, lname, store_id, department_id) VALUES (20, 'S', 'Yellow', 20, 20)
SELECT * FROM dual;



--q1
SELECT * FROM employees PARTITION (p1)
UNION ALL
SELECT * FROM employees PARTITION (p2);
```

Script Output × Query Result ×

SQL | All Rows Fetched: 10 in 0.007 seconds

	ID	FNAME	LNAME	STORE_ID	DEPARTMENT_ID
1	5	E	White	5	5
2	6	E	Black	6	6
3	7	F	Blue	7	7
4	8	G	Red	8	8
5	9	H	Yellow	9	9
6	10	I	Purple	10	10
7	11	J	Gray	11	11
8	12	K	Orange	12	12
9	13	L	Pink	13	13
10	14	M	Brown	14	14

```
---q2
SELECT * FROM employees PARTITION (p0)
WHERE fname LIKE 's%'
UNION ALL
SELECT * FROM employees PARTITION (p1)
WHERE fname LIKE 's%';



---q3
```

```
SELECT * FROM employees
WHERE id >= 5 AND id < 20
ORDER BY fname ASC;
```

	ID	FNAME	LNAME	STORE_ID	DEPARTMENT_ID
1	5	E	White	5	5
2	6	E	Black	6	6
3	7	F	Blue	7	7
4	8	G	Red	8	8
5	9	H	Yellow	9	9
6	10	I	Purple	10	10
7	11	J	Gray	11	11
8	12	K	Orange	12	12
9	13	L	Pink	13	13
10	14	M	Brown	14	14
11	15	N	Green	15	15
12	16	O	Red	16	16
13	17	P	Blue	17	17
14	18	Q	White	18	18
15	19	R	Black	19	19

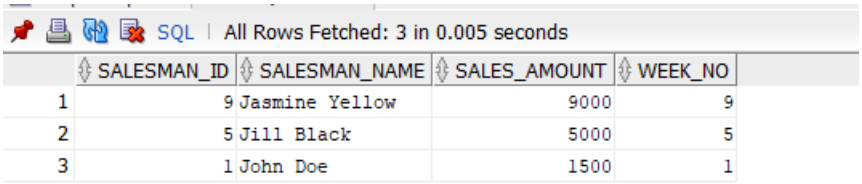
---------- Hash Partitioning----------

```
CREATE TABLE sales_hash (
   salesman_id NUMBER(5) PRIMARY KEY,
   salesman_name VARCHAR2(30),
   sales_amount NUMBER(10),
   week_no NUMBER(2)
)
PARTITION BY HASH (salesman_id)
PARTITIONS 4;


INSERT ALL
   INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (1, 'John Doe', 1500, 1)
   INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (2, 'Jane Smith', 2500, 2)
   INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (3, 'Jim Brown', 3000, 3)
   INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (4, 'Jake White', 4000, 4)
   INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (5, 'Jill Black', 5000, 5)
   INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (6, 'Jerry Green', 6000, 6)
   INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (7, 'Janet Blue', 7000, 7)
   INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (8, 'Jason Red', 8000, 8)
```

```
    INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (9, 'Jasmine Yellow', 9000, 9)
    INTO sales_hash (salesman_id, salesman_name, sales_amount, week_no) VALUES (10, 'Jordan Purple', 10000, 10)
SELECT * FROM dual;
```

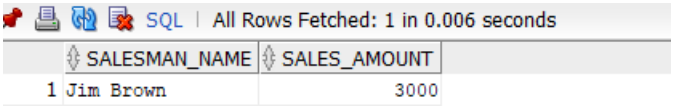
```
--q1 Retrieve sales details from the 2nd partition:
SELECT * FROM sales_hash
WHERE MOD(salesman_id, 4) = 1;
```



SQL | All Rows Fetched: 3 in 0.005 seconds

	SALESMAN_ID	SALESMAN_NAME	SALES_AMOUNT	WEEK_NO
1	9	Jasmine Yellow	9000	9
2	5	Jill Black	5000	5
3	1	John Doe	1500	1

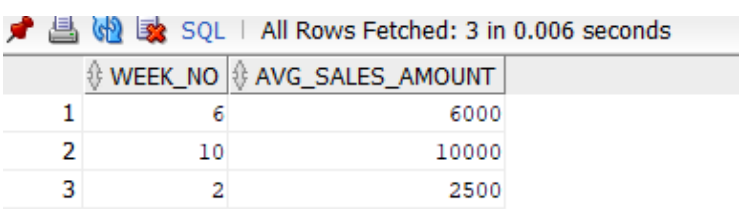
```
--q2 Retrieve names of salesmen and amounts from the 4th partition where sales amount is between 2000 and 5000:
SELECT salesman_name, sales_amount FROM sales_hash
WHERE MOD(salesman_id, 4) = 3 AND sales_amount BETWEEN 2000 AND 5000;
```



SQL | All Rows Fetched: 1 in 0.006 seconds

	SALESMAN_NAME	SALES_AMOUNT
1	Jim Brown	3000

```
--q3 Find the average sales amount per week from the 3rd partition
SELECT week_no, AVG(sales_amount) AS avg_sales_amount FROM sales_hash
WHERE MOD(salesman_id, 4) = 2
GROUP BY week_no;
```



SQL | All Rows Fetched: 3 in 0.006 seconds

	WEEK_NO	AVG_SALES_AMOUNT
1	6	6000
2	10	10000
3	2	2500

----------List Partitioning ----------

```
CREATE TABLE sales (
   dept_no NUMBER(5) PRIMARY KEY,
   part_no VARCHAR2(10),
   country VARCHAR2(20),
   date1 DATE,
   amount NUMBER(10)
)
PARTITION BY LIST (country) (
   PARTITION europe VALUES ('France', 'Germany', 'Italy', 'Spain', 'UK'),
   PARTITION asia VALUES ('China', 'India', 'Japan', 'South Korea', 'Thailand'),
   PARTITION africa VALUES ('Nigeria', 'South Africa', 'Egypt', 'Kenya', 'Morocco'),
   PARTITION americas VALUES ('USA', 'Canada', 'Brazil', 'Argentina', 'Mexico')
);
```

```
INSERT ALL
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (1, 'P1', 'France', TO_DATE('2023-01-01', 'YYYY-MM-DD'), 60000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (2, 'P2', 'Germany', TO_DATE('2023-02-01', 'YYYY-MM-DD'), 75000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (3, 'P3', 'Italy', TO_DATE('2023-03-01', 'YYYY-MM-DD'), 50000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (4, 'P4', 'Spain', TO_DATE('2023-04-01', 'YYYY-MM-DD'), 85000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (5, 'P5', 'UK', TO_DATE('2023-05-01', 'YYYY-MM-DD'), 95000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (6, 'P6', 'China', TO_DATE('2023-06-01', 'YYYY-MM-DD'), 70000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (7, 'P7', 'India', TO_DATE('2023-07-01', 'YYYY-MM-DD'), 65000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (8, 'P8', 'Japan', TO_DATE('2023-08-01', 'YYYY-MM-DD'), 80000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (9, 'P9', 'South Korea', TO_DATE('2023-09-01', 'YYYY-MM-DD'), 55000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (10, 'P10', 'Thailand', TO_DATE('2023-10-01', 'YYYY-MM-DD'), 60000)
   INTO sales (dept_no, part_no, country, date1, amount) VALUES (11, 'P11', 'Nigeria', TO_DATE('2023-11-01', 'YYYY-MM-DD'), 50000)
```

INTO sales (dept_no, part_no, country, date1, amount) VALUES (12, 'P12', 'South Africa', TO_DATE('2023-12-01', 'YYYY-MM-DD'), 75000)

INTO sales (dept_no, part_no, country, date1, amount) VALUES (13, 'P13', 'Egypt', TO_DATE('2024-01-01', 'YYYY-MM-DD'), 85000)

INTO sales (dept_no, part_no, country, date1, amount) VALUES (14, 'P14', 'Kenya', TO_DATE('2024-02-01', 'YYYY-MM-DD'), 95000)

INTO sales (dept_no, part_no, country, date1, amount) VALUES (15, 'P15', 'Morocco', TO_DATE('2024-03-01', 'YYYY-MM-DD'), 70000)

INTO sales (dept_no, part_no, country, date1, amount) VALUES (16, 'P16', 'USA', TO_DATE('2024-04-01', 'YYYY-MM-DD'), 65000)

INTO sales (dept_no, part_no, country, date1, amount) VALUES (17, 'P17', 'Canada', TO_DATE('2024-05-01', 'YYYY-MM-DD'), 80000)

INTO sales (dept_no, part_no, country, date1, amount) VALUES (18, 'P18', 'Brazil', TO_DATE('2024-06-01', 'YYYY-MM-DD'), 55000)

INTO sales (dept_no, part_no, country, date1, amount) VALUES (19, 'P19', 'Argentina', TO_DATE('2024-07-01', 'YYYY-MM-DD'), 60000)

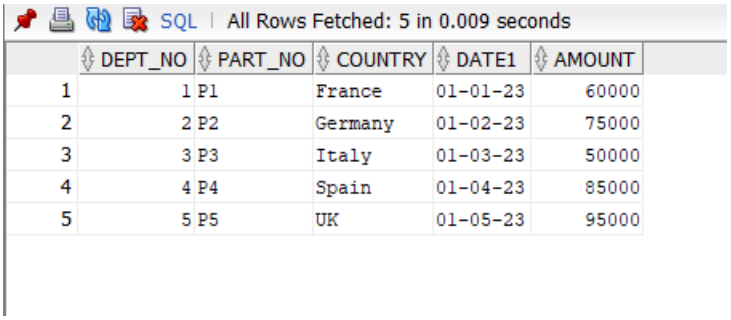
INTO sales (dept_no, part_no, country, date1, amount) VALUES (20, 'P20', 'Mexico', TO_DATE('2024-08-01', 'YYYY-MM-DD'), 75000)

SELECT * FROM dual;

-----q1 Retrieve details of sales from europe.

SELECT * FROM sales

WHERE country IN ('France', 'Germany', 'Italy', 'Spain', 'UK');



SQL | All Rows Fetched: 5 in 0.009 seconds

	DEPT_NO	PART_NO	COUNTRY	DATE1	AMOUNT
1	1	P1	France	01-01-23	60000
2	2	P2	Germany	01-02-23	75000
3	3	P3	Italy	01-03-23	50000
4	4	P4	Spain	01-04-23	85000
5	5	P5	UK	01-05-23	95000

--q2 Retrieve details of sales from Africa and Asia where sales amont is betwen 50000 to 100000.

SELECT * FROM sales

WHERE country IN ('Nigeria', 'South Africa', 'Egypt', 'Kenya', 'Morocco', 'China', 'India', 'Japan', 'South Korea', 'Thailand')

AND amount BETWEEN 50000 AND 100000;

SQL | All Rows Fetched: 10 in 0.006 seconds

	DEPT_NO	PART_NO	COUNTRY	DATE1	AMOUNT
1	6	P6	China	01-06-23	70000
2	7	P7	India	01-07-23	65000
3	8	P8	Japan	01-08-23	80000
4	9	P9	South Korea	01-09-23	55000
5	10	P10	Thailand	01-10-23	60000
6	11	P11	Nigeria	01-11-23	50000
7	12	P12	South Africa	01-12-23	75000
8	13	P13	Egypt	01-01-24	85000
9	14	P14	Kenya	01-02-24	95000
10	15	P15	Morocco	01-03-24	70000

--q3 Retrieve average amount of sales according to continent.

```
SELECT
   CASE
      WHEN country IN ('France', 'Germany', 'Italy', 'Spain', 'UK') THEN 'Europe'
      WHEN country IN ('China', 'India', 'Japan', 'South Korea', 'Thailand') THEN 'Asia'
      WHEN country IN ('Nigeria', 'South Africa', 'Egypt', 'Kenya', 'Morocco') THEN 'Africa'
      WHEN country IN ('USA', 'Canada', 'Brazil', 'Argentina', 'Mexico') THEN 'Americas'
   END AS continent,
   AVG(amount) AS avg_sales_amount
FROM sales
GROUP BY
   CASE
      WHEN country IN ('France', 'Germany', 'Italy', 'Spain', 'UK') THEN 'Europe'
      WHEN country IN ('China', 'India', 'Japan', 'South Korea', 'Thailand') THEN 'Asia'
      WHEN country IN ('Nigeria', 'South Africa', 'Egypt', 'Kenya', 'Morocco') THEN 'Africa'
      WHEN country IN ('USA', 'Canada', 'Brazil', 'Argentina', 'Mexico') THEN 'Americas'
   END;
```

SQL | All Rows Fetched: 4 in 0.006 seconds

	CONTINENT	AVG_SALES_AMOUNT
1	Europe	73000
2	Asia	66000
3	Africa	75000
4	Americas	67000