



Module 22: Conditional Statement

◆ What is CASE WHEN ?

The `CASE` statement lets you apply **conditional logic** in SQL — like an **IF-ELSE** system.

You can create new values based on **different conditions** in your data.

✓ Syntax:

```
SELECT column,  
      CASE  
        WHEN condition1 THEN result1  
        WHEN condition2 THEN result2  
        ELSE default_result  
      END AS new_column_name  
FROM table;
```

✍ Example (Student Grades):

Let's say we have a `Students` table with columns `StudentName` and `Marks`.

```
SELECT StudentName, Marks,  
      CASE  
        WHEN Marks >= 90 THEN 'A+'  
        WHEN Marks >= 80 THEN 'A'  
        WHEN Marks >= 70 THEN 'B'  
        WHEN Marks >= 60 THEN 'C'  
        ELSE 'Fail'  
      END AS Grade  
FROM Students;
```

✓ This query assigns a grade to each student based on their marks.

Marks	Grade
92	A+
85	A
74	B
63	C
50	Fail



Example (Salesman Grades):

```
SELECT *,  
CASE  
    WHEN UNITS >= 90 THEN 'Tier 1'  
    WHEN UNITS >= 75 AND UNITS < 90 THEN 'Tier 2'  
    WHEN UNITS >= 60 THEN 'Tier 3'  
    ELSE 'DEROGATORY'  
END AS SALESMAN_GRADE  
FROM SALES;
```

✓ This adds a new column `SALESMAN_GRADE` based on the Units:

Units Range	Grade
≥ 90	Tier 1
75 to < 90	Tier 2
60 to < 75	Tier 3
< 60	DEROGATORY

The screenshot shows a SQL editor interface with the following details:

- Code Area:** Lines 12 to 16 show the SQL code:

```
12  
13     SELECT * FROM SALES;  
14  
15  
16
```
- Results Area:** A table with 17 rows of sales data. The columns are: OrderDate, Region, Manager, SalesMan, Item, Units, Unit_price, Sale_amt.
- Messages Area:** A green bar at the bottom indicates "Query executed successfully."

	OrderDate	Region	Manager	SalesMan	Item	Units	Unit_price	Sale_amt
1	2018-01-06	East	Martha	Alexander	Television	95	1198	113810
2	2018-01-23	Central	Hermann	Shelli	Home Theater	50	500	25000
3	2018-02-09	Central	Hermann	Luis	Television	36	1198	43128
4	2018-02-26	Central	Timothy	David	Cell Phone	27	225	6075
5	2018-03-15	West	Timothy	Stephen	Television	56	1198	67088
6	2018-04-01	East	Martha	Alexander	Home Theater	60	500	30000
7	2018-04-18	Central	Martha	Steven	Television	75	1198	89850
8	2018-05-05	Central	Hermann	Luis	Television	90	1198	107820
9	2018-05-22	West	Douglas	Michael	Television	32	1198	38336
10	2018-06-08	East	Martha	Alexander	Home Theater	60	500	30000
11	2018-06-25	Central	Hermann	Sigal	Television	90	1198	107820
12	2018-07-12	East	Martha	Diana	Home Theater	29	500	14500
13	2018-07-29	East	Douglas	Karen	Home Theater	81	500	40500
14	2018-08-15	East	Martha	Alexander	Television	35	1198	41930
15	2018-09-01	Central	Douglas	John	Desk	2	125	250
16	2018-09-18	East	Martha	Alexander	Video Games	16	58.5	936
17	2019-10-05	Central	Universal	Sonal	Home Theater	29	500	14500

```

14
15  SELECT *,CASE
16      WHEN UNITS>=90 THEN 'Tier 1'
17      WHEN UNITS>=75 AND UNITS<90 THEN 'Tier 2'
18      WHEN UNITS>=60 THEN 'Tier 3'
19      else 'DEROGATORY'
20  END AS SALESMAN_GRADE
21
22  FROM SALES;
23
24

```

Results Messages

	OrderDate	Region	Manager	SalesMan	Item	Units	Unit_price	Sale_amt	SALESMAN_GRADE
1	2018-01-06	East	Martha	Alexander	Television	95	1198	113810	Tier 1
2	2018-01-23	Central	Hermann	Shelli	Home Theater	50	500	25000	DEROGATORY
3	2018-02-09	Central	Hermann	Luis	Television	36	1198	43128	DEROGATORY
4	2018-02-26	Central	Timothy	David	Cell Phone	27	225	6075	DEROGATORY
5	2018-03-15	West	Timothy	Stephen	Television	56	1198	67088	DEROGATORY
6	2018-04-01	East	Martha	Alexander	Home Theater	60	500	30000	Tier 3
7	2018-04-18	Central	Martha	Steven	Television	75	1198	89850	Tier 2
8	2018-05-05	Central	Hermann	Luis	Television	90	1198	107820	Tier 1
9	2018-05-22	West	Douglas	Michael	Television	32	1198	38336	DEROGATORY
10	2018-06-08	East	Martha	Alexander	Home Theater	60	500	30000	Tier 3
11	2018-06-25	Central	Hermann	Sigal	Television	90	1198	107820	Tier 1
12	2018-07-12	East	Martha	Diana	Home Theater	29	500	14500	DEROGATORY
13	2018-07-29	East	Douglas	Karen	Home Theater	81	500	40500	Tier 2
14	2018-08-15	East	Martha	Alexander	Television	35	1198	41930	DEROGATORY
15	2018-09-01	Central	Douglas	John	Desk	2	125	250	DEROGATORY
16	2018-09-18	East	Martha	Alexander	Video Games	16	58.5	936	DEROGATORY
17	2018-10-06	Central	Hermann	Orial	Home Theater	39	800	31200	DEROGATORY

Query executed successfully.

📌 Key / Important Points to Remember

- `CASE` must end with `END`
- `THEN` defines the **output** for a matched condition
- `ELSE` is **optional** but useful for default values
- You can use `CASE` in `SELECT`, `ORDER BY`, `GROUP BY`, or even in `WHERE` (with care)
- It helps in **categorizing data** without changing the actual table
- Be careful with **condition order**: SQL checks conditions **top to bottom**