

~~It will give NULL value if all conditions are not true & the conditions are checked then column~~

Exercise 3 : SQL CASE Statements

1. Table : products

product-id	product-name	price
1	Laptop	1200.00
2	Phone	800.00
3	Keyboard	45.00
4	Monitor	300.00
5	Mouse	25.00

1. Classify each product by price :

- * 'Expensive' if $\text{price} > 1000$
- * 'Mid-range' if price between 100 and 1000
- * 'Budget' if $\text{price} < 100$

e.g. SELECT column
column2

CASE
WHEN condition THEN result
WHEN condition THEN result
...
ELSE 'default result'
END AS column_name
FROM table_name;

Explain : product-name , price , price-category

SELECT product-name,

price,

CASE

WHEN price > 1000 THEN 'Expensive'

WHEN price BETWEEN 100 AND 1000 THEN 'Mid-range'

THEN 'Mid-range'

WHEN price < 100 THEN 'Budget'

END As price-category

FROM products;

products

product-name	price	price-category
Laptop	1200.00	Expensive
Phone	800.00	Mid-range
Keyboard	45.00	Budget
Monitor	300.00	Mid-range
Mouse	25.00	Budget

2. Table : orders

order-id	customer-name	amount
1	Alice	150.00
2	Bob	560.00
3	Charlie	999.99
4	Diana	45.50
5	Ethan	1200.00

Label each order :

- * 'High Value' for $\text{orders} \geq 1000$
- * 'Medium Value' for $500 \leq \text{amount} \leq 999.99$
- * 'Low Value' for $\text{orders} < 500$

Exp col : customer-name, amount, order-value-category

SELECT customer-name,

amount,

CASE

WHEN amount ≥ 1000 THEN 'High Value'

WHEN amount BETWEEN 500 AND 999.99
THEN 'Medium Value'

WHEN amount < 500 THEN 'Low Value'

END As order-value-category

FROM orders;

customer-name	amount	order-value-category
Alice	150.00	Low Value
Bob	560.00	Medium Value
Charlie	999.99	Medium
Diana	45.50	Low Value
Ethan	1200.00	High Value

Table employees

emp_id	emp_name	department	salary
1	John	IT	85000
2	Sara	HR	60000
3	Mark	IT	75000
4	Lucy	Finance	95000
5	Tom	HR	55000

Category employee position : (department)

- If in 'IT' and salary > 80000 → 'Senior IT'
- If in 'HR' and salary > 55000 → 'Experienced HR'
- Otherwise - 'Staff'

Excel : emp_name, department, salary, position_level

SELECT emp_name,
department,
salary,

CASE

~~WHEN~~ department > 80000 THEN 'Senior IT'
 WHEN department = 'IT' AND salary > 80000
 THEN 'Senior IT'
 WHEN department = 'HR' AND salary > 55000
 THEN 'Experienced HR'
 ELSE 'Staff'

END As position_level
 FROM employees;

emp_name	department	salary	position_level
John	IT	85000	Senior IT
Sara	HR	60000	Experienced HR
Mark	IT	75000	Staff
Lucy	Finance	95000	Staff
Tom	HR	55000	Staff

4. Table 'students'

student_id	student_name	score
1	Anna	92
2	Ben	76
3	Caro	59
4	David	83
5	Ella	68

Assign a letter grade:

- * ≥ 90 : 'A'
- * $80-89$: 'B'
- * $70-79$: 'C'
- * $60-69$: 'D'
- * < 60 : 'F'

Exp col : student_name, score, grade

SELECT student_name,

score,

CASE

WHEN score ≥ 90 THEN 'A'

WHEN score BETWEEN 80 AND 89 THEN 'B'

WHEN score BETWEEN 70 AND 79 THEN 'C'

WHEN score BETWEEN 60 AND 69 THEN 'D'

WHEN score < 60 THEN 'F'

END

FROM students;

students.

student_name	score	grade
Anna	92	A
Ben	76	C
Caro	59	F
David	83	B
Ella	68	D

5 Table : delivers

delivery-id	delivery-time-minutes
1	45
2	80
3	30
4	65
5	100

Label delivery performance :

- * ≤ 30 mins : 'Fast'
- * $31 - 60$ mins : 'On Time'
- * > 60 mins : 'Late'

Exp col : delivery-id, delivery-time-minutes, performance

SELECT delivery-id,

delivery-time-minutes,

CASE

WHEN delivery-time-minutes ≤ 30 THEN 'Fast'

WHEN delivery-time-minutes BETWEEN 31 AND 60
THEN 'On Time'

WHEN delivery-time-minutes > 60 THEN 'Late'

END As performance

FROM deliveries;

delivery-id	delivery-times-minutes	performance
1	45	On Time
2	80	Late
3	30	Fast
4	65	Late
5	100	Late

6. Table, tickets

ticket-id	issue-type	priority
1	Login issue	1
2	Server down	3
3	Slow system	2
4	Email error	2
5	Password reset	1

Convert priority to labels:

- * 3 → 'High'
- * 2 → 'Medium'
- * 1 → 'Low'

Exp col: issue-type, priority, priority-label

SELECT issue-type,

priority,

CASE

WHEN priority = 3 THEN 'High'

WHEN priority = 2 THEN 'Medium'

WHEN priority = 1 THEN 'Low'

END As priority-label

FROM tickets;

issue-type	priority	priority-label
Login issue	1	Low
Server down	3	High
Slow system	2	Medium
Email error	2	Medium
Password reset	1	Low

7. Table : attendance

student_id	days - present	total_days
1	45	50
2	30	50
3	48	50
4	25	50
5	50	50

Calculate attendance % and classify :

- * $\geq 90\%$ → 'Excellent'
- * $75 - 89\%$ → 'Good'
- * $< 75\%$ → 'Needs Improvement'

Exp col : student_id, attendance_percentage, attendance_status

SELECT student_id,
attendance_percentage,

CASE

WHEN attendance_percentage ≥ 90 THEN 'Excellent'

WHEN attendance_percentage BETWEEN 75 AND 89
THEN 'Good'

ELSE 'Needs Improvement'

END As attendance_status

FROM attendance;

student_id	attendance - percentage	attendance - status
1	90.00	Excellent
2	60.00	Needs Improvement
3	96.00	Excellent
4	50.00	Needs Improvement
5	100.00	Excellent

8. Table: products_inventory

product_id	stock_qty
1	5
2	0
3	25
4	10
5	3

Label stock status:

- * 0 → 'Out of Stock'
- * 1-5 → 'Low Stock'
- * 5+ → 'In stock'

Exp col: product_id, stock_qty, stock_status

SELECT product_id,
stock_qty,

CASE

WHEN stock_qty = 0 THEN 'Out of Stock'

WHEN stock_qty BETWEEN 1 AND 5 THEN 'Low Stock'

WHEN stock_qty ≥ 5 THEN 'IN STOCK'

END As stock_status

FROM products_inventory;

product_id	stock_qty	stock_status
1	5	Low Stock
2	0	Out of stock
3	25	In stock
4	10	In stock
5	3	Low Stock

a Table: Classes

class-id	subject	enrolled-students
1	Math	30
2	English	25
3	Science	15
4	Art	5
5	History	20

Classify by size:

- * $\geq 25 \rightarrow \text{'Large'}$
- * $10-24 \rightarrow \text{'Medium'}$
- * $< 10 \rightarrow \text{'Small'}$

Exp col: subject, enrolled-students, class-size-category

SELECT subject,

enrolled-students,

CASE

WHEN enrolled-students ≥ 25 THEN 'Large'

WHEN enrolled-students BETWEEN 10 AND 24
THEN 'Medium'

WHEN enrolled-students < 10 THEN 'Small'

END As class-size-category

FROM classes;

subject	enrolled-students	class-size-category
Math	30	Large
English	25	Large
Science	15	Medium
Art	5	Small
History	20	Medium

10. Table: payments

payment_id	amount	payment_method
1	50.00	Card
2	200.00	Cash
3	150.00	Card
4	75.00	PayPal
5	300.00	Cash

Apply discount flag:

- * If $\text{payment_method} = \text{'Cash'}$ and $\text{amount} \geq 200 \rightarrow \text{'Eligible for Discount'}$
- * Otherwise - 'Not Eligible'

Exp col: payment_id, payment_method, amount, discount_eligibility

SELECT payment_id,
payment_method,
amount,

CASE

WHEN payment_method = 'Cash' AND amount ≥ 200 THEN
'Eligible for Discount'

ELSE As discount_eligibility

FROM payments;

payment_id	payment_method	amount	discount_eligibility
1	Card	50.00	Not Eligible
2	Cash	200.00	Eligible for Discount
3	card	150.00	Not Eligible
4	PayPal	75.00	Not Eligible
5	Cash	300.00	Eligible for Discount

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END As class-size-category

FROM classes;

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Exp col: payment_id, payment-method, amount, discount_eligibility

```
SELECT payment_id,
       payment-method,
       amount,
CASE
    WHEN payment-method = 'Cash' AND amount >= 200 THEN
        'Eligible for Discount'
    ELSE As discount-eligibility
FROM payments;
```

payment_id	payment-method	amount	discount-eligibility
1	Card	50.00	Not Eligible
2	Cash	200.00	Eligible for Discount
3	card	150.00	Not Eligible
4	PayPal	75.00	Not Eligible
5	Cash	300.00	Eligible for Discount