

BRIGHTLIGHT TUTORIALS

DATA ANALYTICS

EXERCISE 6: NULL FUNCTIONS

Table 1 : Employees

Q1 : Show all employees with salary, if salary is NULL , display 0

Syntax :

```
SELECT employee_id, name,  
IFNULL (salary, 0) AS salary-with-default  
FROM Employees;
```

OUTPUT : employee_id name salary-with-default

1	Alice	5000
2	Bob	0
3	charlie	7000
4	Dana	0

Q2 : Show employee names with their department.
If department is NULL show "Not Assigned."

Syntax :

```
SELECT employee_id, name,  
IFNULL (department, 'Not Assigned') AS department-name  
FROM Employees;
```

Output : employee_id name department-name

1	Alice	HR
2	Bob	IT
3	Charlie	Not Assigned
4	Dana	Finance

Table 2: Orders

Q3: Find orders with NULL customer_id
using ISNULL

Syntax :

```
SELECT order_id, customer_id
FROM Orders
WHERE customer_id ISNULL;
```

Output : order_id customer_id
 103 NULL

Q4: Show orders. If delivery_date is NULL,
show 'Pending'

Syntax :

```
SELECT order_id, customer_id,
IFNULL (delivery_date, 'Pending') AS delivery-status
FROM Orders;
```

Output : order_id customer_id delivery-status
 101 201 2024-12-01
 102 202 Pending
 103 NULL 2024-12-03

Table 3: Students

Q5: Show all students and their grades. Replace
NULL with 0

Syntax :

```
SELECT student_id, name,  
IFNULL (grade, 0) AS final-grade  
FROM Students;
```

Output : Student-id name final-grade

1	Ethan	85
2	Maya	0
3	Olivia	90

Q6 : Count students who haven't been graded

Syntax :

```
SELECT COUNT(*) AS not-graded-count  
FROM Students  
WHERE grade ISNULL;
```

Output : Student-id name not-graded-count

2	Maya	01
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Table 4 : Products

Q7 : Show product name, price, and final price after discount (assume 0 if discount is NULL)

Syntax :

```
SELECT product_id, name, price,  
IFNULL (discount, 0) AS final-price  
FROM Products;
```

	Product-id	name	price	Final-price
501	Keyboard	25	0	
502	Mouse	15	5	
503	Monitor	100	0	

Table 5: Customers

Q8: Count how many customers have no email

Syntax :

```
SELECT COUNT(*) AS missing_email_count
FROM customers
WHERE email ISNULL;
```

Output : missing_email_count

2

Q9: Show all customers with email. If NULL, display "No Email"

Syntax :

```
SELECT customer_id, name,
IFNULL(email, 'No Email') AS email_display
FROM customers;
```

Output : customer_id name email-display

1	Linda	No Email
2	Joseph	joseph@mail.com
3	Hia	No Email

Table 6 : Payments

Q10 : Show payment details with method replaced by "Unknown" if NULL

Syntax :

```
SELECT payment-id,  
IFNULL(method, 'Unknown') AS method-display,  
status  
FROM Payments
```

	payment-id	Method-display	status
	301	Credit	NULL
	302	Paypal	Success
	303	Unknown	Failed

Table 7 : Inventory

Q11 : Show items and their quantity (0 if NULL)

Syntax :

```
SELECT item-id,  
item-name,  
IFNULL(quantity, 0) AS quantity-checked  
FROM inventory;
```

Output :

	item-id	item-name	quantity-checked
	1	Pen	0
	2	Notebook	150
	3	Eraser	0

Table 8: Employees-Extra

Q12: Show employee ID and first available value among bonus or commission

Syntax :

```
SELECT emp-id,  
       COALESCE (bonus,commission) AS  
               first-available-reward  
FROM Employees_Extra;
```

Output :

emp-id	first-available-reward
1	300
2	100
3	NULL

Table 9: classes

Q13: Count classes that have no room assigned

Syntax :

```
SELECT COUNT(*) AS no-room-count  
FROM Classes  
WHERE room IS NULL;
```

Output : no-room-count

2

Table 10: Attendance

Q14: Attendance records with status and replace NULL with 'Not marked'

Syntax :

```
SELECT student_id,  
       date,  
       IFNULL (status, 'Not Marked') AS attendance_status  
  From Attendance;
```

Output :

student_id	date	attendance_Status
1	2025-04-01	Not Marked
2	2025-04-01	Present
3	2025-04-01	Absent

Table 11 : Bank-Accounts

Q15: Show account-ID, account type (or unknown) and balance (or 0)

Syntax :

```
SELECT account_id,  
       IFNULL (account_type, 'Unknown') AS  
          type_display,  
       IFNULL (balance, 0) AS balance_checked  
  From Bank-Accounts;
```

Output :

account_id	type_display	balance_checked
A1	Savings	0
A2	Current	5000
A3	Unknown	2000

n	work	English	UTC +1
3	Light	English	UTC

Table 12: Projects

Q1b: Show all projects with a start date. If start date is NULL, display 'TBD'

Syntax :

```
SELECT project_id,  
      title,  
      IFNULL(start_date, 'TBD') AS start_display  
FROM Projects;
```

Output :

project_id	title	start_display
1	Website Revamp	2025-01-10
2	Mobile App	TBD
3	Data Migration	TBD

Table 13: Reviews

Q1f: Display reviews showing comment (or 'No comment') and rating (or. 0)

Syntax :

```
SELECT review_id,  
      product_id,  
      IFNULL(comment, 'No comment') AS comment_display,  
      IFNULL(rating, 0) AS rating_display  
FROM Reviews;
```

Output : review_id product_id comment_display rating_display

1	501	Great product	4
2	502	No comment	0
3	503	Works fine	3

Table 14: Suppliers

Q18: Show supplier contact number. Use COALESCE (phone, alt-phone, 'No contact')

Syntax :

```
SELECT supplier-id,  
       name,  
       COALESCE (phone, alt-phone, 'No contact') AS  
       contact-number  
FROM suppliers;
```

Output :

supplier-id	name	contact-number
1	Global Goods	123456789
2	Best suppliers	987654321
3	Value Source	No contact

Table 15 : User_Settings

Q19: Show all users and their preferences

Syntax :

```
SELECT user-id,  
       IFNULL (theme, 'Light') AS theme-set,  
       IFNULL (language, 'English') AS language-set,  
       IFNULL (timezone, 'UTC') AS timezone-set  
FROM User_Settings
```

Output : user-id theme-set language-set timezone-set

1	Light	English	UTC
2	bark	English	UTC+1
3	Light	English	UTC

Table 16 : Maintenance

Q20 : Show maintenance log

Syntax :

```
SELECT record_id,  
       machine_id,  
       IFNULL(issue, 'Unknown Issue') AS issue_log  
       IFNULL(technician, 'Not Assigned') AS technician_name  
  FROM Maintenance;
```

Output :

record-id	machine-id	issue-log	technician-name
1	M101	Overheating	Not Assigned
2	M102	Unknown Issue	Not Assigned
3	M103	Jammed	Alex