VINOLIAH MAKAMU EXCERCISES: NULL & FUNCTIONS.

Table 1 - Employees

Employee_Id	Name	Department	Salary
1	Alice	HR	5000
2	Bob	IT	NULL
3	Charlie	NULL	7000
4	Dana	Finance	NULL

Q1 → Show all employees with their Salary. If Salary is NULL, display 0.

```
SELECT Employee_Id,
       Name,
       COALESCE(Salary, 0) AS salary_with_default
FROM Employees;
```

Employee_Id	Name	Salary_with_default
1	Alice	5000
2	Bob	0
3	Charlie	7000
4	Dana	0

Q2 → Show Employees name with their department, If department is NULL show "Not Assigned."

```
SELECT Employee_Id
       Name,
       COALESCE (department, 'Not Assigned') AS
       department_name.
FROM Employees;
```

OUT come Q2. Table. Employees

Employee_id	Name	Department_Name
1	Alice	HR
2	Bob	IT
3	Charlie	NOT Assigned
4	Dana	Finance

Table 2 → Orders

Order_id	Customer_id	delivery_date
101	201	2024-12-01
102	202	Null
103	Null	2024-12-03

Q3 → Find orders with Null Customers_Id using IsNULL().

```
SELECT
    order_id,
    customer_id
FROM orders
WHERE IS NULL customer_id;
```

Order Id	Customer_id
103	NULL

Q4 → Show all orders. If delivery_date is NULL, show 'pending'.

```
SELECT
    Order_Id,
    (ustomer_Id
    COALESCE(delivery_date, 'pending')
    COALESCE(TO_VARCHAR(delivery_date, 'pending')
        AS delivery_status.
FROM orders;
```

Order_Id	customer_Id	delivery_status
101	201	2024-12-01
102	202	Pending
103	NULL	2024-12-03

Table 3 - Students

student_id	name	grade
1	Ethan	85
2	Maya	NULL
3	Olivia	90

Q 5 → Show all students & their grades. Replace NULL with 0.

```
SELECT
    student_id,
    name,
    COALESCE(Grade, 0) AS Final_grade
FROM Students;
```

student_id	name	Final_grade
1	Ethan	85
2	Maya	0
3	Olivia	90

Q 6 → Count students who haven't been graded.

```
SELECT
    Count(*) AS Not_graded_Count
FROM Students
WHERE grade IS NULL;
```

Not_graded_Count
1

Table 4 - Products

product_id	name	price	discount
501	keyboard	25	NULL
502	Mouse	15	5
503	Monitor	100	NULL

Q7 → Show productName, price and Final price after discount (assume if discount is NULL).

```
SELECT name,
       price,
       COALESCE(discount, 0) AS discount_value,
       price COALESCE(discount, 0) A Final_price
FROM products;
```

product_id	name	Final price
501	Keyboard	25
502	Mouse	10
503	monitor	100

(NP) Discount Value
keyboard = 0
Mouse = 5
Monitor = 0

Table 5 → customers

customer_id	Name	email
1	Linda	NULL
2	Joseph	Joseph@mail.com
3	Mia	NULL

Q8 → Count how many customers have no email.

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

missing_email_count
2

Q9 → show all customer with email. If NULL display "No Email".

```
SELECT
    customer_id, Name,
    COALESCE(email, 'no email') AS email_display
FROM customers;
```

customer Id	Name	email_display
1	Linda	No email
2	doseph	Joseph@mail.com
3	Mia	No email

Table 6 - payments

payment_id	method	status
301	credit	NULL
302	PayPal	Success
303	NULL	Failed

Q10 → Show payment details with method, replaced by "unknown" if NULL.

```
SELECT payment_id,
       COALESCE(method, 'unknown') AS method_display,
       status,
FROM payment;
```

payment_id	method_display	status
301	credit	NULL
302	PayPal	Success
303	unknown	Failed

Table: Inventory

Item_Id	Item_name	quantity
1	Pen	NULL
2	Notebook	150
3	Eraser	NULL

Q11 → Show Items & their quantity (0 if NULL)

```
SELECT
    Item_Id,
    Item_name
    COALESCE(quantity, 0) AS quantity_checked
FROM Inventory;
```

Item_Id	Item_name	Quantity
1	Pen	0
2	Notebook	150
3	Eraser	0

Table: Employee_Extra

emp_id	bonus	commission
1	NULL	300
2	100	NULL
3	NULL	NULL

Q12 → Show employee ID and the first available value among bonus or commission.

```
SELECT
    employee_id,
    COALESCE(bonus, commission, 0) AS First_Available_Reward
```

employee_id	First_Available_Reward
1	300
2	100
3	0

Table - Classes

Class_Id	Subject	room
4	Math	NULL
12	Science	Lab A
13	English	NULL

Q13 → Count classes that don't have a room assigned.

```
SELECT
    count(*) AS no_room_Count
FROM classes;
```

No_room_count
2.

Table 10 - Attendance

Student_Id	date	status
1	2025-04-01	NULL
2	2025-04-01	Present
3	2025-04-01	Absent

Q14 - Show attendance records with status. Replace NULL with "Not Marked".

```
SELECT
    student_id,
    date,
    COALESCE(status, 'Not marked') AS Attendance_Status
FROM attendance;
```

student_id	date	attendance_status
1	2025-04-01	Not marked
2	2025-04-01	Present
3	2025-04-01	absent

Table name Bank_Accounts

account_id	account_type	balance
A1	Savings	NULL
A2	Current	5000
A3	NULL	2000

Q1 → Show accountID, account_type (or 'unknown'), and balance (or 0).

```
SELECT
    account_id,
    COALESCE(account_type, 'unknown') AS type_
    display,
    COALESCE(balance, 0) AS balance_checked
FROM Bank_Accounts;
```

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

Table 12 → Projects

project_id	title	start_date	end_date
1	Website Revamp	2025-01-10	NULL
2	Mobile App	NULL	2025-06-01
3	Data Migration	NULL	NULL

Q16 → Show all projects with a start date. If start_date is NULL, display 'TBD'.

```
SELECT
    project_id,
    title,
    COALESCE(TO_VARCHAR(start_date), 'TBD') AS 'TBD'
    COALESCE(TO_VARCHAR(start_date, 'TBD') AS start_display
FROM projects;
```

project_id	title	start_display
1	Web Revamp	2025-01-10
2	Mobile App	TBD
3	Data migration	TBD

Table 13: Reviews

Review_Id	product_Id	Comment	rating
1	501	Great Product	4
2	502	NULL	NULL
3	503	Works Fine	3

Q.17 → Display reviews showing comment (or 'No Comment') and rating (or 0).

```
SELECT
    Review_Id,
    Product_Id,
    COALESCE(Comment, 'No Comment') AS Comment_display,
    COALESCE(Rating, 0) AS rating_display
FROM Reviews;
```

review_Id	product_Id	Comment_display	Review_display
1	501	Great Product	4
2	502	No Comment	0
3	503	Works Fine	3

Table: Suppliers

Supplier_Id	name	phone	alt_phone
1	GlobalGoods	NULL	123456789
2	BestSupplier	9876543	NULL
3	ValueSource	NULL	NULL

Q18 → Show the Supplier Contact Number. Use COALESCE (phone, alt_phone, 'No Contact')

```
SELECT
    Supplier_Id,
    Name
    COALESCE( phone, alt_phone, 'No Contact')
        AS Contact_Numbe
    FROM Suppliers;
```

Supplier_Id	name	Contact_number
1	Global Goods	123456789
2	Best Supplier	9876543321
3	Value Source	No Contact

Table: User_settings

user_id	theme	language	timezone
1	NULL	English	NULL
2	Dark	NULL	UTC+1
3	NULL	NULL	NULL

Q19 * Show all users and their preferences.
Replace all NULLs with defaults;
Theme → "Light", Language "English",
Timezone → "UTC"

```
SELECT
    user_id
COALESCE(theme, 'Light') AS theme,
COALESCE(language, 'English') AS language,
COALESCE(Timezone, 'UTC') AS Timezone
FROM User settings;
```

user_id	theme	language	Timezone
1	Light	English	UTC
2	Dark	English	UTC+1
3	Light	English	UTC-

Table 16: Maintenance

record_id	machine_id	issue	technician
1	M101	overheating	NULL
2	M102	NULL	NULL
3	M103	Jammed	Alex

Q20 Show maintenance log with:
issue → default to "unknown issue"
technician → default to "Not assigned"

```
SELECT record_id,
       machine_id,
COALESCE(issue, 'unknown issue') AS issue_log,
COALESCE(technician, 'Not assigned') AS technician_name
FROM maintenance
```

record_id	machine_id	issue_log	technician_name
1	M101	overheating	Not Assigned
2	M102	unknown issue	Not Assigned
3	M103	Jammed	ALEX