Exercise 6: NULL Functions

Table 1. Employees

Question 1

Syntax

```
SELECT      employee_id, name
            COALESCE (salary, 0)
            AS salary_with_default
FROM        employees;
```

Expectation:

employee_id	name	salary_with_default
1	Alice	5000
2	Bob	0
3	Charlie	7000
4	Dana	0

Question 2

Syntax

```
SELECT      employee_id, name
            COALESCE (department, 'Not Assigned')
            AS department_name
FROM        Employees;
```

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

Table 2: Orders

Question 3

```sql
SELECT      order_id, customer_id
FROM        Orders
WHERE       customer_id IS NULL;
```

Expectation

order_id	customer_id
103	NULL

Question 4

```sql
SELECT      order_id, customer_id,
            COALESCE (CAST(delivery_date AS VARCHAR), 'Pending')
            AS delivery_status
FROM        Orders;
```

Expectation

Order_id	customer_id	delivery_status
101	201	2024-12-01
102	202	Pending
103	NULL	2024-12-03

Table 3: Students

Question 5

Syntax

```sql
SELECT      student_id, name
            COALESCE(grade, 0)
            AS final_grade
FROM        students;
```

Expectation

Student_id	Name	final_grade
1	Ethan	85
2	Maya	0
3	Olivia	90

Question 7

Table 4: Products

Syntax

SELECT   product_id,

              name,

              price - COALESCE (discount, 0)

              AS final_price

FROM   Products,

Expectation

product_id	name	final_price
501	Keyboard	25
502	Mouse	10
503	Monitor	100

Question 8

Table 5: Customers

Syntax

```sql
SELECT    COUNT(*)
          AS missing_email_count
FROM      Customers
WHERE     email is NULL;
```

missing_email_count

2

Question 9

Syntax

```sql
SELECT    customer_id,
          name,
          COALESCE (email, 'No Email')
          AS email display
FROM      customers;
```

customer id	Name	Email display
1	Linda	No Email
2	Joseph	joseph email com
3	Nia	No Email

Table 8: Employees Extra

Question 12

Syntax

```sql
SELECT      emp_id,
            COALESCE( bonus, commission)
            AS first_available_reward
FROM        Employees_extra;
```

emp_id	first_available_reward
1	300
2	100
3	NULL

Table 9: Classes

Question 13

Syntax

```sql
SELECT      count (*)
            AS no_room_count
FROM        Classes
WHERE       room Is NULL;
```

Expectation

no_room_count
2

Table 10: Attendance

Question 14

```
SELECT          student_id,
                date,
                COALESCE (STATUS , 'Not Marked')
                AS attendance_status
FROM            Attendance;
```

Expectation

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

Question 15

Syntax

```
SELECT          account_id,
                COALESCE (account_type, 'Unknown')
                AS type_display,
                COALESCE (balance , 0)
                AS balance_checked
FROM            Bank_Accounts
```

Expectation

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

Table 12: Projects

Question 16

Syntax

```
SELECT        project_id,
              title
              COALESCE (CAST(start_date AS VARCHAR), 'TBD')
              AS start display
FROM          Projects;
```

Expectation

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

Table 13: Reviews

Question 17

Syntax

```
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	rating_display
1	501	Great product	4
2	502	No Comment	0
3	503	Works fine	3

Table 14: Suppliers

Question 18

Syntax

```
SELECT      Supplier_id, name
            COALESCE (phone, alt_phone, 'No Contact')
            AS contact_number
FROM        Suppliers;
```

Expectation

supplier_id	name	Contact_number
1	Global Goods	123456789
2	Best suppliers	987654321
3	Value Source	No Contact

Table 15: User Settings

Question 19

Syntax

```
SELECT      user_id,
            COALESCE (theme, 'Light')
            AS theme_set,
            COALESCE (language, 'English')
            AS language_set,
            COALESCE (timezone, 'UTC')
            AS timezone_set
FROM        User_Settings;
```

User_id	theme_set	language_set	timezone_set
1	Light	English	UTC
2	Dark	English	UTC +1
3	Light	English	UTC

Table 16: Maintenance

Question 20

Syntax

```
SELECT          record_id,
                machine_id,
                COALESCE(issue, 'Unknown_Issue')
                AS issue_log,
                COALESCE(technician, 'Not Assigned')
                AS technician_name
```

Expectation

record_id	machine_id	issue_log	technician_name
1	M101	Overheating	Not Assigned
2	M102	Unknown issue	Not Assigned
3	M103	Jammed	Alex

Correction

Question 6

Syntax

```
SELECT          count(*)
                AS not_graded_count
FROM            Students
WHERE           grade IS NULL;
```

Expectation

not_graded_count

1