In-Class DML Challenge: Restaurant Order Management

Scenario: Busy Restaurant Database Updates

A restaurant's ordering system needs immediate updates during lunch rush. The manager has given you a list of urgent database operations to complete before the dinner shift starts!

Create Tables:

```
-- menu_items table:
-- item_id, item_name, category, base_price, is_available, prep_time_minutes

-- customer_orders table:
-- order_id, customer_name, order_date, total_amount, payment_status,
table_number

-- order_details table:
-- detail_id, order_id, item_id, quantity, special_instructions
```

Your Tasks:

Part A: INSERT with Calculations

Task A1: Insert a menu item where the price is calculated: - Item name: "Chef Special Burger" - Category: "Main Course" - Base price: 12.00 * 1.25 (calculate 25% premium) - Available: true - Prep time: 20 minutes

Task A2: Insert THREE customer orders in ONE statement: - Order 1: "John Smith", today's date, amount 45.50, status "Paid", table 5 - Order 2: "Mary Johnson", today's date, amount 32.00, status "Pending", table 8 - Order 3: "Bob Wilson", today's date, amount 28.75, status "Paid", table 3

Task A3: Insert an order with DEFAULT values: - Customer name: "Walk-in Customer" - Order date: use current date - Payment status: DEFAULT - Table number: NULL

Part B: Complex UPDATE Operations

Task B1: Update prices with 8% increase for all items in 'Appetizers' category.

Task B2: Write UPDATE using CASE expression: - If base_price > 20, set category = 'Premium' - If base_price between 10 and 20, set category = 'Standard' - Otherwise, set category = 'Budget'

Task B3: Update multiple columns for orders: - WHERE payment_status = 'Pending' - SET total_amount = total_amount * 0.9 (10% discount) - AND payment_status = 'Discounted'

Task B4: Update with subquery: - Set is_available = false for menu items - WHERE item_id IN (SELECT item_id FROM order_details WHERE quantity > 10)

Part C: DELETE with Conditions

Task C1: Delete all menu items where: - is_available = false AND base_price < 5.00

Task C2: Delete customer orders where: - order_date < '2024-01-01' AND payment_status = 'Cancelled'

Task C3: Delete with subquery: - Delete order_details records WHERE order_id NOT IN (SELECT order_id FROM customer_orders)

Part D: RETURNING and NULL Operations

Task D1: Update menu items SET prep_time_minutes = NULL WHERE category IS NULL, and RETURN item_id and item_name.

Task D2: Insert a new order with NULL total_amount and RETURN the auto-generated order_id and customer_name.

Submission Format:

Write on paper:

1. All SQL statements for Part A (A1, A2, A3)

2. All SQL statements for Part B (B1, B2, B3, B4)

3. All SQL statements for Part C (C1, C2, C3)

4. SQL statements for Part D (D1, D2)

Critical Reminders:

- Use IS NULL, not = NULL
- CASE expressions need END keyword
- Multiple column updates use commas: SET col1 = val1, col2 = val2
- Don't forget WHERE clause in UPDATE/DELETE
- Arithmetic expressions: use *, not 'x'