ADC Complete Answers (Q1 - Q45)

Q1: Analyze a situation where a trigger might cause a performance bottleneck. What factors contribute to this issue?

A **trigger** can slow down your database when it does too much work every time data changes.

1. **Situation:** A trigger on a highly-used **Orders table** executes a complex calculation or joins several large tables for every single new order. This constant, heavy processing slows down all new insertions.
2. **Factors Contributing to Bottleneck:**
    - **Complex Logic:** The trigger code involves complicated **joins, loops, or multiple DML operations** (e.g., updating five other tables).
    - **High Frequency:** The table it is attached to is modified **very often** (high volume of INSERT/UPDATE).
    - **Locking:** The trigger may cause **database locks** on other tables, forcing different user transactions to wait for it to complete.

Q2: Analyze the advantages and disadvantages of using GOTO in PL/SQL programs.

The **GOTO** command forces the program to jump directly to another labeled line of code. It is generally **discouraged**.

Feature	Advantages (Pros)	Disadvantages (Cons)
Use Case	Allows you to quickly break out of deeply **nested loops** or complex IF structures to reach a single error-handling block.	Creates **"Spaghetti Code"**, making the program flow chaotic, difficult to read, and hard to follow.
Maintenance	N/A	**Hard to Debug:** It is very difficult to trace the execution path, increasing the likelihood of errors during maintenance.
Structure	N/A	Breaks the rules of **structured programming**, leading to logical errors and instability.

Q3: Analyze the differences between a function and a procedure in PL/SQL.

Feature	Function	Procedure
Goal	To **calculate and return a single value** (e.g., calculating tax).	To **perform an action** (e.g., inserting data, updating records, or printing a report).

Return Value	**MUST** return a value using the RETURN keyword.	**Does not have to** return a value. It returns data using OUT or IN OUT parameters.
SQL Usage	**Can** be called directly inside SQL statements (e.g., in a SELECT statement).	**Cannot** be called directly in SQL statements. Must be executed in a separate block (e.g., EXECUTE).

Q4: Analyze the differences between a function and a procedure in PL/SQL. In what situations would a function be preferred over a procedure?

(Combines Q3 and adds preference scenarios.)

Function Preferred When:

1. **Need a Single Result:** When the primary purpose is to **compute and return one specific value** (e.g., finding the average score, calculating a distance).
2. **Use within SQL:** When you need the logic to be part of a **SELECT, WHERE, or ORDER BY clause** within a standard SQL query.
3. **Code Readability:** When you want to replace a complicated, repetitive calculation with a simple, clear function call in your application or SQL code.

Q5: Analyze the pros and cons of using triggers to enforce business rules compared to application-level validation.

Method	Advantages (Pros)	Disadvantages (Cons)
Trigger (Database-Level)	**100% Guaranteed:** The rule is enforced no matter how data is changed, ensuring perfect **data integrity**.	Can cause a **performance hit** on the database because it runs implicitly for every data change.
Application-Level	**Better User Experience:** Errors are caught instantly (e.g., in a web form) before reaching the database, providing **fast feedback**.	**Easily Bypassed:** Direct SQL updates or another application could bypass the rule and **corrupt the data**.
Application-Level	**Better Performance:** Saves the database server from doing the validation work.	**Duplication of Logic:** The same rule must be coded into every single application (web, mobile, desktop).

Q6: Analyze the role of cache and no cache in sequence.

A **sequence** automatically generates unique numbers.

Attribute	Role of CACHE	Role of NO CACHE
What it does	Stores a block of future sequence numbers in the database's **memory** for fast access.	Reads the next sequence number directly from **disk** (system files) every single time.
Performance	**Very fast** and ideal for high-volume applications.	**Slower** due to the need for I/O (disk access) for every number request.
Sequence Gaps	If the database crashes, any unused numbers in the cache are **lost (skipped)**, creating gaps.	**No numbers are lost** on a crash, ensuring a gap-free, consecutive sequence.

Q7: Analyze the role of cycle and no cycle in sequence.

Attribute	Role of CYCLE	Role of NO CYCLE (Default)
What it does	Once the sequence reaches its **maximum value**, it **starts over** from its minimum value.	Once the sequence reaches its maximum value, it **stops** and returns an error if another number is requested.
Use Case	Used when you need unique IDs only for a short period and can **safely reuse** them later (e.g., batch numbers).	The standard, **safer choice** for creating permanent, unique **primary keys** that should never be repeated.

Q8: Compare and contrast %TYPE and %ROWTYPE attributes with examples. When would you use each?

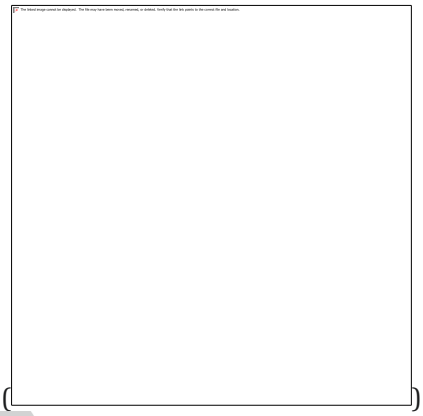
These make variable declarations flexible based on the database structure.

Attribute	Description	Use When...
%TYPE	Declares a variable to have the **exact same data type and size** as a single table column.	You need a variable to hold the value of a **single column**, like an employee's name or salary.
%ROWTYPE	Declares a **record** (like a structure) that can hold **all columns** (the entire row) from a table or cursor.	You need to process the **entire data record** of a table or query at once, handling all its columns.

Q9: Compare and contrast while loop and exit when in basic loop.

Loop Type	Key Feature	Control Mechanism
WHILE Loop	**Condition at Start (Pre-test):** The condition is checked **before** the loop code runs.	If the condition is initially FALSE, the code inside the loop **never runs**.
Basic Loop with EXIT WHEN	**Runs at Least Once (Post-test):** The loop code runs **at least one time** before the exit condition is checked.	The loop runs forever until the EXIT WHEN condition is met; the exit condition can be placed anywhere inside the loop.

Q10: Create and execute a PL/SQL function that returns area of a circle.

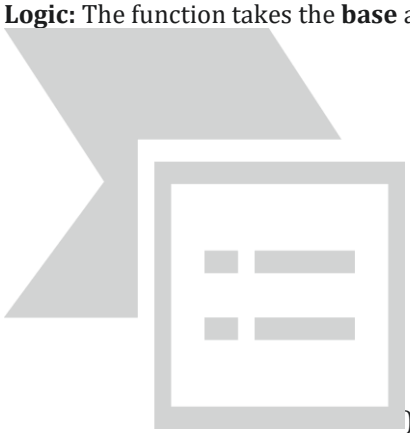


Logic: The function takes the **radius** ( ) as an input and returns the calculated area ( ).

SQL

```
CREATE OR REPLACE FUNCTION get_circle_area (
   p_radius IN NUMBER
)
RETURN NUMBER
IS
   c_pi CONSTANT NUMBER := 3.14159;
BEGIN
   RETURN c_pi * p_radius * p_radius;
END;
/
```

Q11: Create and execute a PL/SQL function that returns area of a triangle.

Logic: The function takes the **base** and **height** as inputs and returns the calculated area ().

SQL

```
CREATE OR REPLACE FUNCTION get_triangle_area (
   p_base IN NUMBER,
   p_height IN NUMBER
)
RETURN NUMBER
IS
BEGIN
   RETURN 0.5 * p_base * p_height;
END;
/
```

Q12: Create and execute a PL/SQL function that returns sum of squares of a number.

Assuming the sum of squares up to a given number N (e.g., *).*

Logic: The function uses a **FOR loop** to iterate from 1 up to N and accumulates the squares.

SQL

```
CREATE OR REPLACE FUNCTION sum_of_squares (
   p_n IN NUMBER
)
RETURN NUMBER
IS
   v_total_sum NUMBER := 0;
BEGIN
   FOR i IN 1..p_n LOOP
      v_total_sum := v_total_sum + (i * i);
   END LOOP;
```

```
    RETURN v_total_sum;
END;
/
```

Q13: Create and execute a PL/SQL procedure to find the factorial of a number.

Logic: The procedure takes a number **N** (e.g., 5) and finds its factorial (

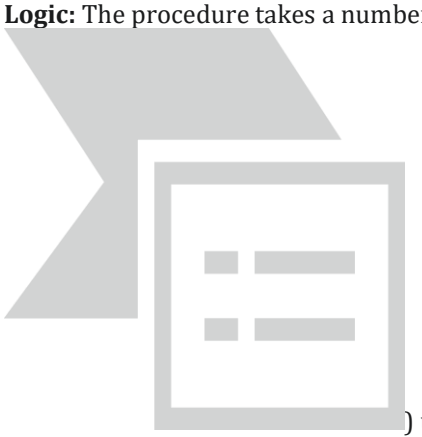
) using an **OUT parameter** for the result.

SQL

```
CREATE OR REPLACE PROCEDURE find_factorial (
    p_n IN NUMBER,
    p_result OUT NUMBER -- The result is passed back here
)
IS
BEGIN
    p_result := 1;
    FOR i IN 1..p_n LOOP
        p_result := p_result * i;
    END LOOP;
END;
/
```

Q14: Create and execute a PL/SQL procedure to find the square of a given number.

Logic: The procedure takes a number **N** as input and returns its square (



) using an **OUT parameter**.

SQL

```
CREATE OR REPLACE PROCEDURE find_square (
    p_n IN NUMBER,
```

```
  p_square OUT NUMBER -- The result is passed back here
)
IS
BEGIN
  p_square := p_n * p_n;
END;
/
```

Q15: Create and execute a PL/SQL procedure to find the sum of a first five numbers.

Assuming the sum of the first five natural numbers: 1, 2, 3, 4, 5 (Total = 15).

Logic: The procedure calculates the sum using a simple loop and displays the result using DBMS_OUTPUT.

```
SQL
CREATE OR REPLACE PROCEDURE sum_first_five
IS
  v_total NUMBER := 0;
BEGIN
  FOR i IN 1..5 LOOP
    v_total := v_total + i;
  END LOOP;
  DBMS_OUTPUT.PUT_LINE('Sum of the first five numbers is: ' || v_total);
END;
/
```

Q16: Define a cursor in PL/SQL. List different types of cursors and briefly describe each.

A **cursor** is a temporary, private memory area that acts as a **pointer** to the set of rows returned by a SELECT statement, allowing a program to process the data **one row at a time**.

Cursor Type	Description
1. Implicit Cursor	**Automatic:** Created and managed by Oracle whenever you run a simple DML (INSERT, UPDATE, DELETE) or a single-row SELECT INTO. You only check its status.
2. Explicit Cursor	**Manual:** Declared and managed by the programmer (using DECLARE, OPEN, FETCH, and CLOSE). Used when a SELECT statement is expected to return **multiple rows** for processing.

Q17: Define a database trigger. What are the different types of triggers available in PL/SQL?

A **database trigger** is a stored PL/SQL program that runs **automatically** whenever a specific database event occurs (like a change to data or a system action).

Different Types of Triggers:

1. **DML Triggers (Data Manipulation):** Fire on INSERT, UPDATE, or DELETE commands on a table. Can be **Row-Level** (runs per row) or **Statement-Level** (runs once per command).
2. **Timing Triggers:** Based on when they fire: **BEFORE** (before the change, good for validation) or **AFTER** (after the change, good for auditing).
3. **DDL Triggers (Data Definition):** Fire on structure changes like CREATE, ALTER, or DROP of database objects.
4. **Database Event Triggers:** Fire on system events like database STARTUP, SHUTDOWN, or user LOGON/LOGOFF.

Q18: Demonstrate how to use if else to find maximum of two numbers.

Logic: A simple block that uses an IF-THEN-ELSE statement to compare two variables and print the larger one.

SQL

```
DECLARE
   v_a NUMBER := 50;
   v_b NUMBER := 80;
   v_max NUMBER;
BEGIN
   IF v_a > v_b THEN
      v_max := v_a;
   ELSE
      v_max := v_b;
   END IF;

   DBMS_OUTPUT.PUT_LINE('The maximum number is: ' || v_max);
END;
/
```

Q19: Define cursor and write down its four stages.

Definition: A **cursor** is a control structure used to iterate over a multi-row result set, allowing you to process each row individually.

Four Stages of an Explicit Cursor:

1. **Declaration:** Defining the cursor and writing the SELECT query it will use.
2. **Opening:** The database executes the SELECT query and the resulting rows are loaded into the cursor's memory area.
3. **Fetching:** The program retrieves and copies **one row at a time** from the cursor's memory into your local variables. This happens inside a loop.
4. **Closing:** Releasing the memory and resources used by the cursor once all rows have been processed.

Q20: Define sequence in PL/SQL. Explain the key attributes of a sequence.

Definition: A **sequence** is a database object used to automatically generate unique, consecutive numbers, typically used for creating **Primary Key** values.

Key Attributes:

1. **START WITH:** Sets the **first** number that will be generated.

2. **INCREMENT BY:** Specifies the **step value** by which the sequence number increases (or decreases).
3. **MAXVALUE / MINVALUE:** Sets the absolute **highest** or **lowest** number the sequence can generate.
4. **CYCLE / NOCYCLE:** Determines if the sequence should **start over** (CYCLE) after hitting its limit or **stop** (NOCYCLE).
5. **CACHE / NOCACHE:** Determines if a block of numbers should be stored in memory for faster access (CACHE).

Q21: Distinguish between actual and formal parameters in procedures/functions.

Feature	Formal Parameters (The Blueprint)	Actual Parameters (The Real Data)
Location	Declared in the procedure/function **definition**.	Passed to the procedure/function **when it is called (executed)**.
Purpose	Placeholders that define the **data type and direction** (IN, OUT).	The **real values** or variables that are passed into or returned from the program.
Example	In PROCEDURE calc(P_AMT IN NUMBER), **P_AMT** is formal.	In EXEC calc(1000), **1000** is actual.

Q22: Differentiate between SQL and PL/SQL.

Feature	SQL (Structured Query Language)	PL/SQL (Procedural Language/SQL)
Purpose	Used to **manage data**: retrieving, inserting, updating, and deleting data.	Used to **program logic**: performing calculations, handling errors, and using loops.
Nature	**Non-Procedural** (or Declarative). You tell the DB *what* data you want.	**Procedural**. You tell the DB *how* to process the data step-by-step.
Flow Control	**No** loops or IF/THEN/ELSE statements.	**Yes**, includes IF, WHILE, and FOR loops for complex logic.

Q23: Differentiate between stored procedure and package.

Feature	Stored Procedure	Package
Functionality	A **single program unit** designed to perform one specific task or action.	A **container** that groups related procedures, functions, variables, and other objects.
Components	Contains only the procedure logic.	Contains two parts: **Specification** (the list of objects) and **Body** (the code for those objects).

Use for	Executing a specific, standalone task (e.g., calculating an employee's bonus).	**Organizing** code, managing security, and **maintaining a session state** (variables keep their value).

Q24: Differentiate between stored procedures and embedded SQL with examples.

Feature	Stored Procedure	Embedded SQL
Location	The code is compiled and stored **inside the database** server.	SQL code is placed **inside the source code of a host language** (like Java, C#, or Python).
Execution	Runs **entirely on the database server**.	SQL statements are sent one by one from the application to the server.
Focus	**Database-centric** complex business logic (e.g., transaction processing).	**Application-centric** data access and manipulation.

Q25: Explain the benefits of using stored procedures in PL/SQL applications with suitable examples.

1. **Improved Performance (Speed):** Procedures are **pre-compiled** and stored. This avoids the need to parse and optimize the code every time, leading to faster execution.
2. **Reduced Network Traffic:** Instead of sending many SQL statements, the application sends **one single command** to execute the procedure, cutting down on network chatter.
3. **Enhanced Security:** Users can be granted permission to **run the procedure** without having direct access to the underlying tables, protecting the raw data.
4. **Code Reusability:** Logic is written once in the procedure and can be called by **any application** (web, mobile, other procedures), ensuring consistency.

Q26: Explain the structure of a PL/SQL block with example.

Every PL/SQL program is organized into a **block** with three main sections:

1. **DECLARE (Optional):** Used to define **variables, constants, and cursors** that are local to this block. (The **Definition** section).
2. **BEGIN (Mandatory):** The **executable section** where the main logic, loops, and SQL statements are written. (The **Action** section).
3. **EXCEPTION (Optional):** Used to specify actions to be taken when a runtime **error** occurs. (The **Error Handling** section).

The block always ends with the mandatory END; keyword.

Q27: Explain the structure of PL/SQL block with a neat diagram.

(Since I cannot draw a diagram, I will describe the structure as a flow chart.)

A PL/SQL block is a logical, structured unit:

1. **[DECLARE]** (Variables, Cursors)
2. **BEGIN** (Main Code Logic, SQL, Loops, IF-THEN)
3. **[EXCEPTION]** (WHEN Error THEN Handle Error)
4. **END;**

This structure ensures clean separation between variable definition, execution logic, and error handling.

Q28: Explain the use of for loop with syntax and example.

Use: The **FOR loop** is used when you know exactly **how many times** you want the loop to execute (i.e., you have a definite starting and ending range). It automatically handles the loop counter.

Syntax:

```
SQL
FOR counter IN [REVERSE] start_value..end_value LOOP
   -- Statements to be executed repeatedly
END LOOP;
```

Example: A loop that counts down from 5 to 1.

```
SQL
FOR i IN REVERSE 1..5 LOOP
   DBMS_OUTPUT.PUT_LINE('Countdown: ' || i);
END LOOP;
```

Q29: Explain the use of while loop with syntax and example.

Use: The **WHILE loop** is used when you don't know the exact number of times the loop will run, but you have a **condition** that must remain TRUE. The condition is checked **before** each iteration (Pre-test).

Syntax:

```
SQL
WHILE condition LOOP
   -- Statements to be executed repeatedly
   -- Must include a statement that changes the condition!
END LOOP;
```

Example:

```
SQL
v_count := 1;
WHILE v_count <= 3 LOOP
   DBMS_OUTPUT.PUT_LINE('Iteration: ' || v_count);
   v_count := v_count + 1; -- Increment counter
END LOOP;
```

Q30: Explain the various attributes of cursor.

Cursor attributes are status flags that give information about the most recently executed explicit or implicit cursor.

1. **%ISOPEN: TRUE** if the cursor is currently open; **FALSE** otherwise.
2. **%FOUND: TRUE** if the last FETCH operation successfully returned a row.

3. **%NOTFOUND: TRUE** if the last FETCH operation **did not** return a row (used to exit loops).
4. **%ROWCOUNT:** The **total number of rows** that have been processed or affected by the cursor so far.

Q31: Identify the differences between BEFORE and AFTER triggers.

These are **timing types** of DML triggers that fire on a table.

Feature	BEFORE Trigger	AFTER Trigger
Fires When	**Before** the change is written to the database.	**After** the change is successfully written to the database.
Primary Use	**Validation** (checking data) and pre-processing (setting a default value).	**Auditing** (logging the final change) and **cascading operations** (updating summary tables).
Can Stop DML?	**Yes**. It can raise an error and prevent the operation from completing.	**No**. The original DML has already happened.

Q32: List any five advantages of using PL/SQL in Oracle databases.

1. **Performance:** It reduces network traffic because a single PL/SQL call executes many SQL statements internally.
2. **Error Handling:** It provides the EXCEPTION section, allowing developers to write reliable code that gracefully manages runtime errors.
3. **Procedural Capabilities:** It adds standard programming features (loops, conditionals, modularity) to the SQL environment.
4. **Integration with SQL:** All valid SQL statements (DML, DQL, DDL, TCL) can be executed directly and easily within a PL/SQL block.
5. **Security:** Using stored procedures allows you to control access by granting users permission to **run the logic** without direct table access.

Q33: What are the benefits of using a cursor in PL/SQL?

1. **Row-by-Row Processing:** Cursors allow you to **loop through a set of results and process each row individually**, which is essential for complex procedural logic.
2. **State Preservation:** A cursor maintains its position in the result set, allowing you to fetch one row, do other work, and then return to fetch the next row in order.
3. **Flexibility:** Cursors can be used for reading data and for making targeted, row-specific UPDATE or DELETE operations using the FOR UPDATE clause.

Q34: What are the benefits of using triggers in PL/SQL?

1. **Data Integrity Enforcement:** Triggers are the **last line of defense** for data, enforcing complex business rules regardless of the application used.
2. **Automatic Auditing and Logging:** They are perfect for automatically tracking changes (who, when, what was changed) to sensitive data.
3. **Centralized Logic:** Ensures that a rule is implemented consistently across all applications by storing the rule once in the database.
4. **Cascading Actions:** Allows the database to automatically perform related tasks, such as updating summary tables when detail data changes.

Q35: What are the features of PL/SQL?

1. **Block Structure:** Code is organized into logical, readable blocks (DECLARE, BEGIN, EXCEPTION).
2. **Procedural Capabilities:** Supports standard programming features like **IF statements, WHILE/FOR loops**, and reusable program units.
3. **Integration with SQL:** Allows seamless execution of all SQL statements directly within the code.
4. **Transaction Control:** Provides full control over transactions using COMMIT and ROLLBACK for multi-step data operations.
5. **Error Handling (Exceptions):** The EXCEPTION section allows for robust and graceful management of runtime errors.

Q36: What are the three main types of loops available in PL/SQL? Explain any one loop with syntax and example.

The three main types of loops are: **Basic (Simple) Loop, WHILE Loop, and FOR Loop.**

Explanation of FOR Loop:

- **Definition:** The FOR loop is used when you know the exact **starting and ending point** of your iterations. It is simple because the counter variable and exit condition are managed automatically.
- **Syntax:**

```
SQL
FOR counter IN start_value..end_value LOOP
   -- Statements to repeat
END LOOP;
```

- **Example (Counting from 1 to 5):**

```
SQL
BEGIN
   FOR i IN 1..5 LOOP
      DBMS_OUTPUT.PUT_LINE('Current number is: ' || i);
   END LOOP;
END;
```

Q37: What is a sequence in PL/SQL? List the key attributes of a sequence.

Definition: A **sequence** is a database object used to automatically generate unique numbers, often used to create **primary key** values.

Key Attributes:

1. **START WITH:** The first number generated.
2. **INCREMENT BY:** The step value for the sequence.
3. **MAXVALUE / MINVALUE:** The highest (or lowest) number the sequence can reach.
4. **CYCLE / NOCYCLE:** Whether the sequence restarts after reaching its limit.
5. **CACHE / NOCACHE:** Whether a block of numbers is pre-loaded into memory for speed.

Q38: What is a Trigger? Write the advantages of using trigger.

Definition: A **trigger** is a stored PL/SQL program that automatically runs (fires) when a specific database event occurs, such as an INSERT, UPDATE, or DELETE.

Advantages of Using Triggers:

1. **Guaranteed Data Integrity:** Enforces complex rules at the database level that cannot be bypassed by any application.
2. **Automatic Auditing:** Simplifies tracking changes to important data by automatically logging actions.
3. **Centralized Logic:** The business rule is stored in one place, ensuring consistency across all applications.
4. **Event-Driven Action:** Allows the database to immediately perform related tasks (e.g., updating stock) when an event occurs.

Q39: What is function? Write the advantages of using function.

Definition: A **function** is a reusable PL/SQL program that **must** calculate and return a single value back to the calling program or SQL statement.

Advantages of Using Functions:

1. **Direct Use in SQL:** Functions can be called directly from standard SQL statements (SELECT, WHERE clauses).
2. **Code Reusability:** Complex calculations are written once and used many times across multiple applications.
3. **Modularity:** Functions break down large programs into smaller, testable, and manageable units.
4. **Focus:** Their clear purpose is to return one value, which makes them easy to integrate into expressions.

Q40: What is the syntax for creating a simple function in PL/SQL? Give an example.

Syntax for Creating a Function:

```
SQL
CREATE OR REPLACE FUNCTION function_name (
   parameter1 IN datatype
)
RETURN return_datatype
IS/AS
BEGIN
   -- Logic to calculate the return value
   RETURN calculated_value;
END function_name;
/
```

Example (Function to find the cube of a number):

```
SQL
CREATE OR REPLACE FUNCTION calculate_cube (
   p_number IN NUMBER
)
```

```
RETURN NUMBER
IS
BEGIN
   RETURN p_number * p_number * p_number;
END calculate_cube;
/
```

Q41: What is the syntax for creating a simple procedure in PL/SQL? Give an example.

Syntax for Creating a Procedure:

```
SQL
CREATE OR REPLACE PROCEDURE procedure_name (
   parameter1 [IN/OUT/IN OUT] datatype
)
IS/AS
BEGIN
   -- Logic to perform an action (e.g., INSERT, UPDATE, or printing)
END procedure_name;
/
```

Example (Procedure to print a greeting):

```
SQL
CREATE OR REPLACE PROCEDURE greet_user (
   p_name IN VARCHAR2
)
IS
BEGIN
   DBMS_OUTPUT.PUT_LINE('Hello, ' || p_name || '! ');
END greet_user;
/
```

Q42: Write a PL/SQL block using an IF-THEN-ELSE statement to check if a number is even or odd.

Logic: Uses the MOD function to check if the remainder when dividing by 2 is 0.

```
SQL
DECLARE
   v_number NUMBER := 17;
BEGIN
   IF MOD(v_number, 2) = 0 THEN
      DBMS_OUTPUT.PUT_LINE(v_number || ' is an EVEN number.');
   ELSE
      DBMS_OUTPUT.PUT_LINE(v_number || ' is an ODD number.');
   END IF;
END;
/
```

Q43: Write a PL/SQL block using an IF-THEN-ELSE statement to check if a number is positive, negative, or zero.

Logic: Uses IF, ELSIF, and ELSE for the three possible conditions.

```
SQL
DECLARE
  v_test_number NUMBER := -10;
BEGIN
  IF v_test_number > 0 THEN
    DBMS_OUTPUT.PUT_LINE('The number is POSITIVE.');

  ELSIF v_test_number < 0 THEN
    DBMS_OUTPUT.PUT_LINE('The number is NEGATIVE.');

  ELSE -- The number must be zero
    DBMS_OUTPUT.PUT_LINE('The number is ZERO.');
  END IF;
END;
/
```

Q44: Write the application of PL/SQL.

1. **Transaction Processing:** Used to write complex **Stored Procedures** that handle multi-step business transactions (e.g., money transfer).
2. **Data Validation:** Logic within **Triggers** enforces complex business rules, ensuring data is correct before it is saved.
3. **Reporting and Analysis:** PL/SQL **Functions** are used within SQL queries to calculate metrics and format data for reports.
4. **Web and Application Backends:** Procedures act as a secure, fast API for external applications to perform complex database operations.

Q45: Write the syntax for creating and dropping a sequence in PL/SQL.

1. Syntax for Creating a Sequence:

```
SQL
CREATE SEQUENCE sequence_name
  INCREMENT BY number
  START WITH number
  NOCYCLE;
  -- Other optional clauses like MAXVALUE, CACHE
```

2. Syntax for Dropping (Deleting) a Sequence:

```
SQL
DROP SEQUENCE sequence_name;
```

I hope this complete, consolidated list is helpful for your studies! Let me know if you need any of these topics explained further.

noname
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