

Oracle Database 11g: Advanced Programming with PL/SQL (Mock Assessment Test)

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Lesson 1: Fundamentals of PL/SQL

Topic 1A: PL/SQL Development Environments

1. Exception section is a mandatory section of a PL/SQL block [True or False]
2. Chose the objectives which is not achieved by SQL Developer
 - A. Authenticate and connect to multiple Oracle databases
 - B. Query and Manipulate data
 - C. SQL Command support
 - D. Perform Backup and recovery activities
3. Which SQL* Plus command must be enabled to print the results of PL/SQL block execution
 - A. PRINT RESULT
 - B. SERVEROUTPUT
 - C. DISPLAY
 - D. SHOW
4. SQL Plus has been deprecated from Oracle 11g release. [True or False]

Topic 1B: Listing restrictions on calling functions from SQL expressions

5. Procedure is a named PL/SQL block which always returns data to the calling environment. [True or False]
6. A function can be called from SQL expression if it obeys the following condition. Chose the conditions from the below options
 - A. A function in SELECT should not contain DML statements.
 - B. The function should not have any return value
 - C. A function in UPDATE or DELETE statement should not query the same table.
 - D. A function called from SQL expressions cannot contain TCL (COMMIT or ROLLBACK) command or DDL (CREATE or ALTER) command.
7. You execute the below query in SCOTT schema

```
SELECT NAME, referenced_owner, referenced_name
FROM all_dependencies
WHERE owner = USER
AND TYPE IN ('PROCEDURE', 'FUNCTION')
AND referenced_type IN ('TABLE', 'VIEW')
AND referenced_owner IN ('SYS')
ORDER BY owner, NAME, referenced_owner, referenced_name;
```

Which statement is true about the output of the query?

- A. It displays all PL/SQL procedures and functions created by user SCOTT that use any table or view owned by SYS.
- B. It displays no rows because this query needs to be executed as the user SYS for required results.
- C. It displays all PL/SQL code objects that reference a table or view directly for all the users in the database.
- D. It displays only those PL/SQL code objects created by the user OE that reference a table or view created by the user SYS.

Lesson 2: Designing PL/SQL Code

Topic 2A: Get Started with Cursor Design

8. What are the possible reasons of INVALID_CURSOR exception?

- A. Cursor does not have parameters passed in IN mode.
- B. Cursor has been closed before fetching any data from the result set
- C. Cursor has been referenced even after closing it
- D. Cursor result set has been fetched into a non matching variable.

Answer: C

9. Identify the guidelines to be considered when designing cursors in a PL/SQL block

- A. When fetching from a cursor, fetch into a record.
- B. When fetching from a cursor, fetch required values into individually declared variables.
- C. Whenever possible, explicitly declare the cursor and use the OPEN, FETCH, and CLOSE statements to manipulate the cursor instead of using the cursor FOR loop.
- D. Whenever possible, use the cursor FOR loop instead of explicitly declaring the cursor and using the OPEN, FETCH, and CLOSE statements to manipulate the cursor.

10. When using data manipulation language statements, (DML) reference a SQL cursor attribute immediately after the DML statement executes in the same block [True or False]

Topic 2B: Use Cursor Variables

11. Which two statements are true about REF CURSOR types? (Choose two.)

- A. REF CURSOR types cannot be defined inside a package.
- B. SYS_REFCURSOR can be used to declare cursor variables in stored procedures and functions.
- C. A REF CURSOR return type can be declared using %TYPE, or %ROWTYPE, or a user defined record.
- D. Only a weak REF CURSOR type can be used as a formal parameter of a stored procedure or function.

12. Which two statements are true about cursor variables? (Choose two.)

- A. A cursor variable points to the current row in the result set of a multirow query stored in a work area.
- B. A cursor variable is an explicitly named work area in which the results of different multirow queries can be stored.
- C. A cursor variable can be used only if a query is performed and its results are processed in the same subprogram.
- D. A cursor variable can be used to perform a query in one subprogram, and process the results in a different subprogram.

13. Cursor attributes (%FOUND, %NOTFOUND, %ISOPEN, and %ROWCOUNT) can be applied to a cursor variable. [True or False]

14. The OPEN FOR statement executes the query associated with a cursor variable and but doesn't fetches the result set [True or False]

Topic 2C: Create Subtypes Based on Existing Data Types

15. Examine the following command to create the table EMPLOYEES_TEMP and the PL/SQL block.

```
CREATE TABLE EMP_TEMP
(empid NUMBER(6) NOT NULL,
deptid NUMBER(6) CONSTRAINT c_emp_deptid CHECK (deptid BETWEEN 100 AND 200),
```

```

salary Number(8),
deptname VARCHAR2(30) DEFAULT 'sales')
/

DECLARE
SUBTYPE v_emprec_subtype IS employees_temp%ROWTYPE;
v_emprec v_emprec_subtype;
BEGIN
v_emprec.empid := NULL; v_emprec.salary := 10000.002;
v_emprec.deptid := 50;
DBMS_OUTPUT.PUT_LINE('v_emprec.deptname: ' || v_emprec.deptname);
END;
/

```

Which statements are true about the above PL/SQL block? (Choose two.)

- A. V_EMPREC.DEPTNAME would display a null value because the default value is not inherited.
- B. Assigning null to V_EMPREC.EMPID would generate an error because the null constraint is inherited.
- C. Assigning the value 1000.002 to V_EMPREC.SALARY would generate an error because of the decimal.
- D. Assigning the value 50 to V_EMPREC.DEPTID would work because the check constraint is not inherited.

Lesson 3: Using Collections

Topic 3A: Create Collections

16. Which two statements are true about associative arrays and varrays? (Choose two.)

- A. Only varrays must start with the subscript 1.
- B. Only varrays can be used as column types in database tables.
- C. Both associative arrays and varrays must start with the subscript 1.
- D. Both associative arrays and varrays can be used as column types in database tables.

17. Which two statements are true about associative arrays and nested tables?

(Choose two.)

- A. Only associative arrays can hold an arbitrary number of elements.
- B. Only nested tables can be used as column types in database tables.
- C. Both associative arrays and nested tables can hold an arbitrary number of elements.
- D. Both associative arrays and nested tables can be used as column types in database tables.

Answer: B, C

18. Only varrays must use sequential numbers as subscripts. [True or False]

19. Varrays cannot be used as column types in database tables [True or False]

Topic 3B: Manipulate Collections Using Collection Methods

20. Examine the code snippet from the declarative section of a PL/SQL block:

```

DECLARE
TYPE va1 IS VARRAY(10) OF VARCHAR2(20);
SUBTYPE scale IS NUMBER(1,0);
TYPE tb1 IS TABLE OF departments.department_name%TYPE INDEX BY
departments.department_id%TYPE;
TYPE tb2 IS TABLE OF va1 INDEX BY PLS_INTEGER;

```

```
TYPE tb3 IS TABLE OF scale INDEX BY VARCHAR2(10);
TYPE tb4 IS TABLE OF DATE INDEX BY DATE;
TYPE tb5 IS TABLE OF NUMBER INDEX BY CHAR(2);
```

....

Which of the above are valid definitions for associative arrays? (Choose all that apply.)

- A. tb1
- B. tb2
- C. tb3
- D. tb4
- E. tb5

21. Examine the commands:

Command 1:

```
CREATE TYPE typ_course_tab IS VARRAY(5) OF VARCHAR2(20);
/
```

Command 2:

```
CREATE TYPE typ_course_nst
AS TABLE OF typ_course_tab
/
```

Command 3:

```
CREATE TABLE faculty
(faculty_id NUMBER(5),
faculty_name VARCHAR2(30),
courses typ_course_nst)
NESTED TABLE courses STORE AS course_stor_tab
/
```

Command 4:

```
INSERT INTO faculty
VALUES (101, 'Jones', NULL)
/
```

Command 5:

```
UPDATE (SELECT courses FROM faculty WHERE faculty_id=101)
SET courses = typ_course_nst(11,'Oracle');
/
```

Which statement is true about the execution of these commands?

- A. All the commands execute successfully.
- B. Only the first two commands execute successfully.
- C. Only the first four commands execute successfully.
- D. Only the first three commands execute successfully.

22. Examine the code in the following PL/SQL block:

```
DECLARE
TYPE NumList IS TABLE OF INTEGER;
List1 NumList := NumList(11,22,33,44);
BEGIN
List1.DELETE(2);
```

```

DBMS_OUTPUT.PUT_LINE
('The last element# in List1 is ' || List1.LAST ||
' and total of elements is '||List1.COUNT);
List1.EXTEND(4,3);
END;
/

```

Which two statements are true about the above code? (Choose two.)

- A. LAST and COUNT give different values.
- B. LAST and COUNT give the same values.
- C. The four new elements that are added contain the value 33.
- D. The four new elements that are added contain the value 44.

Lesson 4: Using Advanced Interface Methods

Topic 4A: Execute Procedures Overview

23. Which two statements are true about the extproc process? (Choose two.)

- A. It loads the dynamic library.
- B. It is started by the server process.
- C. It converts the C output back to PL/SQL.
- D. A single extproc process serves all user sessions.

24. The user SCOTT is working on an application that needs to call an external C program multiple times in a single session. However, the extproc.exe file on the server gets accidentally deleted after the SCOTT user connected and made calls to the external C program. Which statement is true about the current session by the SCOTT user?

- A. The session can continue calling the external C program.
- B. The session can call the external C program after republishing it.
- C. The session receives an error for the next call to the external C program.
- D. The session terminates during the subsequent call to the external C program.

Topic 4B: Execute External C Programs from PL/SQL

25. Match the following external C procedure components with their descriptions:

1. External procedure	a. a process that starts the extproc process
2. Shared library	b. a session-specific process that executes the external procedure
3. Alias library	c. schema object that represents the operating system (OS) shared library
4. The extproc process	d. operating system file that stores the external procedure
5. Listener process	e. a unit of code written in C

- A. 1-e; 2-d; 3-c; 4-b; 5-a
- B. 1-c; 2-d; 3-e; 4-b; 5-a
- C. 1-e; 2-c; 3-d; 4-b; 5-a
- D. 1-a; 2-d; 3-e; 4-c; 5-b

26. You created a PL/SQL subprogram that successfully invokes an external C procedure. After a while, the database administrator (DBA) drops the alias library schema object. The shared library exists in the system. Which statement is true in this scenario?

- A. The corresponding shared library is also removed from the system.
- B. PL/SQL subprograms can be used to invoke the external C procedure.
- C. The existing extproc process is terminated and a new extproc is started.
- D. The PL/SQL subprogram that depends on the external C program becomes invalid.

Topic 4C: Execute Java Programs from PL/SQL

27. There is a Java class file in your system and you publish it using the following command:

```
CREATE OR REPLACE PROCEDURE P_VALIDATE_CARD
(x IN OUT VARCHAR2)
AS LANGUAGE JAVA
NAME 'GetCreditCard.validateCard(java.lang.String[])';
```

However, you receive the following error when executing the P_VALIDATE_CARD procedure:

```
ERROR at line 1:
ORA-29540: class GetCreditCard does not exist
ORA-06512: at "SCOTT.P_VALIDATE_CARD ", line 1
ORA-06512: at line 1
```

What would you do to execute the procedure successfully?

- A. Change the listener configuration.
- B. Create a directory object and link it to the Java class file.
- C. Rebuild the Java class file when the database instance is running.
- D. Use the loadjava utility to load the Java class file into the database.

28. Chose the correct explanation of the below command

loadjava -user scott/tiger CardValidation.java

Which statement is true about the command?

- A. It loads the Java code into the database.
- B. It publishes Java methods in CardValidation.java.
- C. It loads the metadata related to the Java class file into the database.
- D. It loads the Java class file into the Java pool in the database instance.

29. You have the corresponding Java class file and you execute the command as follows:

```
CREATE OR REPLACE PROCEDURE P_VALIDATE_CARD
(x IN OUT VARCHAR2)
AS LANGUAGE JAVA
NAME 'GetCreditCard.validateCard(java.lang.String[])';
```

Which statement is true about the command?

- A. It loads the Java class method into Oracle Database and publishes it.
- B. It publishes the Java class method, but the CCFORMAT PL/SQL procedure fails when it is executed.
- C. It creates the CCFORMAT PL/SQL subprogram without publishing, which can be used to invoke the Java class method.
- D. It publishes the Java class method and the CCFORMAT PL/SQL procedure invokes the Java class method when it is executed.

Lesson 5: Implementing VPD with Fine Grained Access Control

Topic 5A: Overview of Fine-Grained Access Control

30. Which two statements are true about the working of fine-grained access? (Choose two.)

- A. Security policies can be associated only with tables, but not with views.
- B. Different policies can be used for SELECT, INSERT, UPDATE, and DELETE statements.
- C. User statements are dynamically modified by the Oracle server through a security policy function.
- D. Fine-grained access control policies always remain in effect until they are dropped from a table or view.

Answer: B, C

31. Identify the method that is used by fine-grained access (FGA).

- A. using policy functions to generate predicates dynamically
- B. creating triggers on corresponding tables to generate dynamic predicates
- C. modifying the existing application code to include a predicate for all SQL statements
- D. creating views with necessary predicates, and then creating synonyms with the same name as the tables

Topic 5B: Implement FGAC

32. Which two statements are true about the context of an application? (Choose two.)

- A. It is attached to a session.
- B. It is owned by the user SYS.
- C. A user can change the context of his or her application.
- D. The PL/SQL package associated with the context must exist before the context is created.
- E. The predefined attributes in the USERENV application context can be changed as per the requirements.

33. You have an EMP_POLICY security policy implemented on the EMP_DETAILS table in the SCOTT schema. The user sessions are able to access only the desired rows. The database administrator (DBA) uses the following command:

```
SQL> EXECUTE  
DBMS_RLS.ENABLE_POLICY('OE','ORDERS','OE_ORDERS_ACCESS_POLICY',FALSE);
```

Which statement is true about user sessions that are connected currently?

- A. The security policy remains in effect till the end of the current session.
- B. The subsequent queries on the ORDERS table produce an ORA-01031: insufficient privileges error.
- C. The subsequent queries on the ORDERS table within the current session are not controlled by the security policy.
- D. The subsequent queries on the ORDERS table produce an ORA-28112: failed to execute policy function error.

Lesson 6: Manipulating Larger Objects

Topic 6A: Use an LOB

34. State True or False about the facts listed below based on Internal LOBs

- A. They cannot use redo logging.
False
- B. They can be used as attributes of a user-defined data type.

True

C. They cannot be passed as parameters to PL/SQL subprograms.

False

D. They can be stored in a tablespace that is different from the tablespace that stores the table containing the LOB column.

True

35. You issue this command to create a table called LOB_STORE:

```
CREATE TABLE lob_store
(lob_id NUMBER(3),
photo BLOB DEFAULT EMPTY_CLOB(),
cv CLOB DEFAULT NULL,
ext_file BFILE DEFAULT NULL)
/
```

Identify the issue in the above script?

A. The table is created successfully.

B. It generates an error because BLOB DEFAULT cannot be set to EMPTY_CLOB() during table creation.

C. It generates an error because DEFAULT cannot be set to null for a CLOB column during table creation.

D. It generates an error because DEFAULT cannot be set to null for a BFILE column during table creation.

36. Which two statements are true about the initialization of internal LOBs? (Choose two.)

A. The EMPTY_CLOB() and EMPTY_BLOB() functions can be used to initialize only null internal LOBs.

B. The EMPTY_CLOB() and EMPTY_BLOB() functions can be used to initialize only non-NULL internal LOBs.

C. The EMPTY_CLOB() and EMPTY_BLOB() functions can be used to initialize both null and non-NULL internal LOBs.

D. The CLOB and BLOB columns can be initialized only by using the EMPTY_CLOB() and EMPTY_BLOB() functions, respectively.

E. The CLOB and BLOB columns can be initialized with a character or raw string, respectively, provided they are less than 4000 bytes in size.

Topic 6B: Use DBMS_LOB PL/SQL Package

37. Which two statements are true about the OPEN and FILEOPEN routines in the DBMS_LOB package? (Choose two.)

A. OPEN can be used to open only internal LOBs in the indicated mode.

B. FILEOPEN can be used to open only external LOBs in the indicated mode.

C. OPEN can be used to open internal and external LOBs in the indicated mode.

D. FILEOPEN can be used to open internal and external LOBs in the indicated mode.

38. Examine the structure of the TEST_DETAILS table:

Name Null? Type

```
-----
TEST_ID NUMBER
DESCRIPTION CLOB
```

For TEST_ID 12, the DESCRIPTION data was entered earlier. You execute this PL/SQL block to add data

to the end of the existing data in the DESCRIPTION column for TEST_ID 12:

```
DECLARE
clob_loc CLOB;
buf CHAR(12);
BEGIN
SELECT description INTO clob_loc FROM test_details WHERE test_id = 12 ;
buf := '0123456789';
DBMS_LOB.WRITEAPPEND(clob_loc,DBMS_LOB.GETLENGTH(buf), buf);
COMMIT;
END;
/
```

Identify the error in the above block?

- A. WRITEAPPEND must be replaced with APPEND
- B. The BUF variable data type must be changed to CLOB
- C. FOR UPDATE must be added to the SELECT statement
- D. The GETLENGTH routine must be replaced with the LENGTH built-in function in WRITEAPPEND.

Topic 6C: Use Temporary LOBs

39. Temporary LOBs can be shared among the users which are currently connected to the server. [True or False]

40. Temporary LOBs are persistent for session in which they are created. [True or False]

41. Which two statements are true about BFILES? (Choose two.)

- A. BFILES support only sequential reads.
- B. BFILES can be used as attributes in an object type.
- C. When LOB is deleted; the corresponding physical file is automatically deleted.
- D. The RMAN backup automatically backs up the BFILE locators and the corresponding physical files.
- E. The physical file corresponding to a BFILE locator must reside on the file system that is accessible from the server where the database exists.

42. Which two statements are true about the DBMS_LOB.CREATETEMPORARY procedure that is used to create a temporary LOB? (Choose two.)

- A. It can be used for transforming data in permanent internal LOBs.
- B. It is used only for the migration of BasicFile to the SecureFile format.
- C. It is used only for the migration of the LONG column to the LOB column.
- D. It creates a LOB variable that is not associated with any table and is stored in the user's temporary tablespace.
- E. It creates a LOB variable that is associated with a specific table and is temporarily stored in the user's default tablespace.

Topic 6D: Manage LOB Data Type

43. Examine the structure of the PRINT_MEDIA table:

Name Null? Type

ADVT_ID NUMBER
ADVT_SOURCE CLOB

Examine the following PL/SQL block:

```
DECLARE
lobloc CLOB;
buffer VARCHAR2(100);
amount NUMBER;
offset NUMBER :=1;
BEGIN
buffer :='This is the second line of a new document';
amount := LENGTH(buffer);
SELECT advt_source INTO lobloc FROM print_media WHERE advt_id=2 FOR UPDATE;
DBMS_LOB.WRITE(lobloc,amount,offset,buffer);
COMMIT;
END;
/
```

Determine the pre requisite for the above code to execute successfully?

- A. ADVT_SOURCE must be null
- B. ADVT_SOURCE must be initialized with an empty locator
- C. ADVT_SOURCE must be a non-NULL value
- D. ADVT_SOURCE can be either null or any non-NULL values

44. You issue the following command to create the PO_PRINT table.

```
CREATE TABLE PO_PRINT
(product_id NUMBER(3),
ad_sourcetext CLOB,
ad_photo BLOB);
```

Evaluate the following INSERT statements:

Command 1
INSERT INTO print_media VALUES (1, empty_clob(),empty_blob())
/

Command 2
INSERT INTO print_media VALUES (2,'This is a One Line Story',null)
/

Command 3
INSERT INTO print_media VALUES (3,'This is another One Line Story',empty_blob())
/

Command 4
INSERT INTO print_media VALUES (4,empty_clob(),to_blob('This is new Story'))
/

Which of the above INSERT statements is valid?

- A. Command 1
- B. Command 2
- C. Command 3
- D. Command 4

Lesson 7: Implement SecureFile LOBs

Topic 7A: Migrate BasicFile LOB to the SecureFile LOB Format

45. Which two statements are true about the migration of BasicFile to the SecureFile format by using the DBMS_REDEFINITION package? (Choose two.)

- A. It can be performed only on tables with a single LOB column.
- B. It automatically creates an interim table during the migration process.
- C. It allows the table that is migrated to be accessed throughout the migration process.
- D. It requires free space that is at least equal to the space used by the table that is migrated.
- E. It requires all constraints defined on the original table to be re-created manually after the migration.

Topic 7B: Enable SecureFile LOB Deduplication, Compression and Encryption

46. Which statements are true about the SecureFile storage paradigm? (Choose two.)

- A. SecureFile storage can be used for internal and external LOBs.
- B. Automatic Segment Space Management must be enabled for a tablespace to store SecureFile LOBs.
- C. SecureFile options enabled for a LOB column can be overridden on a per-LOB basis within the column.
- D. SecureFile is the default storage paradigm for all LOBs that are stored in locally managed tablespaces if the DB_SECUREFILE parameter is set to ALWAYS.

47. The Compression feature can be enabled only for Encrypted SecureFiles [True or False]

48. A compressed table, having a SecureFile column will automatically enable compression for SecureFiles [True or False]

49. Which two statements are true about SecureFile LOB options? (Choose two.)

- A. The DECRYPT option can be used to remove the encryption only if the LOB column is empty.
- B. The KEEP_DUPLICATES option removes the deduplication effect only on new data in a LOB column.
- C. The KEEP_DUPLICATES option removes the deduplication effect on existing and new data in a LOB column.
- D. The DECRYPT option can be used to remove the encryption from LOB columns that are empty or contain data.

Lesson 8: Compiling and Tuning to Improve Performance

Topic 8A: Use Native and Interpreted Compilation Methods

50. Identify the nature of program which is best suited for Interpreted mode of compilation

- A. A PL/SQL program with computational operations
- B. A PL/SQL program which frequently uses SQL
- C. A PL/SQL program which is compiled frequently
- D. Always a PL/SQL program should be compiled in Interpreted mode

51. The real native compilation mode does not relies on C compiler to compile PL/SQL program units. [True or False]

Topic 8B: Tune PL/SQL Codes

51. Which two statements are true about the tuning of PL/SQL code? (Choose two.)

- A. Redundant SQL statements in PL/SQL code should be avoided.

- B. Implicit data type conversion in PL/SQL code can improve performance.
- C. Usage of the NOT NULL constraint in PL/SQL code can degrade performance.
- D. If you have one PL/SQL program unit instead of multiple smaller executable sections, performance can be improved.

52. How the below command effect the user environment?

```
SQL> ALTER SESSION SET PLSQL_DEBUG=true;
```

- A. All PL/SQL blocks that are executed subsequently in the session are traced.
- B. It enables all PL/SQL blocks that are compiled subsequently in the session for tracing.
- C. Only anonymous PL/SQL blocks that are executed subsequently in the session are traced.
- D. It enables only named PL/SQL blocks that are executed subsequently in the session for tracing.

Topic 8C: Tuning Process

53. Identify the ways of PL/SQL tuning

- A. Assigning suitable data type to the variables
- B. Modularized programming
- C. Extensive use of bulk binds
- D. Always constraining the columns at the table definition level

54. Which two statements are true about the inlining of PL/SQL subprograms? (Choose two.)

- A. Only local subroutines can be inlined.
- B. Inlining always reduces the execution time for a PL/SQL program unit.
- C. PLSQL_OPTIMIZE_LEVEL must be set to a value greater than or equal to 2.
- D. The PL/SQL programs that make use of relatively large helper subroutines are good candidates for inlining.

Topic 8D: Enable Intra unit Inlining

55. Examine the following settings for a session:

```
PLSQL_CODE_TYPE = NATIVE
PLSQL_OPTIMIZE_LEVEL = 3
```

Which statement would be true in this scenario?

- A. The compiler would automatically inline subprograms.
- B. The compiler would inline the code for external subroutines.
- C. The compiler would inline the code even if the INLINE pragma is set to NO.
- D. The compiler would not inline the code unless the INLINE pragma is set to YES.

56. Examine the section of code given:

```
FUNCTION p2 (p boolean) return PLS_INTEGER IS ...
FUNCTION p2 (x PLS_INTEGER) return PLS_INTEGER IS
... ..
PRAGMA INLINE(p2, 'YES');
x := p2(true) + p2(3);
...
```

The PLSQL_OPTIMIZE_LEVEL parameter is set to 2 for the session.

Which statement is true about the INLINE pragma procedure calls?

- A. Only the calls to the P2 function with BOOLEAN as the argument is inlined.
- B. INLINE pragma affects both the functions named P2 and is called inline.
- C. Only the call to the P2 function with PLS_INTEGER as the argument is inlined.
- D. None of the functions are inlined because inlining is not supported for overloaded functions.

57. Examine the section of code taken from a PL/SQL program:

```
PROCEDURE p1 (x PLS_INTEGER) IS
```

```
... ..
```

```
PRAGMA INLINE (p1, 'NO');
```

```
x:= p1(1) + p1(2) + 17; -- Call 1
```

```
...
```

```
x:= p1(3) + p1(4) + 17; -- Call 2
```

Call 1 and Call 2 are the comments for distinguishing the code. The PLSQL_OPTIMIZE_LEVEL parameter is set to 3. Which two statements are true in this scenario? (Choose two.)

- A. The calls to the P1 procedure are not inlined in the section commented as Call 1.
- B. The calls to the P1 procedure might be inlined in the section commented as Call 2.
- C. The calls to the P1 procedure are inlined in both the sections commented as Call 1 and Call 2.
- D. The calls to the P1 procedure are never inlined in both the sections commented as Call 1 and Call 2.

Lesson 9: Using Cache to Improve Performance

Topic 9A: Describe New Result Cache Features in Oracle 11g

58. You set the below initialization parameter settings for your database:

```
MEMORY_TARGET = 500M
```

```
RESULT_CACHE_MODE = MANUAL
```

You execute a query by using the RESULT_CACHE hint. Which statement is true in this scenario?

- A. The query results are not stored because no memory is allocated for the result cache.
- B. The query results are stored and 250M is allocated to the result cache.
- C. The query results are stored and 125m is allocated to the result cache.
- D. The query results are not stored because the RESULT_CACHE_MODE parameter is not set to FORCE.

59. You set the below initialization parameter settings for your database:

```
MEMORY_TARGET = 500M
```

```
RESULT_CACHE_MODE = FORCE
```

```
RESULT_CACHE_MAX_SIZE = 0
```

After the database startup, to enable the result cache, you issued the following command:

```
SQL> ALTER SYSTEM SET result_cache_max_size = 2M SCOPE = MEMORY;
```

Which is the effect of this command?

- A. The query result cache is enabled and 2 MB of the memory target is allocated to the result cache.
- B. The query result cache is enabled and 0.25% of the memory target is allocated to the result cache.

- C. The command produces an error because the database instance is started up with the RESULT_CACHE_MAX_SIZE parameter set to 0.
- D. The query result cache is not enabled because the database instance is started up with the RESULT_CACHE_MAX_SIZE parameter set to 0.

Topic 9B: Write Queries Using Result Cache Hint

60. The Cached query result becomes invalid when the data accessed by the query gets modified. [True or False]
61. The SQL Query Result Cache is persistent only for the current session. [True or False]
62. The database instance had below parameter settings for the result cache feature:

```
result_cache_max_result = 5  
result_cache_max_size = 0  
result_cache_mode = MANUAL  
result_cache_remote_expiration = 0
```

You reset the value for the result_cache_max_size parameter by issuing the following command:

```
SQL> ALTER SYSTEM SET result_cache_max_size = 1056k SCOPE = BOTH;
```

System altered.

Which statement is true in this scenario?

- A. 1056 KB is allocated for the result cache and the result cache is enabled.
- B. 1056 KB is allocated for the result cache, but the result cache is disabled.
- C. The results for only the queries that have the RESULT_CACHE hint are cached.
- D. The results for all the queries except those having the NO_RESULT_CACHE hint are cached.

Topic 9C: Set up PL/SQL Functions to Use PL/SQL Result Caching

63. Which of the following PL/SQL objects' results can be cached?

- A. Function
- B. Procedure
- C. Anonymous PL/SQL block
- D. Packaged function

64. The RELIES_ON clause in the PL/SQL Function result cache is bypassed when a DML operation is performed on the table specified by it. [True or False]

65. You create the below function in a result cache enabled database instance.

```
CREATE OR REPLACE FUNCTION F_ADD_DATE (P_NUM NUMBER)  
RETURN VARCHAR2  
RESULT_CACHE  
IS  
BEGIN  
    RETURN TO_CHAR(SYSDATE+P_NUM);  
END;
```

Which statement is true in this scenario?

- A. If sessions have different NLS_DATE_FORMAT settings, cached results have different formats.
- B. The function results are not cached because the query used in the function returns the DATE data type.
- C. If sessions have different NLS_DATE_FORMAT settings; cached results have same formats because the function's return type is VARCHAR.
- D. If a function is executed with same argument value but different NLS_DATE_FORMAT for the session, the cached result is overwritten with the new function result.

Lesson 10: Analyzing PL/SQL Code

Topic 10A: Run Reports on Source Code

66. Which of the following dictionary view is used to get information about the subprogram arguments

- A. ALL_OBJECTS
- B. ALL_ARGUMENTS
- C. ALL_DEPENDENCIES
- D. ALL_PROGRAMS

67. Which two statements are true about the usage of the DBMS_DESCRIBE.DESCRIBE_PROCEDURE procedure? (Choose two.)

- A. You can describe remote objects.
- B. You can describe anonymous PL/SQL blocks.
- C. You can describe a stored procedure, stored function, packaged procedure, or packaged function.
- D. You can obtain information about the position, name, and data type of the arguments of a procedure.

68. The DBMS_UTILITY.FORMAT_CALL_STACK accomplishes the below objectives?

- A. Capture exceptions in a PL/SQL block
- B. Prepares the stack of sequential calls
- C. Prepares the stack of execution actions
- D. Prepares the stack of block profiler

69. The PL/Scope tool can store the identifier data in the SYSAUX tablespace only. [True or False]

Topic 10B: Use DBMS_METADATA to Retrieve Object Definitions

70. Which two types of metadata can be retrieved by using the various procedures in the DBMS_METADATA PL/SQL package? (Choose two.)

- A. report of invalidated objects in a schema
- B. report of statistics of an object in the database
- C. DDL for all object grants on a table in the database
- D. data definition language (DDL) for all objects in a schema

71. The parameter specified in the DBMS_METADATA are case sensitive. [True or False]

72. Which of the following are the valid parameter values of SET_TRANSFORM_PARAM for tables only?

- A. STORAGE
- B. FORCE
- C. PRETTY
- D. INHERIT

Lesson 11: Profiling and Tracing PL/SQL Codes

Topic 11A: Profile PL/SQL Applications

73. Which component of the PL/SQL hierarchical profiler uploads the result of profiling into database tables?

- A. the trace file component
- B. the analyzer component
- C. the shared library component
- D. the data collection component

74. The plshprof utility is a command line utility to generate HTML profiler report from profiler tables in the database. [True or False]

75. Which three statements are true about hierarchical profiling? (Choose three.)

- A. It provides function-level summaries.
- B. It produces an aggregated report of the SQL and PL/SQL execution times.
- C. It is useful for understanding the structure and control flow of complex programs.
- D. It can be used to identify hotspots and tuning opportunities in PL/SQL applications.
- E. It generates trace information for PL/SQL programs in the PLSQL_TRACE_EVENTS table.

76. You receive the below exception when analyzing the raw profiler data of a program

```
ORA-00942: table or view does not exist  
ORA-06512: at "SYS.DBMS_HPROF", line 299
```

What could be the cause of the exception?

- A. PL/SQL profiler data is not found.
- B. Trace tables do not exist in the database. Run the tracetab.sql script located at ORACLE_HOME\RDBMS\ADMIN.
- C. Profiler tables do not exist in the database. Run the dbmshtab.sql script located at ORACLE_HOME\RDBMS\ADMIN.
- D. The user has no access to analyze the profiler data.

Topic 11B: Trace PL/SQL Program Execution

77. The TRACE_ENABLED_EXCEPTIONS allows tracing of exceptions raised by subprograms compiled and executed with DEBUG option. [True or False]

78. The trace information can be viewed in which of the following table

- A. PLSQL_TRACE
- B. PLSQL_TRACE_ACTIONS
- C. PLSQL_TRACE_EVENTS
- D. PLSQL_TRACE_INFO

79. You enable TRACE_ENABLED_LINES trace level for the current session. But you find no trace information in the PLSQL_TRACE_EVENTS table. Identify the probable reason from the below options

- A. The procedure is created with the invoker's right.
- B. The procedure was not compiled with the DEBUG option.
- C. Tracing is not enabled with the TRACE_ENABLED_CALLS option.
- D. The TRACE_ENABLED parameter is set to FALSE for the session.

Lesson 12: Safeguarding PL/SQL Code Against SQL Injection Attacks

Topic 12A: SQL Injection Overview

80. Which method would you employ to immune the PL/SQL code against SQL Injection attacks? (Choose two.)

- A. Use binds arguments.
- B. Validate all input concatenated to dynamic SQL.
- C. Use dynamic SQLs constructed using concatenation of input values.
- D. Use subprograms as part of packages instead of stand-alone subprograms.

81. Use static SQL to avoid SQL injection when all Oracle identifiers are known at the time of code compilation. [True or False]

82. Identify the impact of SQL injection attacks

- A. Unauthorized access can steal confidential information
- B. Unauthorized access can modify confidential information
- C. Unauthorized access can change crucial database parameter settings
- D. Unauthorized access can stop the database services

Topic 12B: Reduce the Attack Surface

83. Examine the following line of code that is part of a PL/SQL application:

```
stmt:='SELECT session_id FROM sessions WHERE ' || p_where_stmt;
```

Identify a solution for preventing SQL injection in the above code.

- A. Replace P_WHERE_STMT with a bind variable.
- B. Do not use APIs that allow arbitrary query parameters to be exposed.
- C. Use the RESTRICT_REFERENCES clause in the PL/SQL subprogram that contains the code.
- D. Use DBMS_SQL to detect that the expression provided for P_WHERE_STMT is free from SQL injection.

84. Which two are major approaches that can be used to reduce the SQL injection by limiting user input? (Choose two.)

- A. Restrict users accessing specified web page.
- B. Use NUMBER data type if only positive integers are needed.
- C. Use dynamic SQL and construct it through concatenation of input values.
- D. In PL/SQL API, expose only those routines that are intended for customer use.

Answer: A, D

Topic 12C: Filter Input with DBMS_ASSERT

85. All users must call DBMS_ASSERT package with SYS for security purpose. [True or False]

86. Chose three actions from the below list which can be performed by using the DBMS_ASSERT package to prevent SQL injection?

- A. Check input string length.
- B. Verify qualified SQL names.
- C. Verify an existing schema name.
- D. Detect a wrong user.

- E. Validate TNS connect strings.
- F. Enclose string literals within double quotation marks.

87. The DBMS_ASSERT package can validate the unprivileged access of objects. [True or False]

Topic 12D: Design Code Immune to SQL Injections

88. Identify two strategies against SQL injection. (Choose two.)

- A. Using parameterized queries with bind arguments.
- B. Use subprograms that are run with the definer's right.
- C. Use RESTRICT_REFERENCE clauses in functions that use dynamic SQLs
- D. Validate user inputs to functions that use dynamic SQLs built with concatenated values.

89. A procedure is created in the SYS schema to reset the password of a given user to 'PASSWORD'.

```
CREATE OR REPLACE PROCEDURE P_UPD_PASSWD
(P_USER VARCHAR2 DEFAULT NULL)
IS
BEGIN
  EXECUTE IMMEDIATE 'ALTER USER '||p_username ||' IDENTIFIED BY PASSWORD';
END P_UPD_PASSWD;
```

The SYS user has granted EXECUTE privilege on the procedure to the SCOTT user. But SCOTT is able to reset the password for SYS by using this procedure. How would you protect this?

- A. by using the procedure as part of a PL/SQL package
- B. by using a bind argument with dynamic SQL in the procedure
- C. by using AUTHID DEFINER in the procedure to implement the definer's right
- D. by using AUTHID CURRENT_USER in the procedure to implement the invoker's right

Topic 12E: Test Code for SQL Injection Flaws

90. The code reviews must identify certain vulnerable key areas for SQL Injection. Chose them from the below list.

- A. DBMS_SQL
- B. BULK COLLECT
- C. EXECUTE IMMEDIATE
- D. REF CURSOR

91. Statistical Code analysis provides efficient technique to trace the application vulnerability by using ideal and expected parameter values. [True or False]

92. Fuzzing tool technique is a harsh and rigorous format of testing which uses raw inputs and checks the programs' sanctity. [True or False]