# CIT 325 Week 3 Notes

* Introduction
  + As I have mentioned before, PL/SQL is a valuable addition to your resume.
    - Lets make certain you are comfortable with using this tool by the end of the semester
    - You won’t be an expert; that takes experience
    - But we do want to build a solid foundation
* Expectations This Week
  + In your reading this week (chapter 4), you will learn about lexical units
    - Don’t let the terminology throw you
    - Lexical is simply a fancy name for a string of characters
  + You will then look at scaler and composite variables
    - Scaler variables hold a single piece of information
      * A name, a birth date, a city, etc.
    - Composite variables hold multiple pieces of information
      * An address consisting of address, city, state, postal code, country
      * Similar to a struct in the C language
    - Next, work with your team mate on your presentation
      * Pick a single key concept from your chapter 4 reading
      * Keep the presentation focused
      * Don’t try to cover too much; remember it should only be 3-5 minutes in length
      * Please make certain that this is a team effort
    - Watch the due dates
      * The presentation is due Wednesday at 11pm
    - In the lab, you will write an anonymous block using a record type variable which is simply a composite variable
    - Click on “Lab 03” for the detailed instructions
    - As before, you will have some instructional material giving you examples of what you will be doing in the lab
    - This is followed by the detailed lab instructions and the test case
      * One step at a time and you will be successful
    - Do not wait until Saturday night to start the lab
      * That is a guaranteed formula for failure
      * If you need help, I may not be available
      * Start as early in the week as possible
    - As always, post to the discussion board first and give your fellow students the opportunity to help
    - Watch the discussion boards and please help where you can
    - TEAHC ONE ANOTHER
    - Also, watch the Questions, Conversations, and Devotional Discussions
      * A lot of information and requests for help from your fellow students gets posted there
    - Finally, don’t forget the quiz based on the reading assignment
    - As you have time, I invite you to read Ether 1, 2
    - You will read about Mahonri Moriancumer, the bother of Jared
    - He is one of my heroes in the Book of Mormon
    - He lived through some very challenging times
    - In ether 2:16, the Lord told him to go forward
    - Without hesitation, he “did go to work”
    - What a great example for each of us
      * Without hesitation, he “did go to work”
* Final Thoughts
  + - For our benefit now and ultimately for the benefit of the Kingdom, without hesitation, go to work
    - In all that we do, now and in the future, let us become living examples of the Savior
      * In our educational environment and our church and personal lives
    - Let’s follow the example of Mahonri Moriancumer and “go to work”
* Which of the following are types of SQL statements (choose all that apply)?
  + Data Control Language (DCL)  
    Data Manipulation Language (DML)  
    Transaction Control Language (TCL)  
    Data Definition Language (DDL)
* In the mid-1990s, developers described PL/SQL 2.x programming as a "black art".
  + True
* SQL stands for Structured Query Language.
  + True
* PL/SQL replaces SQL.
  + False
* Which of the following are Data Definition Language (DDL) statements (choose all that apply)?
  + ALTER  
    CREATE  
    DROP
* PL/SQL was developed with which of the following modeling concepts (choose all that apply)?
  + exception management  
    static data typing  
    modularity  
    parallel or concurrent processing  
    structured programming
* The concept of a Relational Database Management System is simple.
  + False
* The architecture of a database has only one input interface.
  + True
* Oracle also provides you with a UI, known as SQL\*Plus, and it writes draft files to a buffer file named which of the following?
  + afiedt.buf
* Which of the following isn't an Oracle DML statement (choose all that apply)?
  + COMMENT  
    REPLACE
* PL/SQL was and remains an innovative imperative programming language that supports both event-driven and object-oriented programming.
  + True
* Which of the following are Data Manipulation Language (DML) statements (choose all that apply)?
  + DELETE  
    INSERT  
    UPDATE  
    SELECT
* The term object-relational model is interchangeable with the term extended-relational model, but Oracle prefers the former term over the latter.
  + True
* Which pseudo types can you use to inherit from strongly typed variables (choose all that apply)?
  + %TYPE  
    %rowtype  
    %ROWTYPE  
    %type
* Metadata is nothing more than a bunch of tables that define what you can store, manipulate, and access in a database.
  + True
* As a rule, you use the CHAR and NCHAR data types for most strings because you don't want to allocate unnecessary space for fixed length strings.
  + False
* You can't use anonymous block programs in scripts or nested inside other named program units.
  + False
* Which of the following are considered composite variables (choose all that apply)?
  + Any array data type  
    Any structure data type  
    Any object data type  
    Any object data type
* The declaration block starts with the DECLARE keyword and ends with the BEGIN keyword for anonymous blocks.
  + True
* Which of the following are the default date masks (choose all that apply)?
  + DD-MON-RR  
    DD-MON-YYYY
* Which of the following are considered scalar variables (choose all that apply)?
  + The NUMBER data type  
    The TIMESTAMP data type  
    The VACHAR2 data type
* Procedures mimic methods that don't return a value.
  + True
* A declaration block does which of the following (choose all that apply)?
  + Declare variables  
    Declare functions  
    Declare object types  
    Declare record types  
    Declare constants
* PL/SQL supports two types of programs: anonymous (or unnamed) block programs and named block programs.
  + True
* Which of the following are data types that are dynamically sized strings (choose all that apply)?
  + VARCHAR2  
    NVARCHAR2  
    VARCHAR
* Schema-level subroutines can't access calling scope blocks because they are independently defined blocks.
  + True
* Which of the following opens a multiple line comment (choose all that applies)?
  + /\*
* The DATE data type is the base type for dates, times, and intervals.
  + True
* SQL collections can exist for scalar data types or SQL UDT elements.
  + True
* Which keywords are used in an anonymous block program (choose all that apply)?
  + End  
    Quit  
    Declare
* Functions return a value and may be used as the right operand in a right-to-left variable assignment.
  + True
* Named blocks support which of the following (choose all that apply)?
  + Declaration blocks  
    Exception handling blocks  
    Execution blocks  
    Functions
* Which of the following are considered as mandatory block structures in Pl/SQL (choose all that apply)?
  + Execution block
* Which of the following are composite generalized data types (choose all that apply)?
  + Collections  
    Records  
    Objects
* The NVARCHAR2 data type is a Unicode equivalent to the VARCHAR2 data type.
  + True
* You can size a CHAR data type with a value up to 32,767 bytes in length.
  + True
* The BINARY\_INTEGER data type is identical to PLS\_INTEGER and stores integer numbers from -2,147,483,648 to 2,147,483,647 as 32 bits or 4 bytes.
  + True
* The EXCEPTION keyword starts the exception block and the QUIT keyword terminates the program unit.
  + False
* Which of the following is/are assignment operator(s) (choose all that apply)?
  + :=
* Which of the following are Boolean values (choose all that apply)?
  + FALSE  
    NULL  
    TRUE
* You can enter single- or multiple-line comments in PL/SQL.
  + True
* Which of the following are subtypes of the DATE data type (choose all that apply)?
  + TIMESTAMP  
    TIMESTAMP WITH LOCAL TIME ZONE  
    TIMESTAMP WITH TIME ZONE
* Which of the following are considered to be a lexical unit (choose all that apply)?
  + comments  
    literals  
    delimiters  
    identifiers
* BFILE is a data type that points to an external file, which limits its maximum size to 2 GB.
  + False
* Literal values are represented by identifiers.
  + False
* Which of the following is/are math operator(s) (choose all that apply)?
  + -  
    +  
    /  
    \*\*
* Scalar variables hold only one thing, such as a number, string, or date.
  + True
* Which of the following is/are comparison operator(s) (choose all that apply)?
  + <  
    >  
    <=
* Which of the following is the maximum size of a VARCHAR2 data type.
  + 32,767
* The most common example of a delimiter is the character string delimiter.
  + True
* Which of the following are internally stored data types (choose all that apply)?
  + CLOB  
    NCLOB  
    BLOB
* The if-then-else-then-else statement is a single-branching statement.
  + False
* The NVL statement lets you reduce three-valued logic problems to two-valued logic in conditional statements.
  + True
* A selector is a variable, function, or expression that the CASE statement attempts to match in WHEN blocks.
  + True
* Which of the following statements let you skip the balance of the current iteration in a loop (choose all that apply)?
  + GOTO  
    CONTINUE
* $$PLSQL\_TYPE returns an integer for the current line number in the PL/SQL block.
  + False
* Which of the following returns an integer for the current line number in the PL/SQL block (choose all that apply)?
  + $$PLSQL\_LINE
* Which are valid loop structures in PL/SQL (choose all that apply)?
  + A WHILE loop  
    A FOR loop  
    A simple loop
* Which of the following are conditional statements in programming languages (choose all the apply)?
  + single-branching statements  
    multiple-branching statements with fall through  
    multiple-branching statements without fall through
* Which of the following conditional compilation statements returns an empty string for an anonymous block and the uppercase name of the function or procedure (choose all that apply)?
  + $$PLSQL\_UNIT
* Multiple-branching statements without fall-through are if-then-elsif-then-else statements, and with fall-through they are CASE statements.
  + True
* Which of the following are valid cursor attributes (choose all that apply)?
  + %ROWCOUNT  
    %FOUND  
    %NOTFOUND  
    %ISOPEN
* Single branching statements return which of the following affirmative outcomes (choose all that apply)?
  + TRUE  
    FALSE  
    NULL
* A CONTINUE statement differs from the GOTO statement because it doesn't direct the program flow to a label.
  + True
* $$PLSQL\_OWNER returns the database user who owns the current program unit, and it is a new predefined inquiry directive with Oracle Database 12c.
  + True
* Which of the following is a guard-on-entry loop (choose all that apply)?
  + a WHILE loop
* SELECT column\_value AS "Character"  
  FROM TABLE(something('One','Two','Three'))  
  ORDER BY 1;  
    
  How many rows are returned by the preceding query?
  + 3
* Which of the following are varray and table data type states (chose all that apply)?
  + Empty  
    Populated  
    Null
* Varray collections are single-dimensional structures that have a maximum number of elements.
  + False
* The Oracle Collection API's EXISTS method is implemented as a procedure.
  + False
* You can use a negative, positive, or null number as the index value of an associative array.
  + False
* You can't implement Oracle SQL collection data types in SQL or PL/SQL.
  + False
* Which of the following types of collections work with the Oracle Collection API's LIMIT method (choose all that apply)?
  + Varray collections that use scalar data types as their base data types
* Which of the following Oracle Collection API methods are functions (choose all that apply)?
  + COUNT  
    LAST
* The Oracle Collection API's COUNT method is implemented as a function.
  + True
* Which of the following are differences between schema object types and record types (choose all that apply)?
  + Scope access points  
    Initialization requirements  
    Base types  
    Index values
* A list is a collection of any number of elements that share the same data type.
  + True
* Which of the following describe the overloaded versions of the Oracle Collection API EXTEND method (choose all that apply)?
  + Extend one element at a time  
    Extend n elements at a time  
    Extend n elements with a copy of another elements value  
    Extend n elements with a null value
* The Oracle Collection API's DELETE method is implemented as a function.
  + False
* Collections that hold other collections are multilevel collections.
  + True
* The Oracle Collection API's EXTEND method is implemented as a procedure.
  + True
* What term describes a collections that holds one or more other collections?
  + Multilevel
* Errors raised in the execution block are thrown to the local exception block where they are caught and managed.
  + True
* There's no compile-time exception when you to assign a four-character string literal to a two-character variable.
  + True
* You use the SQLERRM function to return error codes over the SQLCODE function.
  + False
* Which of the following aren't built-in exception management functions (choose all that apply)?
  + NO\_VALUE\_NEEDED  
    LOGIN\_ERROR
* Which of the following are types of errors that exist in PL/SQL (choose all that apply)?
  + Compilation errors  
    Run-time errors
* The PL/SQL exception stack is a last-in, first-out (LIFO) data structure.
  + False
* Which of the following let you declare a user-defined exception (choose all that apply)?
  + Declare an EXCEPTION variable and map it to a standard Oracle exception  
    Declare an EXCEPTION variable in the declaration block  
    Declare a run-time exception by using the RAISE\_APPLICATION\_ERROR function
* How do you read the back trace of an exception stack?
  + In a descending range
* Which of the following are functions or procedures in the utl\_call\_stack package (choose all that apply)?
  + backtrace\_depth  
    backtrace\_line  
    backtrace\_unit
* Two types of PL/SQL errors exists: those that happen at compilation time (also known as syntax errors or compile-time errors) and those that happen at run-time (also known as semantic errors).
  + True
* Which of the following is a precompiler instruction (choose all that apply)?
  + PRAGMA
* The SQLERRM built-in function returns both error codes and messages.
  + True
* Which of the following functions and procedures belong to the utl\_call\_stack package (choose all that apply)?
  + current\_edition  
    error\_depth  
    format\_error\_backtrace  
    error\_number
* How do you read the back trace of an exception stack?
  + In a descending range
* Run-time errors thrown in the declaration or exception block are handled by local exception blocks.
  + False
* Run-time errors occur after the program is parsed and literal values are assigned to local variables.
  + True
* Which of the following packages let you manage the execution stack (choose all that apply)?
  + utility\_call\_stack  
    dbms\_utility
* The dbms\_utility package provides you with the format\_error\_backtrace function, which generates a stack trace.
  + True
* Which of the following are valid parameter modes in a pass-by-value procedure (choose all that apply)?
  + IN
* The PIPELINED clause lets you build functions that return SQL result sets.
  + True
* You must always implement DML statements inside PL/SQL procedures.
  + False
* Inside a function, which type of parameter prevents you assigning it new value (choose all that apply)?
  + IN
* All formal parameters are read only when passed by the default IN-mode of operation.
  + True
* The NOCOPY hint doesn't override the copy rule when which of the following occurs (choose all that apply)?
  + An actual parameter is NOT NULL constrained  
    An actual parameter is constrained by scale  
    An actual parameter is an implicitly defined record structure
* Subroutines are procedures when they don't return output except through those returned by a pass-by-reference value.
  + True
* Which of the following is the default parameter mode in a pass-by-reference procedure (choose all that apply)?
  + IN
* Inside a function, which type of parameter lets you assigning it new value (choose all that apply)?
  + IN OUT  
    OUT
* Autonomous functions run in the context of the calling program unit and they can't contain a commit or rollback.
  + False
* Final control of whether the NOCOPY hint passes a copy or a reference to the parameter rests with Oracle's PL/SQL engine.
  + True
* Functions and procedures are named in which of the following (choose all that apply)?
  + PL/SQL declaration blocks  
    Schemas  
    Packages
* Which are valid types of notation (choose all that apply)?
  + mixed notation  
    named notation  
    positional notation  
    exclusionary notation
* Which of the following are valid parameter modes in a pass-by-reference procedure (choose all that apply)?
  + IN  
    IN OUT  
    OUT
* You can override the default behavior of schema-level procedures.
  + False
* Autonomous procedures run in their own context and they must contain a commit or rollback when they perform a DML.
  + True
* Which of the following are valid creation options for functions (choose all that apply)?
  + the RESULT\_CACHE clause  
    the PARALLEL\_ENABLE clause  
    the DETERMINISTIC clause  
    the PIPELINED clause
* Which of the following are PL/SQL data types (choose all that apply)?
  + package variables  
    package shared cursors  
    system reference cursors
* You can see the details of a package specification in which of the following administrative views (choose all that apply)?
  + ALL\_SOURCE
* A Singleton design pattern lets you construct many instances of an object.
  + False

Overloading means that you create more than one function or procedure with the same identifier (or component name) but different signatures.

True

Serially reusable packages can be called from a SELECT statement.

False

The package body implements everything defined in the public package specification, and may implement which of the following (choose all that may apply)?

Functions  
Procedures  
Variables  
PL/SQL Record Types  
Cursors

A CREATE OR REPLACE DDL command replaces a package specification only when there's a change between the original package specification and the new package specification.

True

Where can you call a function defined in a serially reusable package (choose all that apply)?

a PL/SQL named block  
a PL/SQL anonymous block

Packages are SERIALLY\_REUSABLE by default.

False

Which of the following are possible function types (choose all that apply)?

Pipelined  
Parallel enabled  
Deterministic  
Result cache  
Autonomous transaction

As a system user, you can see package specification variables by querying which of the following views (choose all that apply)?

DBA\_SOURCE

Public parts are defined in the package specification. Private parts are declared and implemented only in the package body.

True

The ACCESSIBLE BY clause lets you create multiple copies of the same package in the database at the same time.

False

Which of the following types of functions can you implement in a package body (choose all that apply)?

a public function  
a private function.

Which of the following PRAGMA let you define a package exception (choose all that apply)?

EXCEPTION\_INIT

You can declare dynamic data types by anchoring them to a row or column declaration.

True

Which of the following PRAGMA instructions can apply to whole packages (choose all that apply)?

SERIALLY\_REUSABLE

Which of the following can interfere with the timestamp method of validation (choose all that apply)?

time zones of servers

Which of the following are valid states for a LOB column (choose all that apply)?

Empty  
Populated  
Null

The BLOB\_DEDUPLICATE\_REGION type is a record composed of six fields.

True

The CLOB, NCLOB, and BLOB data types are not object types.

False

Which of the following describes a CLOB data type (choose all that apply)?

are physically stored in the database  
rely on the db\_block\_size value

The manipulation methods are a collection of functions and procedures that allow you to read, write, and alter the content of LOBs.

True

An external file must be read as which of the following data types by the dbms\_lob package's open procedure (choose all that apply)?

BFILE

The BFILE (binary file) data type works the same as its counterpart BLOB, CLOB, and NCLOB data types.

False

Which of the following methods lets you create an in memory instance of a CLOB (choose all that apply)?

Createtemporary

The dbms\_lob package provides all the tools required to load large objects directly when they exceed the byte stream limitations of SQL or PL/SQL.

True

Which of the following data types support secure files (choose all that apply)?

CLOB  
BLOB  
NCLOB

Inserting a string longer than 32,767 bytes directly into an uninitialized CLOB, NCLOB, or BLOB column isn't supported by the INSERT or UPDATE statement.

True

In SQL, which of the following are alternatives to call to a pass-by-reference procedure since SQL can't work with the dbms\_lob package manipulation procedures (choose all that apply)?

You can assign an empty\_clob constructor function call in the VALUES clause of an INSERT statement or as a column value of a SELECT-list in an INSERT statement.  
  
You can assign an initialized CLOB data type through a pass-by-value PL/SQL function or PL/SQL function wrapper of a C-callable program in the VALUES clause.  
  
You can assign a string literal that is less than 32,767 bytes in length in the VALUES clause of an INSERT statement or as a column value of a SELECT-list in an INSERT statement.

LOBs can hold up to a maximum of 2 to 98 terabytes, depending on how you configure your databases db\_block\_size parameter.

False

You call the delete procedure to erase a chunk of a BLOB, a CLOB, or an NCLOB data type.

False

Which of the dbms\_lob functions and procedures are manipulation methods (choose all that apply)?

Converttoclob  
append  
fragment\_replace

Which of the following data types let you store a LOB in a column of a table (choose all that apply)?

NCLOB  
BLOB  
CLOB

The call locator identifies the LOB column, and the return locator provides a duplex (two-way) pipe to write a very large string or binary stream in segments (or parts).

True

Which of the following data types are designed to store large text files (choose all that apply)?

CLOB  
NCLOB

The ORDER member function allows you to pass an object instance into another object and compare whether they're equal.

True

Which of the following keywords lets you instantiate an object inside a SQL statement (choose all that apply)?

TREAT

Which of the following let you instantiate a class instance of an object type (choose all that apply)?

Creating an instance inside a STATIC function of the same class  
  
Creating an instance inside a STATIC function of the same class

Which of the following steps can implement an aggregate object instance (choose all that apply)?

Call an object type's STATIC method to create and return an instance of an object  
  
Instantiate an object type inside a local method

Subclasses inherit the behaviors of other classes, which become known as super classes.

True

Object names must start with which of the following (choose all that apply)?

an alphabetical character

Which of the following must agree between an object specification and body (choose all that apply)?

The list of CONSTRUCTOR functions  
The list of MEMBER procedures  
The list of MEMBER functions  
The parameter list of parameter names by position  
The parameter list of data types by position

You can implement multiple MAP or ORDER functions in any object type.

False

The ORDER member function is more limited than the MAP member function because the ORDER member function only works with scalar data types.

False

The UNDER keyword designates an object subtype of another object type.

True

Subtypes can't override which of the following object type methods.

MAP  
ORDER

White listing does not qualify who can call an object type.

False

Which of the following keywords lets you create a subtype (choose all that apply)?

UNDER

The ACCESSIBLE BY clause, lets you white list the callers of the object type.

True

The current instance is known by the case-insensitive SELF keyword, which is equivalent to the case-sensitive this in Java.

True

Object type evolution refers to changes in object type and a collection of the base object type.

False

Which of the following keywords lets you override a parent class's functions.

OVERRIDING

Which of the following types of functions let you compare instances of objects (choose all that apply)?

ORDER function  
MAP function

Data Manipulation Language (DML) triggers fire when you INSERT, UPDATE, or DELETE data from a table.

False

Which of the following are event attribute functions (choose all that apply)?

ORA\_REVOKEE  
ORA\_CLIENT\_IP\_ADDRESS  
ORA\_DICT\_OBJ\_OWNER

Statement-level triggers are also known as table-level triggers because they're triggered by a change to a table.

True

Data Manipulation Language (DML) triggers can fire before or after INSERT, UPDATE, and DELETE statements.

True

The INSERTING event function is available in which of the following Oracle triggers (choose all that apply)?

DML statement-level triggers  
Instead-of triggers  
DML row-level triggers

Which of the following run during the first phase of the transaction lifecycle (choose all that apply)?

after row-level trigger  
before row-level trigger  
after statement trigger  
before statement trigger

Nonsystem trigger bodies can't contain DDL statements.

True

Database triggers are composed of two pieces: the database trigger declaration and the body.

True

Which of the following systems are best suited to DDL triggers (choose all that apply)?

Production systems  
Development systems  
Test systems  
Stage systems

Oracle triggers typically run in the same transaction scope of the firing DML statement, and they perform which of the following (choose all that apply)?

Change the data to conform to business rules and log the activity  
  
Let the transaction proceed but log the activity  
  
Raise an exception and stop the transaction

You often use DDL triggers to monitor significant events in the database.

True

Oracle DML row-level triggers let you see or touch which of the following (choose all that apply)?

INSERT statements can touch only new column values  
  
UPDATE statements can see or touch old and new column values  
  
DELETE statements can see or touch only old column values

Which of the following DML events let you capture INSERT, UPDATE, and DELETE events (choose all that apply)?

AFTER EACH ROW  
BEFORE STATEMENT  
BEFORE EACH ROW  
AFTER STATEMENT

Triggers on INSERT, UPDATE, and COMMIT statements run during the first phase of the transaction life cycle.

False

INSTEAD OF triggers are powerful alternatives that resolve how you use complex and nonupdatable views.

True

Which of the following DBMS\_SQL methods of operation belong to Method #4?

PARSE  
VARIABLE\_VALUE  
DESCRIBE\_COLUMNS3  
FETCH\_ROWS

NDS supports dynamic DML statements with bind variables.

True

Which are the supported parameter modes of operation for the USING clause in a dynamic SQL statement?

IN  
OUT  
IN OUT

Which of the following are potential exceptions raised by the dbms\_sql package (choose all that apply)?

ORA-00928  
ORA-06502  
PLS-00049

Which of the following are functions or procedures of the dbms\_assert package (choose all that apply)?

qualified\_sql  
enquote\_literal  
enquote\_name  
schema\_name

Bulk processing is often a better solution then row-by-row statements.

True

Dynamic SQL statements are a powerful technology that let you write and execute queries as your programs run.

True

NDS supports dynamic DDL statements with bind variables.

False

The dbms\_sql package supports static SQL statements that process DDL and DML statements.

True

Which of the following DBMS\_SQL methods of operation belong to Method #3?

BIND\_ARRAY  
FETCH\_ROWS  
DEFINE\_COLUMN  
COLUMN\_VALUE

The bind\_array procedure supports bulk DML operations.

True

The EXECUTE IMMEDIATE command passes values by which of the following parameter modes (choose all that apply)?

IN OUT  
OUT  
IN

Which of the following are supported by dynamic DDL statements?

the use of concatenation  
the use of static strings as statements

Which of the following DBMS\_SQL methods of operation belong to Method #2?

BIND\_VARIABLE  
EXECUTE  
PARSE  
BIND\_ARRAY  
OPEN\_CURSOR

Which of the following DBMS\_SQL methods of operation belong to Method #1?

EXECUTE  
PARSE  
OPEN\_CURSOR

Which of the following aren't supported by dynamic DML statements?

the use of bind variables for table names

The RETURNING INTO clause supports IN OUT mode parameters for INSERT, UPDATE, and DELETE statements.

False

Which of the following are Transaction Control Language (TCL) statements (choose all that apply)?

COMMIT, ROLLBACK, SAVEPOINT

You can't call SQL statements from inside a PL/SQL block.

False

Which of the following are Data Control Language (DCL) statements (choose all that apply)?

True

PL/SQL can simplify which of the following (choose all that apply)?

improve resource utilization, optimize execution, simplify application development

The Oracle database wizard creates which of the following when building a new database instance (choose all that apply)?

necessary files, processes, a database catalog

You must enable the SQL\*Plus SERVEROUTPUT environment variable to print content to the console

True

DDL stands for Data Definition Language.

True

Declarative data types do not change types at run-time and are known as strong data types.

True

Anonymous blocks support which of the following (choose all that apply)?

Batch scripting  
Execution blocks  
Declaration blocks  
Exception handling blocks

You must enable the SQL\*Plus SERVEROUTPUT environment variable to print content to the console.

True

Scalar variables hold only one thing, while composite variables hold more than one thing.

True

Which of the following assigns a value to a variable in the declaration block (choose all that apply)?

:=  
Default

Which of the following are behaviors of the %ROWTYPE attribute (choose all that apply)?

assign the record structure of a table as a data type of a variable  
assign the system cursor variable as a data type of a variable  
assign the record structure of a cursor as a data type of a variable

Which of the following aren't named block program units (choose all that apply)?

Record Types

Identifiers can be which of the following (choose all that apply)?

user-defined data types starting with a letter  
user-defined variables  
subroutines  
keywords

There are three composite generalized data types: records, objects, and collections.

True

Which of the following are default date masks within Oracle (choose all that apply)?

DD-MON-RR  
DD-MON-YYYY

You can't develop lexical units by combining valid characters and symbols.

False

Scalar variables can hold many things at the same time.

False

The NCHAR data type is a Unicode equivalent to the VARCHAR2 data type.

False

Which of the following is/are association operator(s) (choose all that apply)?

&   
=>   
:   
%

Lexical units are the building blocks in programming languages.

True

Which of the following are steps that explicit cursors must run to access data (choose all that apply)?

Fetch records from a cursor  
Open the cursor  
Close the cursor

The PL/SQL language supports both simple and searched CASE statements.

True

$$PLSQL\_UNIT returns the database user who owns the current program unit, and it is a new predefined inquiry directive with Oracle Database 12c.

False

Which of the following is a guard on exit loop (choose all that apply)?

a FOR loop  
a simple loop

The IF statement supports ONLY multiple-branching statements.

False

Control structures let you make which of the following (choose all that apply)?

repeatable operations  
conditional choices  
access data

Simple CASE statement selectors are variables that use or functions that return valid data types other than Boolean data types.

True

Guard-on-exit loops don't let you run the code once before checking whether you should run it again.

False

The SELECT-INTO statement is a single-row implicit cursor.

True

Three-valued logic occurs where an expression may return true, false, or null.

True

Which statement lets you change a current session to enable conditional compilation statements (choose all that apply)?

Alter

Which of the following can be used as a selector in a CASE statement (choose all that apply)?

CHAR   
VARCHAR2   
NCHAR   
NUMBER

PL/SQL index-by tables differ from the varray and table object types in which key ways (choose those that apply)?

Index  
Assignment  
Initialization  
Base data types

Which of the following types of collections work with the Oracle Collection API's PRIOR method (choose all that apply)?

Table collections that use scalar data types as their base data types  
  
Associative arrays that use scalar data types as their base data types  
  
Varray collections that use scalar data types as their base data types  
  
Table collections that use composite data types as their base data types  
  
Associative arrays that use composite data types as their base data types

Table collections are multi-dimensional structures that always have a limit on the number of elements that they hold.

False

An asymmetrical list is a collection of a fixed number of elements that share the same scalar data types.

False

SELECT column\_value AS "Character"  
FROM TABLE(something('One','Two','Three'))  
ORDER BY 1;

How many rows are returned by the preceding query?

3

Oracle Database 8i forward provides how many types of collections (choose those that apply)?

3

Which of the following types of values can be an index in an associative array (choose all that apply)?

Positive integer  
Negative integer  
Integer  
String

Which of the following are general patterns for error messages (choose all that apply)?

Declaration errors  
Current line errors  
Prior line errors

Which of the following are built-in exception management functions (choose all that apply)?

INVALID\_NUMBER  
INVALID\_CURSOR  
CASE\_NOT\_FOUND

You map an error code to a user-defined exception by using a PRAGMA or precompiler instruction.

True

You can't call stored functions from SQL when they return a system reference cursor data type.

True

You can create a lexical error with which of the following (choose all that apply)?

Forget a semicolon  
Comment out a lexical value  
Failure to enclose a string literal in beginning and ending quotes  
Misspell an identifier

The RAISE statement lets you throw an exception.

True

Which of the following methods let you call a function from another schema that works with local data (choose all that apply)?

Invoker rights

Pass-by-value procedures are black boxes that perform tasks by consuming inputs without returning a result.

True

You should not implement a pass-by-value function when you want to produce a result by consuming the input.

False

You can call a function that returns a PL/SQL system reference cursor inside any query.

False

Which of the following is the default parameter mode in a pass-by-value function (choose all that apply)?

IN

Which types of variables can a function return (choose all that apply)?

CLOB  
VARCHAR2  
Object Table  
INTEGER Associate Array  
NUMBER

Which of the following methods let you call a function from another schema that works with data in the same schema (choose all that apply)?

Definer rights

Any attempt to call a non-autonomous function inside a query fails when the function contains any DML statement.

True

You can use the SQL\*Plus DESCRIBE command to see the functions and procedures inside a package.

True

As a rule of thumb, package specification variables should never be constants.

False

Which of the following are schema-level programs (choose all that apply)?

stored functions  
stored packages  
stored procedures  
objects

Data types are typically PL/SQL structures, collections, reference cursors, and cursors. All of these can be dynamic or static data types.

True

Which of the following types of modules let you white list their callers (choose all that apply)?

Procedures  
Objects  
Package specifications  
Functions

Which of the following can access a function written inside a package body (choose all that apply)?

a package-level procedure  
a package-level function

A definer rights model does not dictate that all declared catalog objects must be owned by the same schema as the package owner.

True

The dbfs\_link\_generate\_path function returns a globally unique file path name that you can use for archiving CLOB, NCLOB, or BLOB columns.

True

Which of the following make possible the upload of data into a LOB column (choose all that apply)?

Call locator   
INTO clause   
RETURNING clause  
Return locator

Which of the following describes a BFILE data type (choose all that apply)?

are physically stored externally from the database  
rely on virtual directories

Large objects (LOBs) are powerful data structures that let you store text, images, music, and video in the database.

True

You call the fileclose procedures to close a BFILE.

True

Which of the dbms\_lob functions and procedures are introspection methods (choose all that apply)?

getchunksize  
instr   
getlength   
compare

Which of the following describes a BLOB data type (choose all that apply)?

rely on the db\_block\_size value  
are physically stored in the database

Many of the procedures in the dbms\_lob package are pass-by-reference.

True

Which are default behaviors an object type (choose all that apply)?

INSTANTIABLE  
FINAL

You can instantiate a VARRAY or table collection as an attribute of an object type inside a CONSTRUCTOR function.

True

Organized groups of functions are modules, and the process of grouping them together is modularization.

True

Getters and setters are common OOP (Object Oriented Programming) terms indicating that you get or set a class instance variable.

True

Which of the following data types is possible as a return type from the MAP function of an object type (choose all that apply)?

NUMBER   
DATE   
VARCHAR2  
CHAR

An object instance is represented inside the object body as ORDER.

False

Which of the following structures can you implement in object type methods (choose all that apply)?

CURSOR   
OBJECT   
TYPE   
VARRAY collection   
TABLE collection

Which of the following are valid parts of a database trigger declaration?

an action  
a statement  
a restriction  
a trigger name

Compound triggers enable you to stop performance of a DML statement against one table, and redirect the DML statement to another table.

False

Which type of SQL statements fire DDL statements (choose all that apply)?

COMMENT statement  
TRUNCATE statement  
CREATE statement  
ALTER statement  
DROP statement

Which of the following are available DDL events that you can manage in DDL triggers (choose all that apply)?

CREATE   
ALTER   
GRANT   
DDL

Triggers can capture events that create, modify, or drop objects, and they can capture inserts to, updates of, and deletes from table or updateable views.

True

Which of the following can you do with triggers (choose all that apply)?

Control the sequence of and synchronize calls to triggers  
Enforce referential integrity, complex business rules, and security policies  
  
Control the behavior of DML statements  
Control the behavior of DDL statements

The UPDATING event function is available in which of the following Oracle triggers (choose all that apply)?

Instead-of triggers  
DML statement-level triggers  
DML row-level triggers

INSTEAD OF triggers enable you to audit server statup and shutdown, server errors, and user logon and logoff activities.

False

The WHEN clause lets you filter when a trigger fires its trigger declaration.

False

The is\_open function checks whether a cursor is open.

True

The blind\_variable\_rowid procedure doesn't support row-by-row DML operations.

True

The dbms\_sql package will never require grants to access the dbms\_sql and dbms\_sys\_sql packages.

False

Which are the supported parameter modes of operation for the USING clause in a dynamic anonymous PL/SQL block?

IN  
OUT  
IN OUT

Which of the following are supported by dynamic DML statements?

the use of bind variables  
the use of positional notation  
the use of concatenation  
the use of static strings

Which of the following are constants of the dbms\_sql package (choose all that apply)?

NATIVE  
V6  
V7

NDS doesn't support concatenating (or gluing) strings together to make a statement.

False

SQL injection attacks are attempts to gain access to information that should be protected.

True

Bulk processing is often a better solution then row-by-row statements.

...

You can't override the default behavior of schema-level functions.

True

Any attempt to call a non-autonomous function inside a query fails when the function contains any DML statement

True

You can instantiate a VARRAY or table collection as an attribute of an object type inside a CONSTRUCTOR function

True

Which of the following types of objects share the same namespace with objects (choose all that apply)?

FUNCTION objects  
VIEW objects  
TABLE objects  
PACKAGE objects

Which of the following systems are best suited to DDL triggers. (choose all that apply)

Production Systems

Development Systems

Test Systems

Stage Systems

Which of the following methods lets you create an in memory instance of a CLOB (choose all that apply)?

Createtemporary