MCQ based on cursor, function and procedure in PL/SQL

1. What is PL/SQL?

   a. A database management system

   b. A programming language for Oracle databases

   c. A web development framework

   d. A data visualization tool

   Answer: b. A programming language for Oracle databases

2. What is the purpose of a cursor in PL/SQL?

   a. To declare variables

   b. To define user-defined functions

   c. To retrieve and process rows from a result set

   d. To create database tables

   Answer: c. To retrieve and process rows from a result set

3. Which PL/SQL construct is used to return a single value from a function?

   a. Cursor

   b. Procedure

   c. Trigger

   d. Return statement

   Answer: d. Return statement

4. Which keyword is used to create a new procedure in PL/SQL?

   a. DECLARE

   b. BEGIN

   c. CREATE

   d. PROCEDURE

Answer: d. PROCEDURE

5. Which of the following is true about a PL/SQL function?

a. It cannot return a value.

b. It can return single values.

c. It cannot accept parameters.

d. It cannot contain SQL statements.

Answer: b. It can return single values.

6. What is the primary purpose of EXCEPTION handling in PL/SQL?

a. To define user roles

b. To declare variables

c. To handle errors and exceptions gracefully

d. To create database triggers

Answer: c. To handle errors and exceptions gracefully

7. Which keyword is used to pass parameters to a PL/SQL procedure?

a. PARAM

b. VALUE

c. IN

d. OUT

Answer: c. IN

8. Which PL/SQL construct is used to iterate through the rows of a result set returned by a query?

a. FOR loop

b. WHILE loop

c. CASE statement

d. IF statement

Answer: a. FOR loop

9. What is the primary difference between a function and a procedure in PL/SQL?

a. A function returns a value, while a procedure does not.

b. A procedure returns a value, while a function does not.

c. A function can accept parameters, while a procedure cannot.

d. A procedure can be called from SQL queries, while a function cannot.

Answer: a. A function returns a value, while a procedure does not.

10. Which PL/SQL construct is used to handle runtime errors explicitly?

a. DECLARE

b. EXCEPTION

c. BEGIN

d. RETRY

Answer: b. EXCEPTION

here are 10 challenging multiple-choice questions (MCQs) related to PL/SQL programming with a focus on a "Student" table:

Assume we have a "Student" table with the following columns: "StudentID," "FirstName," "LastName," "Age," and "GPA."

1. Which PL/SQL construct is commonly used to retrieve data from the "Student" table?

a. Procedure

b. Cursor

c. Function

d. Trigger

Answer: b. Cursor

2. What is the purpose of the following PL/SQL block?

```plsql
DECLARE
  total_students NUMBER;
BEGIN
  SELECT COUNT() INTO total_students FROM Student;
  DBMS_OUTPUT.PUT_LINE('Total students: ' || total_students);
END;
```

a. Deletes all records from the "Student" table.

b. Calculates the total number of students in the "Student" table and displays it.

c. Updates the "Age" column of all students in the "Student" table.

d. Inserts a new student record into the "Student" table.

Answer: b. Calculates the total number of students in the "Student" table and displays it.

3. What is the purpose of the following PL/SQL block?

```plsql
DECLARE
  student_name VARCHAR2(50);
BEGIN
  SELECT FirstName || ' ' || LastName INTO student_name FROM Student WHERE StudentID = 101;
  DBMS_OUTPUT.PUT_LINE('Student name: ' || student_name);
END;
```

```

a. Inserts a new student record into the "Student" table.

b. Updates the "Age" column of all students in the "Student" table.

c. Retrieves the full name of the student with StudentID 101 and displays it.

d. Deletes the student with StudentID 101 from the "Student" table.

Answer: c. Retrieves the full name of the student with StudentID 101 and displays it.

4. Which PL/SQL construct is used to handle exceptions that may occur during the execution of a PL/SQL program?

a. Cursor

b. Function

c. Exception handling block

d. Trigger

Answer: c. Exception handling block

5. What will the following PL/SQL block do?

```plsql
BEGIN
  DELETE FROM Student WHERE Age < 18;
  COMMIT;
END;
```

a. Deletes all records from the "Student" table.

b. Deletes students who are 18 years or older from the "Student" table and saves the changes permanently.

c. Rolls back all changes made to the "Student" table.

d. Updates the "Age" column of all students in the "Student" table.
```

Answer: b. Deletes students who are 18 years or older from the "Student" table and saves the changes permanently.

6. Which PL/SQL construct is commonly used to update records in the "Student" table based on specific conditions?

a. Procedure

b. Cursor

c. Function

d. Trigger

Answer: a. Procedure

7. What is the primary purpose of the following PL/SQL block?

```plsql
DECLARE
  avg_gpa NUMBER;
BEGIN
  SELECT AVG(GPA) INTO avg_gpa FROM Student;
  DBMS_OUTPUT.PUT_LINE('Average GPA: ' || avg_gpa);
END;
```

a. Inserts a new student record into the "Student" table.

b. Updates the "Age" column of all students in the "Student" table.

c. Calculates the average GPA of all students in the "Student" table and displays it.

d. Deletes all records from the "Student" table.

Answer: c. Calculates the average GPA of all students in the "Student" table and displays it.

8. Which PL/SQL construct is used to execute a set of statements repeatedly until a condition is met?

a. FOR loop

b. WHILE loop

c. CASE statement

d. IF statement

Answer: b. WHILE loop

9. What is the purpose of the following PL/SQL block?

```plsql
BEGIN
  UPDATE Student SET Age = Age + 1;
  COMMIT;
END;
```

a. Deletes all records from the "Student" table.

b. Updates the "Age" column of all students in the "Student" table by incrementing it by 1 and saves the changes permanently.

c. Rolls back all changes made to the "Student" table.

d. Inserts a new student record into the "Student" table.

Answer: b. Updates the "Age" column of all students in the "Student" table by incrementing it by 1 and saves the changes permanently.

10. What will the following PL/SQL block do?

```plsql
BEGIN
  INSERT INTO Student (StudentID, FirstName, LastName, Age, GPA)
  VALUES (102, 'Alice', 'Smith', 20, 3.8);
  COMMIT;
```

END;

```

a. Deletes all records from the "Student" table.

b. Inserts a new student record with the given details into the "Student" table and saves the changes permanently.

c. Rolls back all changes made to the "Student" table.

d. Updates the "Age" column of all students in the "Student" table.

Answer: b. Inserts a new student record with the given details into the "Student" table and saves the changes permanently.
```