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**BRANCH**:- Comps -B. **BATCH**: B.

**EXPERIMENT 10:** Implement Pl/SQL procedures and functions.

**SUBJECT**:- DBMS (DATABASE MANAGEMENT SYSTEM)

1. Write the PL/Sql anonymous block to calculate the area of circle for value of radius varying from 3 to 7. Store the radius and corresponding values of calculated areas in a table called Areas and display the table areas.

```
1 v CREATE TABLE Areas (
2 radius INT,
3 area FLOAT(5)
4 );
Table created.
```

```
SQL Worksheet

5 v DECLARE
6 r NUMBER;
7 a NUMBER;
8 v BEGIN
9 FOR r IN 3..7 LOOP
10 a := 3.14 * r * r;
11 INSERT INTO Areas VALUES (r, a);
12 END LOOP;
13 END;
14 v /

Statement processed.
```

```
15 SELECT * FROM Areas;
16

RADIUS AREA
3 28
4 50
5 79
6 110
7 150
```

2. Create a table Book(ID, Title, Author). Write a function to insert the values of all attributes in Book table .

```
1 v CREATE TABLE Book (
2 ID INT,
3 Title VARCHAR2(50),
4 Author VARCHAR2(50)
5 );

Table created.
```

```
19 DECLARE
20 result VARCHAR2(50);
21 v BEGIN

22 result := InsertBook(1, 'The Psychology of Monet', 'Morgan Housel');
23 DBMS_OUTPUT.PUT_LINE(result);
24 END;
25 /
26

Statement processed.
Book inserted successfully
```

3. Create a function to update the values of Book table

```
SQL Worksheet

1  CREATE OR REPLACE FUNCTION UpdateBook(
2  p_ID INT,
3  p_Title VARCHAR2,
4  p_Author VARCHAR2
5  ) RETURN VARCHAR2
6  AS
7  BEGIN
8
9  UPDATE Book
10  SET Title = p_Title, Author = p_Author
11  WHERE ID = p_ID;
12  COMMIT; -- Save the changes
13  RETURN 'Book updated successfully';
14  END UpdateBook;
15  /
16

Function created.
```

```
17  DECLARE
18  result VARCHAR2(50);
19  v BEGIN
20  result := (1, 'Ikigai: Japanese Secret for Happy Life', 'Hector Gracia');
21  DBMS_OUTPUT.PUT_LINE(result);
22  END;
23  /
24

Statement processed.
Book updated successfully
```

4. Create a function to display the details of Book table:

```
13 DECLARE
14 result_cursor SYS_REFCURSOR;
15 id Book.ID%TYPE;
16 title Book.Title%TYPE;
17 author Book.Author%TYPE;
18 v BEGIN
19 result_cursor := DisplayBookDetails;
20 v LOOP
21 FETCH result_cursor INTO id, title, author;
22 EXIT WHEN result_cursor%NOTFOUND;
23 v DBMS_OUTPUT.PUT_LINE('ID: ' || id || ', Title: ' || title || ',
24 Author: ' || author);
25 END LOOP;
26 CLOSE result_cursor;
27 END;
28 /

Statement processed.
1D: 1, Title: Ikigai: Japanese Secret for Happy Life,
Author: Hector Gracia
1D: 1, Title: Ikigai: Japanese Secret for Happy Life,
Author: Hector Gracia
```

5. Write a function to calculate the total marks of all students in Subj1 and Subj2. Student1 table contains regn\_no, sub1, sub2.

```
1    CREATE TABLE Student1 (
2    Reg_no INT,
3    Name CHAR(15),
4    Sub1 INT,
5    Sub2 INT,
6    Total INT
7    );

Table created.
```

```
9 VINSERT INTO Student1 (Reg_no, Name, Sub1, Sub2, Total)
10 VALUES (1, 'Student1', 85, 90, NULL);
1 row(s) inserted.
```

```
12 v CREATE OR REPLACE FUNCTION CalculateTotalMarks RETURN VARCHAR2

13 AS

14 BEGIN

15

16 UPDATE Student1

17 SET Total = Sub1 + Sub2;

18 COMMIT; -- Save the changes

19 RETURN 'Total marks calculated and updated successfully';

20 END CalculateTotalMarks;

21 v /

22

Function created.
```

## **DBMS EXPERIMENT NO. 10**

```
DECLARE

24 result VARCHAR2(50);

25 v BEGIN

26 result := CalculateTotalMarks;

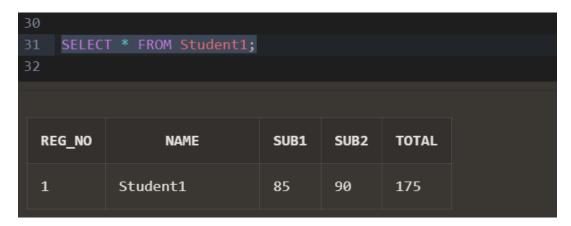
27 DBMS_OUTPUT.PUT_LINE(result);

28 END;

29 v /

Statement processed.

Total marks calculated and updated successfully
```



**Conclusion:** Hence by completing this experiment I came to know about implementing Pl/SQL procedures and functions.