

Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology
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School of Computing

B.Tech. – Computer Science and Engineering

VTR UGE2021- (CBCS)



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Course Code : 10211CS207

Course Name : Database Management Systems

Slot No : S1L4

DBMS TASK - 6 REPORT

Title: Procedures, Functions And Loops

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TASK 6: Procedures, Function and Loops

Aim: To write a programming using PL/SQL Procedures, Functions and loops on Number theory and business scenarios like.

1. Write a PL/SQL block that calculates the average age of players and displays the result.
2. Write a PL/SQL block that inserts a new player record into the Player table.
3. To create a function that returns the total number of teams in a particular Cricket Board.
4. To write a non-recursive PL/SQL procedure to retrieve even-numbered PlayerIDs registered for any tournament.

Write a PL/SQL block that calculates the average age of players and displays the result.

```
DECLARE
    total_age NUMBER := 0;
    num_players NUMBER := 0;
    avg_age NUMBER := 0;
BEGIN
    -- Using a cursor to loop through all players
    FOR player_rec IN (SELECT Age FROM Player) LOOP
        total_age := total_age + player_rec.Age; -- Summing up the ages
        num_players := num_players + 1; -- Counting the number of players
    END LOOP;

    -- Calculating the average age
    IF num_players > 0 THEN
        avg_age := total_age / num_players;
    END IF;

    -- Displaying the result
    DBMS_OUTPUT.PUT_LINE('Total Players: ' || num_players);
    DBMS_OUTPUT.PUT_LINE('Total Age: ' || total_age);
```

```
DBMS_OUTPUT.PUT_LINE('Average Age: ' || ceil(avg_age));  
END;
```

Output:

Total Players: 14

Total Age: 342

Average Age: 24

Write a PL/SQL block that inserts a new player record into the Player table.

```
DECLARE
```

```
    v_PlayerID VARCHAR(6) := '&Playerid'; -- You can generate a unique PlayerID as  
needed
```

```
    v_TeamID VARCHAR(10) := '&TEAMID'; -- Replace with the actual TeamID
```

```
    v_FName VARCHAR(30) := '&Fname';
```

```
    v_LName VARCHAR(30) := '&Lname';
```

```
    v_Age NUMBER(5,2) := &age;
```

```
    v_DateofBirth DATE := TO_DATE('&DOB', 'DD-Mon-YYYY'); -- Replace with the  
actual DateofBirth
```

```
    v_PlayingRole VARCHAR(25) := '&PlayingRole';
```

```
    v_email VARCHAR(40) := '&email';
```

```
    v_contact_no NUMBER := &phone; -- Replace with the actual contact number
```

```
    v_batting varchar(10) := '&batting';
```

```
    v_bowling varchar(10) := '&bowling';
```

```
BEGIN
```

```
    INSERT INTO Player (PlayerID, TeamID, FName, LName, Age, DateofBirth,  
PlayingRole, email, contact_no, batting, bowling)
```

```
    VALUES (v_PlayerID, v_TeamID, v_FName, v_LName, v_Age, v_DateofBirth,  
v_PlayingRole, v_email, v_contact_no, v_batting, v_bowling);
```

```
    COMMIT;
```

```
DBMS_OUTPUT.PUT_LINE('Player record inserted successfully.');
```

EXCEPTION

WHEN OTHERS THEN

```
DBMS_OUTPUT.PUT_LINE('Error: ' || SQLERRM);
```

ROLLBACK;

END;

/

Enter the PlayerID: 676
Enter the TeamID: CCB01
Enter the FName: Rahul
Enter the LName: Sharma
Enter the Age: 23
Enter the DateofBirth: 17-07-1999
Enter the PlayingRole: AllRounder
Enter the email: rahulsharma@gmail.com
Enter the Contact_no: 9797181815

Player record inserted successfully.
PL/SQL procedure successfully completed.

To create a function that returns the total number of teams in a particular Cricket Board.

```
CREATE OR REPLACE FUNCTION GetTotalTeamsInBoard(BoardID1  
VARCHAR2) RETURN NUMBER IS
```

v_TotalTeams NUMBER := 0;

BEGIN

```
SELECT COUNT(*) INTO v_TotalTeams FROM Team WHERE BoardID =  
BoardID1;
```

RETURN v_TotalTeams;

EXCEPTION

```

WHEN NO_DATA_FOUND THEN

    -- Handle the case when the board doesn't exist or has no teams

    RETURN 0;

WHEN OTHERS THEN

    -- Handle other exceptions as needed

    RETURN -1; -- Return a negative value to indicate an error

END GetTotalTeamsInBoard;

/

```

Function successfully created.

SQL>

```

Declare

Res number;

Begin

res:= GetTotalTeamsInBoard('BID01');

DBMS_OUTPUT.PUT_LINE('No of teams: '||res);

END;

/

```

No of teams: 2

To write a non-recursive PL/SQL procedure to retrieve even-numbered PlayerIDs registered for any tournament.

```

CREATE OR REPLACE PROCEDURE GetEvenNumberedPlayerIDs IS

BEGIN

    FOR player_rec IN ( SELECT PlayerID FROM Player WHERE
MOD(TO_NUMBER(PlayerID), 2) = 0)

    LOOP

        DBMS_OUTPUT.PUT_LINE('Even-Numbered PlayerID: ' || player_rec.PlayerID);
    
```

```
END LOOP;  
END GetEvenNumberedPlayerIDs;  
/
```

```
SQL> EXEC GetEvenNumberedPlayerIDs;
```

Even-Numbered PlayerID: 102

Even-Numbered PlayerID: 12

Even-Numbered PlayerID: 18

Even-Numbered PlayerID: 2

Even-Numbered PlayerID: 62

Even-Numbered PlayerID: 66

Even-Numbered PlayerID: 676

PL/SQL procedure successfully completed.

Result:

Thus the PL/SQL Procedures, Functions and loops on Number theory and business scenarios experiment was successfully completed and results are verified.