

# Queries for Assignment-A5

*[NOTE] Problem Statement: Write a PL/SQL code block to calculate the area of a circle for a value of radius varying from 5 to 9. Store the radius and the corresponding values of calculated area in an empty table named areas, consisting of two columns, radius and area. Note: Instructor will frame the problem statement for writing PL/SQL block in line with above statement.*

## Creating table

```
CREATE TABLE areas (
    radius INT NOT NULL,
    area INT
);
```

## Procedure

```

DECLARE
    v_radius NUMBER; -- specify radius here since Live SQL cannot take input from user
    -- Eg. v_radius NUMBER := 5 will take radius 5 as input
    calcedArea NUMBER;
    invalidData EXCEPTION;
    psError EXCEPTION;

BEGIN
    -- if radius is less than 0, raise exception
    IF (v_radius < 0) THEN
        RAISE invalidData;
    ELSIF (v_radius NOT BETWEEN 5 AND 9) THEN
        RAISE psError;
    END IF;

    -- calc area
    calcedArea := 3.14 * v_radius * v_radius;
    DBMS_OUTPUT.PUT_LINE('For radius ' || v_radius || ' cm, the area is ' || calcedArea || ' sq. cm.');

    -- add data to table
    INSERT INTO areas VALUES (v_radius, calcedArea);
    DBMS_OUTPUT.PUT_LINE('Inserted values to areas database.');

EXCEPTION
    WHEN invalidData THEN
        DBMS_OUTPUT.PUT_LINE('Radius cannot be less than 0 cms. Please enter a valid value.');
    WHEN psError THEN
        DBMS_OUTPUT.PUT_LINE('Problem statement requires the radius to be between 5 and 9 cms.');
    WHEN OTHERS THEN
        DBMS_OUTPUT.PUT_LINE('An error occurred. Error: ' || SQLERRM);

END;
/

```