

```
CREATE DATABASE areas1;

use areas1;
```

```
CREATE TABLE areas (
    radius INT,
    area DECIMAL(10,2)
);
```

```
DELIMITER $$
```

```
CREATE PROCEDURE CalculateAreas()
```

```
BEGIN
```

```
    DECLARE r INT DEFAULT 5;
```

```
    DECLARE a DECIMAL(10,2);
```

```
-- Exception handler for SQL errors
```

```
DECLARE EXIT HANDLER FOR SQLEXCEPTION
```

```
BEGIN
```

```
    SELECT 'Error: Unexpected SQL exception occurred.' AS message;
```

```
    ROLLBACK;
```

```
END;
```

```
-- Clear table before inserting values (optional)
```

```
TRUNCATE TABLE areas;
```

```
calc_loop: LOOP
```

```
-- Stop loop after radius = 9
```

```
IF r > 9 THEN
```

```
    LEAVE calc_loop;
```

```
END IF;
```

```
-- Calculate area =  $\pi * r^2$ 
```

```
SET a = 3.14 * r * r;
```

```
-- Insert into table
```

```
INSERT INTO areas VALUES (r, a);
```

```
-- Print output
```

```
SELECT CONCAT('Radius = ', r, ' | Area = ', a) AS result;
```

```
-- Increase radius
```

```
SET r = r + 1;
```

```
END LOOP calc_loop;
```

```
END$$
```

```
DELIMITER ;
```

```
CALL CalculateAreas();
```

