

Ex=10 Cursor – Implicit and Explicit

Create a table employee and insert 30 records and implement the above cursor concepts with example.

```
mysql> create database db;
Query OK, 1 row affected (0.01 sec)

mysql> use db;
Database changed
mysql> CREATE TABLE employee (
  -> id INT AUTO_INCREMENT PRIMARY KEY,
  -> name VARCHAR(50),
  -> age INT,
  -> salary DECIMAL(10,2),
  -> department VARCHAR(50)
  -> );
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> INSERT INTO employee (name, age, salary, department)
  -> VALUES
  -> ('John Doe', 25, 50000, 'IT'),
  -> ('Jane Doe', 32, 55000, 'Marketing'),
  -> ('Jim Smith', 28, 45000, 'HR'),
  -> ('Sarah Johnson', 35, 60000, 'Sales'),
  -> ('Mike Brown', 22, 35000, 'IT'),
  -> ('Emily Davis', 30, 52000, 'Marketing'),
  -> ('William Wilson', 26, 48000, 'HR'),
  -> ('Elizabeth Wilson', 33, 58000, 'Sales'),
  -> ('Daniel Smith', 27, 46000, 'IT'),
  -> ('Jessica Anderson', 24, 49000, 'Marketing'),
  -> ('Thomas Wilson', 29, 51000, 'HR'),
  -> ('Deborah Smith', 31, 56000, 'Sales'),
  -> ('David Johnson', 25, 50000, 'IT'),
  -> ('Susan Davis', 33, 57000, 'Marketing'),
  -> ('William Anderson', 26, 49000, 'HR'),
  -> ('Elizabeth Johnson', 32, 56000, 'Sales'),
  -> ('Christopher Smith', 28, 47000, 'IT'),
  -> ('Samantha Anderson', 31, 55000, 'Marketing'),
  -> ('Michael Davis', 24, 45000, 'HR'),
  -> ('Sarah Wilson', 34, 59000, 'Sales'),
  -> ('James Anderson', 27, 48000, 'IT'),
  -> ('Jane Smith', 31, 54000, 'Marketing'),
  -> ('William Wilson', 29, 51000, 'HR'),
  -> ('Emily Johnson', 26, 50000, 'Sales'),
  -> ('Christopher Anderson', 26, 49000, 'IT'),
  -> ('Samantha Smith', 32, 55000, 'Marketing'),
  -> ('Michael Johnson', 24, 45000, 'HR'),
  -> ('Sarah Davis', 33, 57000, 'Sales');
Query OK, 28 rows affected (0.02 sec)
Records: 28 Duplicates: 0 Warnings: 0

mysql> desc table employee;
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| id | select_type | table | partitions | type | possible_keys | key | key_len | ref | rows | filtered | Extra |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1  | SIMPLE      | employee | NULL | NULL | NULL | NULL | NULL | NULL | 28  | 100      | NULL  |
```

```
MySQL 8.0 Command Line CL  X  +  -  X
| 21 | James Anderson | 27 | 48000.00 | IT |
| 22 | Jane Smith | 31 | 54000.00 | Marketing |
| 23 | William Wilson | 29 | 51000.00 | HR |
| 24 | Emily Johnson | 25 | 50000.00 | Sales |
| 25 | Christopher Anderson | 26 | 49000.00 | IT |
| 26 | Samantha Smith | 32 | 55000.00 | Marketing |
| 27 | Michael Johnson | 24 | 45000.00 | HR |
| 28 | Sarah Davis | 33 | 57000.00 | Sales |
+-----+-----+-----+-----+
28 rows in set (0.00 sec)

mysql> DELIMITER $$
mysql> CREATE PROCEDURE cursor_example()
-> BEGIN
-> DECLARE done INT DEFAULT 0;
-> DECLARE id, age INT;
-> DECLARE name, department VARCHAR(50);
-> DECLARE salary DECIMAL(10,2);
-> DECLARE cur CURSOR FOR SELECT id, name, age, salary, department FROM employee;
-> DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;
->
-> OPEN cur;
->
-> read_loop: LOOP
-> FETCH cur INTO id, name, age, salary, department;
-> IF done THEN
-> LEAVE read_loop;
-> END IF;
-> SELECT id, name, age, salary, department;
-> END LOOP;
->
-> CLOSE cur;
-> END $$
Query OK, 0 rows affected (0.02 sec)

mysql> DELIMITER ;
mysql>
mysql> CALL cursor_example();
+-----+-----+-----+-----+
| id | name | age | salary | department |
+-----+-----+-----+-----+
| NULL | NULL | NULL | NULL | NULL |
+-----+-----+-----+-----+
1 row in set (0.01 sec)

+-----+-----+-----+-----+
| id | name | age | salary | department |
+-----+-----+-----+-----+
| NULL | NULL | NULL | NULL | NULL |
+-----+-----+-----+-----+
1 row in set (0.02 sec)
```

```
MySQL 8.0 Command Line CL  X  +  -  X
| 21 | James Anderson | 27 | 48000.00 | IT |
| 22 | Jane Smith | 31 | 54000.00 | Marketing |
| 23 | William Wilson | 29 | 51000.00 | HR |
| 24 | Emily Johnson | 25 | 50000.00 | Sales |
| 25 | Christopher Anderson | 26 | 49000.00 | IT |
| 26 | Samantha Smith | 32 | 55000.00 | Marketing |
| 27 | Michael Johnson | 24 | 45000.00 | HR |
| 28 | Sarah Davis | 33 | 57000.00 | Sales |
+-----+-----+-----+-----+
28 rows in set (0.00 sec)

mysql> DELIMITER $$
mysql> CREATE PROCEDURE cursor_example()
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-> FETCH cur INTO id, name, age, salary, department;
-> IF done THEN
-> LEAVE read_loop;
-> END IF;
-> SELECT id, name, age, salary, department;
-> END LOOP;
->
-> CLOSE cur;
-> END $$
Query OK, 0 rows affected (0.02 sec)

mysql> DELIMITER ;
mysql>
mysql> CALL cursor_example();
+-----+-----+-----+-----+
| id | name | age | salary | department |
+-----+-----+-----+-----+
| NULL | NULL | NULL | NULL | NULL |
+-----+-----+-----+-----+
1 row in set (0.01 sec)

+-----+-----+-----+-----+
| id | name | age | salary | department |
+-----+-----+-----+-----+
| NULL | NULL | NULL | NULL | NULL |
+-----+-----+-----+-----+
1 row in set (0.02 sec)
```

```
MySQL 8.0 Command Line CL  X  +  -  
+-----+  
| NULL | NULL | NULL | NULL | NULL |  
+-----+  
1 row in set (0.09 sec)  
  
+-----+  
| id | name | age | salary | department |  
+-----+  
| NULL | NULL | NULL | NULL | NULL |  
+-----+  
1 row in set (0.09 sec)  
  
+-----+  
| id | name | age | salary | department |  
+-----+  
| NULL | NULL | NULL | NULL | NULL |  
+-----+  
1 row in set (0.10 sec)  
  
+-----+  
| id | name | age | salary | department |  
+-----+  
| NULL | NULL | NULL | NULL | NULL |  
+-----+  
1 row in set (0.10 sec)  
  
+-----+  
| id | name | age | salary | department |  
+-----+  
| NULL | NULL | NULL | NULL | NULL |  
+-----+  
1 row in set (0.10 sec)  
  
+-----+  
| id | name | age | salary | department |  
+-----+  
| NULL | NULL | NULL | NULL | NULL |  
+-----+  
1 row in set (0.11 sec)  
  
Query OK, 0 rows affected (0.12 sec)  
  
mysql> |
```