

14 UDFs

UDFs

- Set of SQL statements that perform a specific task.
- It takes input params, performs action and returns either a single value or a table.
- Functions can't be used for DML (INSERT, UPDATE, DELETE)
- We could create SP to group a set of SQL statements, but SPs can't be called from within the SQL statements.

Built-In Functions provided by DBMS`

- Functions must return a value, for SPs it is optional
- Functions can be called from procedures
- Functions allow only SELECT but SPs allow DML statements
- Function can be used in SELECT, WHERE, Having, ORDER BY, Group BY clauses.

```
DELIMITER //

CREATE FUNCTION discount_v3(product VARCHAR(1000), sale_price INT)
RETURNS DECIMAL(10, 2)
DETERMINISTIC
BEGIN
    IF LEFT(product, 1) = 'A' THEN
        RETURN 0.5*sale_price; -- 50% off
    ELSEIF LEFT(product, 1) = 'K' THEN
        RETURN 0; -- 100% off (free)
    ELSE
        RETURN sale_price; -- No discount
    END IF;
END //

DELIMITER ;

select product, sale_price, discount_v3(product, sale_price) from bb_products order by
product;
```

```
CREATE FUNCTION calculate_experience(join_date DATE)
RETURNS INT
DETERMINISTIC
BEGIN
    RETURN TIMESTAMPDIFF(YEAR, join_date, CURDATE());
END;
```

Usage:

```
SELECT
    Programmer_Name,
    DOJ,
```

```
calculate_experience(DOJ) AS Years_Experience  
FROM programmers;
```