JDBC Notes

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In the context of stored procedures, particularly in SQL databases like MySQL or Oracle, parameters can be categorized into three types: IN, OUT, and INOUT. Here's the difference between them:

IN Parameters:

- These parameters are used to pass values into the stored procedure from the calling program (e.g., Java application).
- They are essentially inputs to the stored procedure, and the procedure can only read their values but cannot modify them.
- IN parameters are typically used to provide input data to the stored procedure for processing.

Example:

```
CREATE PROCEDURE ExampleProcedure(IN param1 INT)
BEGIN
    -- Procedure logic using param1 as input
END;
```

OUT Parameters:

- These parameters are used to return values from the stored procedure back to the calling program.
- They act as outputs of the stored procedure, and the procedure sets their values during its execution.
- OUT parameters must be explicitly declared in the stored procedure and initialized with values before the procedure ends.

Example:

```
CREATE PROCEDURE ExampleProcedure(OUT param1 INT)
BEGIN
    SET param1 = 10; -- Set the value of param1
END;
```

INOUT Parameters:

- These parameters serve both as inputs and outputs. They allow passing values into the procedure and returning modified values back to the calling program.
- INOUT parameters can be read and modified by the stored procedure, and any changes made to them will be reflected when the procedure returns.

Example:

```
CREATE PROCEDURE ExampleProcedure(INOUT param1 INT)
BEGIN
    SET param1 = param1 * 2; -- Modify the value of param1
END;
```

- **IN parameters** are used to pass data into the stored procedure.
- **OUT parameters** are used to return data from the stored procedure.
- **INOUT parameters** allow bidirectional data flow, serving as both inputs and outputs.