**SQL Update Data Structure**

**1. Table Class**

|  |  |  |
| --- | --- | --- |
| **Instance Variable** | **Data Type** | **Use** |
| Name | String | Table Name |

**2. Column Class**

|  |  |  |
| --- | --- | --- |
| **Instance Variable** | **Data Type** | **Use** |
| Name | String | Column Name |
| Type | Integer | Column Database Type |
| Name In Query | String | Name Considered In Query |

| **Method** | **Parameters/Return** | **Use** |
| --- | --- | --- |
| plusYear | Value: Integer | Increment Year of Date  /Timestamp |
| minusYear | Value: Integer | decrement Year of Date  /Timestamp |
| plusMonth | Value: Integer | Increment Month of Date  /Timestamp |
| minusMonth | Value: Integer | decrement Month of Date  /Timestamp |
| plusDay | Value: Integer | Increment Day of Date  /Timestamp |
| minusDay | Value: Integer | decrement Day of Date  /Timestamp |
| plusHour | Value: Integer | Increment Hour of Timestamp/Time |
| minusHour | Value: Integer | decrement Hour of  Timestamp/Time |
| plusMinute | Value: Integer | Increment Minute of  Timestamp/Time |
| minusMinute | Value: Integer | decrement Minute of  Timestamp/Time |
| plus | Column: Column | Increment Column with another Column |
| plus | Value: Integer | Increment Column with Number |
| minus | Column: Column | Decrement Column with another Column |
| minus | Value: Integer | Decrement Column with Number |
| multiply | Column: Column | Multiply Column with another Column |
| multiply | Value: Integer | Multiply Column with Number |
| divide | Column: Column | Divide Column with another Column |
| divide | Value: Integer | Divide Column with Number |
| greater | Column: Column  Return Restriction | Give Restriction with current Column and Parameter Column and > criteria |
| greater | Value: Object  Return Restriction | Give Restriction with current Column and Parameter Value and > criteria |
| greaterEqual | Query: Query  Return Restriction | Give Restriction with current Column and Parameter Query and >= criteria |
| greaterEqual | Column: Column  Return Restriction | Give Restriction with current Column and Parameter Column and >= criteria |
| greaterEqual | Value: Object  Return Restriction | Give Restriction with current Column and Parameter Value and >= criteria |
| less | Query: Query  Return Restriction | Give Restriction with current Column and Parameter Query and < criteria |
| less | Column: Column  Return Restriction | Give Restriction with current Column and Parameter Column and < criteria |
| less | Value: Object  Return Restriction | Give Restriction with current Column and Parameter Value and < criteria |
| lessEqual | Query: Query  Return Restriction | Give Restriction with current Column and Parameter Query and <= criteria |
| lessEqual | Column: Column  Return Restriction | Give Restriction with current Column and Parameter Column and <= criteria |
| lessEqual | Value: Object  Return Restriction | Give Restriction with current Column and Parameter Value and <= criteria |
| between | Value: Object/Column  To: Object/Column  Return Restriction | Give Restriction with current Column and Parameter Two Values and between criteria |

**3. Restriction Class**

|  |  |  |
| --- | --- | --- |
| **Instance Variable** | **Data Type** | **Use** |
| Operator | Operator | AND/OR |
| Column | Column | Column in Restriction |
| Criteria | Criteria Enum | =/<>/>/>=/</<=/between/in/not in/is null/is not null/exists/not exists |
| Value | Object | =/<>/>/>=/</<=/between Value |
| Values | Array of Object | In/not In values |
| To | Object | Between To value |
| Restrictions | List<Restriction> | Sibling Restrictions in same level |

| **Method** | **Parameters/Return** | **Use** |
| --- | --- | --- |
| and | Restriction: Restriction | Add Restriction into Sibling Restrictions with AND operator |
| or | Restriction: Restriction | Add Restriction into Sibling Restrictions with OR operator |

**4. Query Class**

|  |  |  |
| --- | --- | --- |
| **Instance Variable** | **Data Type** | **Use** |
| Current Date | Column | Date Column with name CURRENT\_DATE |
| Current Timestamp | Column | Timestamp Column with name CURRENT\_TIMESTAMP |
| Current Time | Column | Time Column with name CURRENT\_TIME |
| Table | Table | Table in update clause |
| Values | Map<Column, Object> | Columns and Values in set clause |
| Restrictions | List<Restriction> | List of restriction in where clause |

| **Method** | **Parameters/Return** | **Use** |
| --- | --- | --- |
| update | Table: Table | Save Update Table |
| set | Column: Column  Value: Column | Update Column with other column value |
| set | Column: Column  Value: Object | Updated if value is not null and not empty and not zero |
| setNull | Column: Column  Value: Object | Update value with null if it is null or empty or zero else keep same value |
| setZero | Column: Column  Value: Object | Update value with 0 if it is null or empty or zero else keep same value |
| setExact | Column: Column  Value: Object | Update value as it is |
| exists | Query: Query  Return Restriction | Give Restriction with Parameter Query and exist criteria |
| notExists | Query: Query  Return Restriction | Give Restriction with Parameter Query and not exist criteria |
| where | Restriction | Add Restriction into Restrictions with AND operator |
| and | Restriction | Add Restriction into Restrictions with AND operator |
| or | Restriction | Add Restriction into Restrictions with OR operator |
| executeUpdate | Return count: Integer | Return number of updated records |