#### Inserting Rows - INSERT INTO

##### Let's fill up our "products" table with rows. We set the productID of the first record to 1001, and use AUTO\_INCREMENT for the rest of records by inserting a NULL, or with a missing column value. Take note that strings must be enclosed with a pair of single quotes (or double quotes). INSERT INTO Syntax

We can use the INSERT INTO statement to insert a new row with all the column values, using the following syntax:

INSERT INTO tableName VALUES (firstColumnValue, ..., lastColumnValue) -- All columns

You need to list the values in the same order in which the columns are defined in the CREATE TABLE, separated by commas. For columns of string data type (CHAR, VARCHAR), enclosed the value with a pair of single quotes (or double quotes). For columns of numeric data type (INT, DECIMAL, FLOAT, DOUBLE), simply place the number.

You can also insert multiple rows in one INSERT INTO statement:

INSERT INTO tableName VALUES

(row1FirstColumnValue, ..., row1lastColumnValue),

(row2FirstColumnValue, ..., row2lastColumnValue),

...

To insert a row with values on selected columns only, use:

-- Insert single record with selected columns

INSERT INTO tableName (column1Name, ..., columnNName) VALUES (column1Value, ..., columnNValue)

-- Alternately, use SET to set the values

INSERT INTO tableName SET column1=value1, column2=value2, ...

-- Insert multiple records

INSERT INTO tableName

(column1Name, ..., columnNName)

VALUES

(row1column1Value, ..., row2ColumnNValue),

(row2column1Value, ..., row2ColumnNValue),

...

The remaining columns will receive their default value, such as AUTO\_INCREMENT, default, or NULL.

-- Insert a row with all the column values

mysql> **INSERT INTO products VALUES (1001, 'PEN', 'Pen Red', 5000, 1.23);**

Query OK, 1 row affected (0.04 sec)

-- Insert multiple rows in one command

-- Inserting NULL to the auto\_increment column results in max\_value + 1

mysql> **INSERT INTO products VALUES**

**(NULL, 'PEN', 'Pen Blue', 8000, 1.25),**

**(NULL, 'PEN', 'Pen Black', 2000, 1.25);**

Query OK, 2 rows affected (0.03 sec)

Records: 2 Duplicates: 0 Warnings: 0

-- Insert value to selected columns

-- Missing value for the auto\_increment column also results in max\_value + 1

mysql> **INSERT INTO products (productCode, name, quantity, price) VALUES**

**('PEC', 'Pencil 2B', 10000, 0.48),**

**('PEC', 'Pencil 2H', 8000, 0.49);**

Query OK, 2 row affected (0.03 sec)

-- Missing columns get their default values

mysql> **INSERT INTO products (productCode, name) VALUES ('PEC', 'Pencil HB');**

Query OK, 1 row affected (0.04 sec)

-- 2nd column (productCode) is defined to be NOT NULL

mysql> **INSERT INTO products values (NULL, NULL, NULL, NULL, NULL);**

ERROR 1048 (23000): Column 'productCode' cannot be null

-- Query the table

mysql> **SELECT \* FROM products;**

+-----------+-------------+-----------+----------+------------+

| productID | productCode | name | quantity | price |

+-----------+-------------+-----------+----------+------------+

| 1001 | PEN | Pen Red | 5000 | 1.23 |

| 1002 | PEN | Pen Blue | 8000 | 1.25 |

| 1003 | PEN | Pen Black | 2000 | 1.25 |

| 1004 | PEC | Pencil 2B | 10000 | 0.48 |

| 1005 | PEC | Pencil 2H | 8000 | 0.49 |

| 1006 | PEC | Pencil HB | 0 | 9999999.99 |

+-----------+-------------+-----------+----------+------------+

6 rows in set (0.02 sec)

-- Remove the last row

mysql> **DELETE FROM products WHERE productID = 1006;**