Suppose that a table `t1` has this definition:

```
CREATE TABLE t1 (i1 TINYINT, i2 TINYINT UNSIGNED);
```

With strict SQL mode enabled, an out of range error occurs:

```
mysql> SET sql_mode = 'TRADITIONAL';
mysql> INSERT INTO t1 (i1, i2) VALUES(256, 256);
ERROR 1264 (22003): Out of range value for column 'i1' at row 1
mysql> SELECT * FROM t1;
Empty set (0.00 sec)
```

With strict SQL mode not enabled, clipping with warnings occurs:

```
mysql> SET sql_mode = '';
mysql> INSERT INTO t1 (i1, i2) VALUES(256, 256);
mysql> SHOW WARNINGS;
+---------+------+-------------------------------------------+
| Level   | Code | Message                                   |
+---------+------+-------------------------------------------+
| Warning | 1264 | Out of range value for column 'i1' at row 1 |
| Warning | 1264 | Out of range value for column 'i2' at row 1 |
+---------+------+-------------------------------------------+
mysql> SELECT * FROM t1;
+------+------+
| i1   | i2   |
+------+------+
|  127 |  255 |
+------+------+
```

When strict SQL mode is not enabled, column-assignment conversions that occur due to clipping are reported as warnings for `ALTER TABLE`, `LOAD DATA`, `UPDATE`, and multiple-row `INSERT` statements. In strict mode, these statements fail, and some or all the values are not inserted or changed, depending on whether the table is a transactional table and other factors. For details, see Section 5.1.11, “Server SQL Modes”.

Overflow during numeric expression evaluation results in an error. For example, the largest signed `BIGINT` value is 9223372036854775807, so the following expression produces an error:

```
mysql> SELECT 9223372036854775807 + 1;
ERROR 1690 (22003): BIGINT value is out of range in '(9223372036854775807 + 1)'
```

To enable the operation to succeed in this case, convert the value to unsigned;

```
mysql> SELECT CAST(9223372036854775807 AS UNSIGNED) + 1;
+-----------------------------------------+
| CAST(9223372036854775807 AS UNSIGNED) + 1 |
+-----------------------------------------+
|                      9223372036854775808 |
+-----------------------------------------+
```

Whether overflow occurs depends on the range of the operands, so another way to handle the preceding expression is to use exact-value arithmetic because `DECIMAL` values have a larger range than integers:

```
mysql> SELECT 9223372036854775807.0 + 1;
+--------------------------+
| 9223372036854775807.0 + 1 |
+--------------------------+
|     9223372036854775808.0 |
+--------------------------+
```

Subtraction between integer values, where one is of type `UNSIGNED`, produces an unsigned result by default. If the result would otherwise have been negative, an error results: