

Theory: Updating selected rows

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Being able to change data in all rows of a table is impressive, but in reality it rarely comes up. Having to update a few rows happens much more often. Filtering out rows we are not interested in can be done with the WHERE clause.

§1. WHERE clause

As usual, a logical expression in the WHERE clause can be a combination of several simple expressions. The only requirement is the following: an expression must produce a BOOLEAN value for each row of a table. Only those rows for which the expression produces TRUE will be updated.

For example, imagine that there is a table named *groups*. This table stores information about the existing student groups in North-Western County college:

group_id	tutor	course	capacity
12	William Meier	Algebra 201	50
14	Martha Jacobson	Nuclear physics 101	25
22	Laura Gibbs	Renaissance literature 360	30
36	Donald Meier	Algebra 301	40
38	Becky Stout	Information retrieval 450	30

Due to the recent policy update from the college administration, the number of students in all groups taking algebra has to be cut to 40. At the same time, miss Gibbs realizes that her literature course is more popular than she thought, so she would like to increase the number of students taking her course up to 40. Let's reflect these changes in the table:

```
1 |
UPDATE groups SET capacity = 40 WHERE LOCATE('Algebra', course) > 0 OR tutor = 'Laura Gibbs'
```

This is how the table looks now:

group_id	tutor	course	capacity
12	William Meier	Algebra 201	40
14	Martha Jacobson	Nuclear physics 101	25
22	Laura Gibbs	Renaissance literature 360	40
36	Donald Meier	Algebra 301	40
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WHERE clause doesn't change a lot in the basic template for UPDATE queries but plays a crucial role. You don't want to introduce unnecessary changes in your data and have to fix it after. As a first step of composing your query, think about which exact rows need to be updated and write the WHERE part; after doing that, feel free to change the data any way you want.

§2. Conclusion

Here is the general template of an update statement:

```
1 |
UPDATE table_name SET col1 = expr1, col2 = expr2, ..., colN = expr WHERE logical_expression;
```

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Using WHERE in the UPDATE operation is easy: it follows the same principle here as it does in other SQL operations. Now it's time to check your knowledge.

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