Basic SQL queries

PHP web development 2020/2021

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1. Create record in DB

Syntax:

INSERT INTO ***table_name*** (*column_1*,*column_2*,....)
VALUES (*value_1*, *value_2*, ...)

Quotes & backticks rules:
- When to use backticks ``
- When to use single quotes ' '
- When to use double quotes " "
- When not to use quotes or backticks

MySQL reserved words:
Examples:
`INDEX`, `OPTION`, `DAY`, ` DATETIME`, ...

https://dev.mysql.com/doc/refman/8.0/en/keywords.html

Basic Syntax:

SELECT * FROM *table_name*

Note: Asterisk character * means get all fields/columns

Specify column(field) names:

SELECT *column_1,column_2,....* FROM *table_name*

Add condition (where clause):

SELECT *column_1,column_2,....* FROM *table_name*
WHERE *expression*

Notes

- Using WHERE to get a range of values or filter results

- Comparison operators in WHERE clause:

  = , < , > , >= , <= , <>, !=

- Multiple WHERE conditions

  - AND operator, OR operator;

- Combining AND & OR operators

- Example

SELECT `recipe_name`, `prep_time` FROM `recipes` WHERE `date_deleted` IS NULL AND (`recipe_name` = 'Mexican Sandwich' OR `recipe_name`= 'Spring Rolls')

3. **U**pdate record or records

Syntax:

UPDATE ***table_name***

SET *column_1 = value_1, column_2 = value_2, ...*

WHERE *expression*

* Always use proper where clause or all rows will be updated !

* WHERE expression - the same rules applies as in previous slide

Example:

UPDATE `recipes` SET `prep_time` = 30, `prep_description` = 'Mix the meat with the marinade ingredients and set aside for about 30 minutes' WHERE `recipe_name` = 'Spring Rolls'

Syntax:
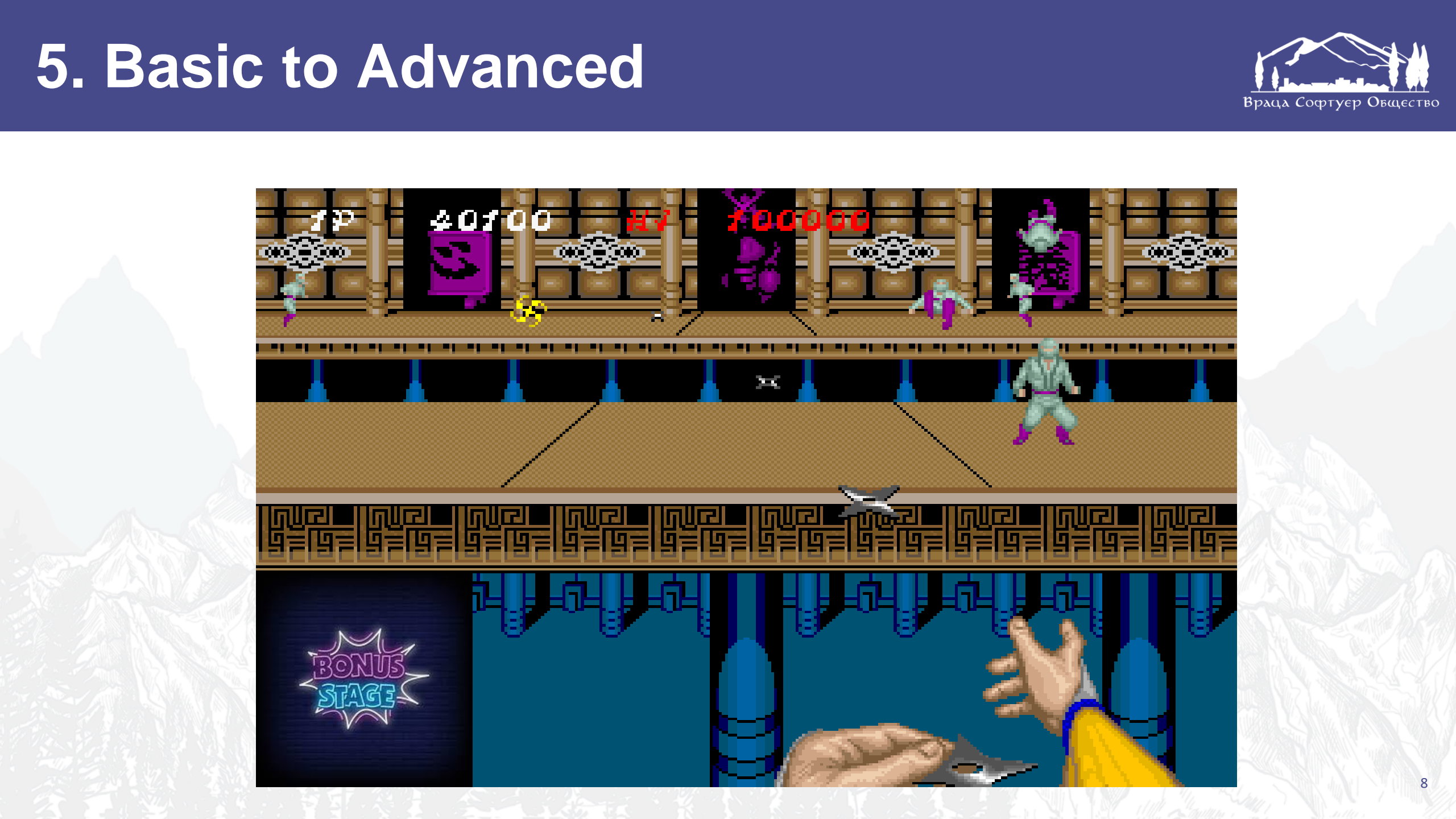
DELETE FROM *table_name*

WHERE *expression*

* *Always use proper where clause. If you omit the WHERE clause, all records in the table will be deleted !!!*

Example:

DELETE FROM `recipes` WHERE `recipe_name` = Mexican Sandwich'

5.1 ORDER BY

The SQL ORDER BY clause is used to sort the records in the result set for a SELECT statement

Syntax:

SELECT *column_ 1*,*column_2*,....
FROM ***table_name***

WHERE *expression*

ORDER_BY *column_x* [ASC | DESC]
, *column_y* [ASC | DESC]

5.2 "LIKE" - use pattern in WHERE clause

The LIKE operator is a logical operator that tests whether a string contains a specified pattern or not.

Wildcards:

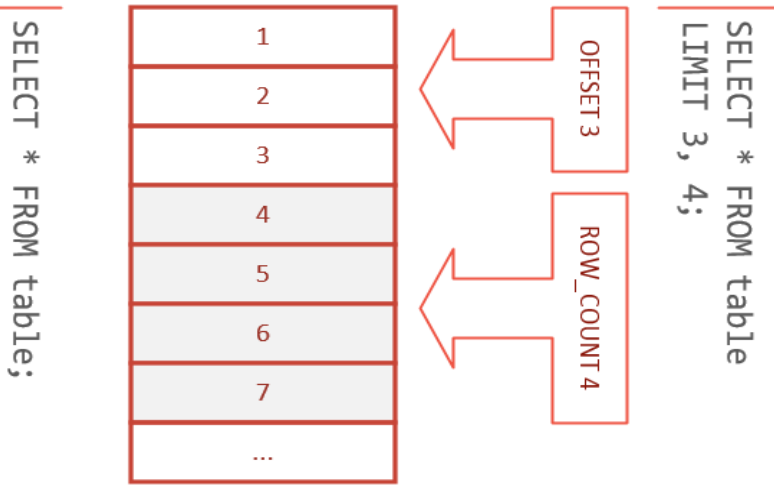% - matches any string of zero or more characters;

_ - matches any single character;

SELECT *column_1,column_2,....* FROM ***table_name*** WHERE *column_1 LIKE '%S_ring%'*

For example, code above will return any row with column_1 contains 'Beautiful Spring' or 'String'

5.3 "LIMIT" and OFFSET

SELECT * FROM table;

OFFSET 3

ROW_COUNT 4

SELECT * FROM table
LIMIT 3, 4;

Alternative syntax:
LIMIT offset, row_count

SELECT *column_1,column_2,....*
FROM ***table_name***
WHERE *expression*
ORDER_BY *column_x* [ASC | DESC
] LIMIT3,4

The limit keyword is used to limit the number of rows returned in a query result.
Syntax:

SELECT *column_1,column_2,....*
FROM ***table_name***
WHERE *expression*
ORDER_BY *column_x* [ASC | DESC]
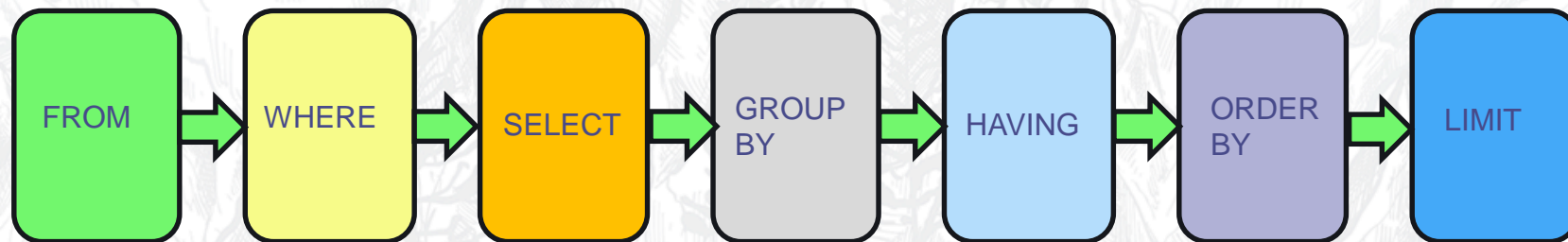LIMIT *row_count* OFFSET offset

"GROUP BY" and "HAVING" clauses

The GROUP BY clause groups a set of rows into a set of summary rows by values of columns or expressions. The GROUP BY clause returns one row for each group. In other words, it reduces the number of rows in the result set

The HAVING clause is used in the SELECT statement to specify filter conditions for a group of rows or aggregates.

MySQL evaluates the GROUP BY and HAVING clauses after the FROM, WHERE, SELECT clauses and before ORDER BY, and LIMIT clauses.
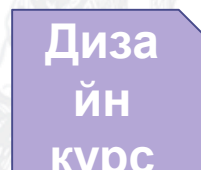
FROM → WHERE → SELECT → GROUP BY → HAVING → ORDER BY → LIMIT

Questions?

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