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Database Programming with SQL

1-3: Anatomy of a SQL Statement

Practice Activities

Objectives

* Match projection, selection, and join with their correct functions capabilities
* Create a basic SELECT statement
* Use the correct syntax to display all rows in a table
* Use the correct syntax to select specific columns in a table, modify the way data is displayed,

and perform calculations using arithmetic expressions and operators

* Formulate queries using correct operator precedence to display desired results
* Define a null value
* Demonstrate the effect null values create in arithmetic expressions
* Construct a query using a column alias

Vocabulary

Identify the vocabulary word for each definition below.

|  |  |
| --- | --- |
| join | Display data from two or more related tables. |
| Арифметический оператор (к примеру, +) | A symbol used to perform an operation on some values. |
| column (столбец) | An implementation of an attribute or relationship in a table. |
| projection (проецирование) | The capability in SQL to choose the columns in a table that you want returned from a query. |
| null | A value that is unavailable, unassigned, unknown, or inapplicable. |
| column alias  (псевдоним столбца) | Renames a column heading. |
| Арифметическое выражение (Arithmetic expression) | A mathematical equation. |
| selection (выборка) | The capability in SQL to choose the rows in a table returned from a query. |
| SELECT | Retrieves information from the database |
| select clause | Specifies the columns to be displayed |
| from clause | Specifies the table containing the column listed in the select clause |
| SQL command (SELECT и FROM являются ключевыми словами) | An individual SQL command |
| clause (пункт) | Part of a SQL statement |
| composite clause (INTERSECT) | A combination of the two clauses |

Try It / Solve It

Now you know the basics of a SELECT statement, it’s time to practice what you've learned.

1. Write a SQL statement that demonstrates projection.

Ответ:

SELECT constraint\_name

1. Write a query that displays the last\_name and email addresses for all the people in the DJs on Demand d\_client table. The column headings should appear as “Client” and “Email Address.”

Ответ:

SELECT last\_name AS "Client", email AS "Email Address"

FROM d\_clients;

1. The manager of Global Fast Foods decided to give all employees at 5%/hour raise + a $.50 bonus/hour. However, when he looked at the results, he couldn't figure out why the new raises were not as he predicted. Ms. Doe should have a new salary of $7.59, Mr. Miller's salary should be $11.00, and Monique Tuttle should be $63.50. He used the following query. What should he have done?

SELECT last\_name, salary \*.05 +.50

FROM f\_staffs;

Ответ:

Он неправильно предположил, что, если ему нужно повысить ставку на 5%, он должен умножить на "0,05". Ставку следует умножить на "1,05" и округлить до двух цифр после запятой. По приоритету \*/+ - сгруппировано, где \*/ имеет более высокий приоритет, чем +.

Верный запрос:

SELECT last\_name, ROUND(salary\*1.05 +.50, 2) as "Salary"

FROM f\_staffs;

1. Which of the following would be the easiest way to see all rows in the d\_songs table?
2. SELECT id, title, duration, artist, type\_code
3. SELECT columns
4. SELECT \*
5. SELECT all
6. If tax = 8.5% \* car\_cost and license = car\_cost \* .01%, which value will produce the largest car payment?
7. Payment = (car\_cost \* 1.25) + 5.00 - (tax) - (license)
8. Payment = car\_cost \* 1.25 + 5.00 - (tax - license)
9. In the example below, identify the keywords, the clause(s), and the statement(s):

SELECT employee\_id, last\_name

FROM employees

Ответ:

Keywords:

SELECT employee\_id, last\_name

FROM employees;

Statement:

SELECT employee\_id, last\_name

FROM employees

Select Clause:

SELECT employee\_id, last\_name

From Clause:

FROM employees

1. Label each example as SELECTION or PROJECTION.
2. Please give me Mary Adam's email address. Ответ: SELECTION
3. I would like only the manager\_id column, and none of the other columns. Ответ: PROJECTION
4. Which of the following statements are true?
5. null \* 25 = 0;
6. null \* 6.00 = 6.00
7. null \* .05 = null
8. (null + 1.00) + 5.00 = 5.00
9. How will the column headings be labeled in the following example?

SELECT bear\_id bears, color AS Color, age “age”

FROM animals;

1. bears, color, age
2. BEARS, COLOR, AGE
3. BEARS, COLOR, age
4. Bears, Color, Age
5. Which of the following words must be in a SELECT statement in order to return all rows?
6. SELECT only
7. SELECT and FROM
8. FROM only
9. SELECT \* only