

MODUL TIK UNTUK SMA

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Mari Berbagi Ilmu Dengan Yang Lain

Pesan soal-soal matematika untuk SD, SMP dan SMA ?

Soal ulangan harian, ulangan mid, ulangan semester, soal-soal UAN dll.

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DATABASE ORACLE

KELAS XI -PRAKTIKUM

SQL STATEMENT

The SELECT statement retrieves information from the database. In its simplest form, a SELECT statement must include the following:

- A SELECT clause, which specifies the columns to be displayed
- A FROM clause, which specifies the table containing the columns listed in the SELECT clause

Contoh 1:

```
SELECT employee_id, first_name, last_name, salary
FROM employees;
```

Digunakan untuk menampilkan employee_id, first_name, last_name, salary dari tabel employees

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	SALARY
100	Steven	King	24000
101	Neena	Kochhar	17000
102	Lex	De Haan	17000

Contoh 2:

```
SELECT last_name, salary,
salary + 300
FROM employees;
```

ALIASES

An Alias is a way of renaming a column heading in the output.

There are several rules when using column aliases to format output.

A column alias:

- Renames a column heading
- Is useful with calculations
- Immediately follows the column name
- May have the optional AS keyword between the column name and alias
- Requires double quotation marks if the alias contains spaces, special characters or is casesensitive.

Contoh 1:

```
SELECT last_name AS name, commission_pct AS comm
FROM employees;
```

Contoh 2:

```
SELECT last_name "NAME", salary*12 AS "Annual Salary"
```

FROM employees;

Working with Columns, Characters, and Rows

DESCRIBE

Use the DESCRIBE (DESC) command to display the structure of a table.

Contoh:

DESC departments;

Table	Column	Data Type	Length
DEPARTMENTS	DEPARTMENT_ID	Number	-
	DEPARTMENT_NAME	Varchar2	30
	MANAGER_ID	Number	-
	LOCATION_ID	Number	-

CONCATENATION

Concatenation means to connect or link together in a series.

Contoh 1:

```
SELECT last_name || ' has a monthly salary of ' ||
salary || ' dollars' AS Pay
FROM employees;
```

Contoh 2:

```
SELECT last_name || ' has a ' || 12 || ' year salary of ' ||
salary*12 || ' dollars' AS Pay
FROM employees;
```

DISTINCT

In SQL, the DISTINCT keyword is used to eliminate duplicate rows.

```
select distinct(manager_id)
from employees;
```

Limit Rows Selected

When retrieving data from the database, you may need to limit the rows of data that are displayed. You can accomplish this using the WHERE clause. A WHERE clause contains a condition that must be met, and it directly follows the FROM clause in a SQL statement.

One important note: An alias cannot be used in the WHERE clause!

The syntax for the WHERE clause is:

```
WHERE column_name comparison_condition
column_names, constants, or list of values
```

In the example below, which column name is used in the WHERE clause? What comparison operator is used? Is "90" a column name or a constant?

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```
SELECT employee_id, last_name, job_id,
department_id
FROM employees
WHERE department_id = 90 ;
```

Comparison operators can be used in all of the following ways:

```
WHERE event_date = '01-JAN-04'
```

```
WHERE rental_fee >=2000
```

```
WHERE cd_title = 'White Rose'
```

COMPARISON OPERATORS

BETWEEN...AND

The BETWEEN...AND operator is used to select and display rows based on a range of values. When used in conjunction with the WHERE clause, the BETWEEN...AND condition will return a range of values between the specified lower and upper limits and include both values.

Using BETWEEN...AND is the same as using the following expression:

```
WHERE salary >= 2500 AND salary <= 3500
```

IN

The IN condition is also known as the "membership condition." It is used to test whether a value is in a specified set of values. For example, IN could be used to identify students whose identification numbers are 2349, 7354, or 4333 or people whose international phone calling code is 1735, 82, or 10.

The example selects song titles in type_code 77 or 12.

```
SELECT title, type_code
FROM d_songs
WHERE type_code IN ( 77, 12 );
```

LIKE

The LIKE condition allows you to select rows that match either characters, dates or number patterns.

Two symbols -- the (%) and the underscore (_) -- called wildcard characters, can be used to construct a search

The percent (%) symbol is used to represent any sequence of zero or more characters. The underscore (_) symbol is used to represent a single character.

```
SELECT last_name
FROM employees
WHERE last_name LIKE '_o%';
```

Which of the following last names could have been

returned from the above query?

1. Sommersmith

2. Oog

3. Fong

4. Mo

If you said 1, 2, 3 and 4 you are correct!

Logical Comparisons and Precedence Rules

Conditional operators such as AND, NOT and OR make these

types of requests easy to do.

```
SELECT last_name||' '||salary*1.05
As "Employee Raise"
FROM employees
WHERE department_id IN(50,80)
AND first_name LIKE 'C%'
OR last_name LIKE '%s%'
```

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Rules of Precedence or What Happens First?

ORDER	OPERATORS
1	Arithmetic + - * /
2	Concatenation
3	Comparison <, <=, >, >=, <>
4	IS (NOT) NULL, LIKE, (NOT) IN
5	(NOT) BETWEEN
6	NOT
7	AND
8	OR

Sorting Rows

SQL uses the ORDER BY clause following the FROM clause to order data. The ORDER BY clause can specify several ways in which to order rows returned in a query. The DJ on Demand example uses the ORDER BY clause to order the years in ascending (default) order.

```
SELECT employee_id, first_name
FROM employees
WHERE employee_id < 105
ORDER BY last_name;
```

Introduction to Functions – Single Row Functions

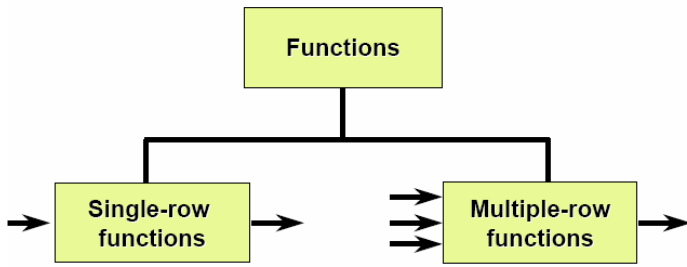
FUNCTIONS

Functions are programs that do an action on a value or column.

FUNCTIONS

Functions can be of two distinct types:

- Single-Row
- Multiple-Row2



This lesson covers the following single-row functions:

Character, Number, Date, Conversion

MULTI-ROW FUNCTIONS

Multi-row functions operate on sets of rows to give one result per group.

- AVG
- COUNT
- MAX
- MIN
- SUM

```
SELECT MAX(salary), MIN(salary), AVG(salary)
FROM employees;
```

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&&&