8/8/25

EXERCISE-4

Writing Basic SQL SELECT Statements

OBJECTIVES

After the completion of this exercise, the students will be able to do the following

- List the capabilities of SQL SELECT Statement
- Execute a basic SELECT statement

Capabilities of SQL SELECT statement

A SELECT statement retrieves information from the database. Using a select statement, we can perform

- ✓ Projection: To choose the columns in a table
- ✓ Selection: To choose the rows in a table
- ✓ Joining: To bring together the data that is stored in different tables

Basic SELECT Statement

Syntax

SELECT *|DISTINCT Column_ name| alias
FROM table_name;

NOTE:

DISTINCT—Suppr
ess the duplicates.
Alias—gives selected columns different headings.

Example: 1

SELECT * FROM departments;

Example: 2

SELECT location_id, department_id FROM departments;

Writing SQL Statements

- SQL statements are not case sensitive
- SQL statements can be on one or more lines.
- Keywords cannot be abbreviated or split across lines
- Clauses are usually placed on separate lines
- Indents are sued to enhance readability

Using Arithmetic Expressions

Basic Arithmetic operators like *, /, +, -can be used

Example:1

SELECT last_name, salary, salary+300 FROM employees;

Example:2

SELECT last_name, salary, 12*salary+100 FROM employees;

The statement is not same as
SELECT last_name, salary, 12*(salary+100) FROM employees;

Example:3

SELECT last_name, job_id, salary, commission_pct FROM employees;

Example:4

SELECT last_name, job_id, salary, 12*salary*commission_pct FROM employees;

Using Column Alias

- To rename a column heading with or without AS keyword.

Example:1
SELECT last_name AS Name
FROM employees;
Example: 2
SELECT last_name "Name" salary*12 "Annual Salary "
FROM employees;

Concatenation Operator

- Concatenates columns or character strings to other columns
- Represented by two vertical bars (||)
- Creates a resultant column that is a character expression

Example:
SELECT last_name||job_id AS "EMPLOYEES JOB" FROM employees;

Using Literal Character String

- A literal is a character, a number, or a date included in the SELECT list.
- Date and character literal values must be enclosed within single quotation marks.

Example:

SELECT last_name||'is a'||job_id AS "EMPLOYEES JOB" FROM employees;

Eliminating Duplicate Rows

- Using DISTINCT keyword.

Example:
SELECT DISTINCT deparment_id FROM employees;

Displaying Table Structure

- Using DESC keyword.

Syntax
DESC table_name;
Example:
DESC employees;

Find the Solution for the following:

True OR False

1. The following statement executes successfully.

Identify the Errors

SELECT employee_id, last_name
sal*12 ANNUAL SALARY

FROM employees;

Queries

2. Show the structure of departments the table. Select all the data from it.

desc department;

3. Create a query to display the last name, job code, hire date, and employee number for each employee, with employee number appearing first.

Selet employee_id, last_name, job_id, hire_date from employee;

4. Provide an alias STARTDATE for the hire date.

Select hire_data AS STARTDATE from Employee;

5. Create a query to display unique job codes from the employee table.

Select distinct job_id from employee;

6. Display the last name concatenated with the job ID , separated by a comma and space, and name the column EMPLOYEE and TITLE.

Select CONCAT_cos(',', l_name, job code) as "EMPLOYEE AND TITLE" from employee.

7. Create a query to display all the data from the employees table. Separate each column by a comma. Name the column THE_OUTPUT.

Selet CONCAT_WS(',', employee_number, l_name, fe_name, job_code, hire_data) AS THE_OUTPUT from employee;

Evaluation Procedure	Marks awarded
Query(5)	5
Execution (5)	5
Viva(5)	5
Total (15)	15
Faculty Signature	

Practice Questions

COMPARISON OPERATORS

1. Who are the partners of DJs on Demand who do not get an authorized expense amount?

```
SELECT Partner_name FROM d_partners WHERE
authorized_expense is NULL;
```

2. Select all the Oracle database employees whose last names end with "s". Change the heading of the column to read Possible Candidates.

```
SELECT last_name AS "Possible Candidates" FROM
employees WHERE last_name LIKE '%s';
```

3. Which statement(s) are valid?

a. WHERE quantity <> NULL;
b. WHERE quantity = NULL;
c. WHERE quantity IS NULL;
d. WHERE quantity != NULL;

4. Write a SQL statement that lists the songs in the DJs on Demand inventory that are type code 77, 12, or 1.

```
SELECT song_title d_songs WHERE type_code IN
(77, 12, 1);
```

Logical Comparisons and Precedence Rules

1. Execute the two queries below. Why do these nearly identical statements produce two different results? Name the difference and explain why.

```
SELECT code, description
FROM d_themes
WHERE code >200 AND description IN('Tropical', 'Football', 'Carnival'); SELECT
code, description
FROM d_themes
   WHERE code >200 OR description IN('Tropical', 'Football', 'Carnival');
```

Query 1: Returns only rows where both conditions are true (code > 200 and matching description)

Query 2: Returns (rows where either condition is true (code > 200 or description matches).

2. Display the last names of all Global Fast Foods employees who have "e" and "i" in their last names.

```
SELECT last_name FROM f_staffs WHERE last_name
LIKE '%e%' AND last_name LIKE '%i%';
```

3. "I need to know who the Global Fast Foods employees are that make more than $6.50/hour and their position is not order taker."

```
SELECT first_name, last_name, staff_type, salary FROM f_staffs
WHERE salary >6.50 AND LOWER (staff_type) <> lorder
                                              taker;
```

4. Using the employees table, write a query to display all employees whose last names start with "D" and have "a" and "e" anywhere in their last name.

```
SELECT last_name FROM employees WHERE last_name
LIKE 'D%' AND last_name LIKE '%a%' AND
last_name LIKE '%e%';
```

5. In which venues did DJs on Demand have events that were not in private homes?

```
SELECT DISTINCT venue_name FROM d_events WHERE
LOWER (venue_type) <>'private home';
```

6. Which list of operators is in the correct order from highest precedence to lowest precedence?

a. AND, NOT, OR

b. NOT, OR, AND

c. NOT, AND, OR

For questions 7 and 8, write SQL statements that will produce the desired output.

7. Who am I?

I was hired by Oracle after May 1998 but before June of 1999. My salary is less than $8000 per month, and I have an "en" in my last name.

```
SELECT first_name, last_name, hire_date, Salary FROM employees
WHERE hire_date > TO_DATE ('31-MAY-1998', 'DD-MON-YYYY') AND
hire_date < TO_DATE ('01-JUN-1999', 'DD-MON-YYYY' AND Salary
< 8000 AND last_name LIKE '%en%';
```

8. What's my email address?

Because I have been working for Oracle since the beginning of 1996, I make more than $9000 per month. Because I make so much money, I don't get a commission

```
SELECT first_name, last_name, email, hire_date, Salary
FROM employees WHERE hire_date >= TO_DATE ('01-JAN-1996',
'DD-MM-YYYY') AND Salary > 9000 AND Commission_pct
IS NULL;
```

Evaluation Procedure	Marks awarded
Practice Evaluation (5)	
Viva(5)	
Total (10)	
Faculty Signature	