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

Select employee_id, last_name, Sal * 12 AS "Annual Salary"
from employees;

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

desc database_name;

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

Select employee_id, last_name, job_id, hire_date from employees.

4. Provide an alias STARTDATE for the hire date.

Select hire_data As Startedate from employees;

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

```
Select distinct job_id from employees;
```

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

```
Select last_name || ',' || job_id as "employee and title"
from employees;
```

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

```
Select employee_id || ',' || last_name || ',' || job_id || ',' || hire_date
As "The_output" from employees;
```

Evaluation Procedure	Marks awarded
Query(5)	5
Execution (5)	5
Viva(5)	5
Total (15)	15
Faculty Signature	8/9/25

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 djs_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 oracle_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 from djs_inventory 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');

There is a difference in the code where code contains AND and another code contains OR.

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

Select last_name from gff_employees where hourly_rate > 6.50 AND lastname like '%e%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 last_name employee_name from gff_employees where hourly_rate > 6.50 and position <> 'order 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 lastname 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 from djs_events where venue <> '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
✓ 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 employee_name from oracle_employee where hire_data>
'1998-05-31' and hire_date < '1999-06-01' 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 email from oracle_employees where hire_date <= '1996-0-01'
and Salary > 9000 and commission is NULL;
```

Evaluation Procedure	Marks awarded
Practice Evaluation (5)	5
Viva(5)	5
Total (10)	10
Faculty Signature	8/9/25