

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 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

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Basic SELECT Statement

Syntax

```
SELECT *|DISTINCT Column_name| alias  
FROM table_name;
```

NOTE:

DISTINCT—Suppress 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 used 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.

Eliminating Duplicate Rows

- Using DISTINCT keyword.

Example:

SELECT DISTINCT department_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.
3. Create a query to display the last name, job code, hire date, and employee number for each employee, with employee number appearing first.
4. Provide an alias STARTDATE for the hire date.
5. Create a query to display unique job codes from the employee table.
6. Display the last name concatenated with the job ID , separated by a comma and space, and name the column EMPLOYEE and TITLE.
7. Create a query to display all the data from the employees table. Separate each column by a comma. Name the column THE_OUTPUT.



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