

## 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 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.

#### Example:

SELECT last\_name||' is a '||job\_id AS "EMPLOYEES JOB" FROM employees;

### 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

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 employee;

4. Provide an alias STARTDATE for the hire date.

Select hire\_date AS STARTDATE 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	<i>D. M.</i> 8/9/25