

College Of Engineering Trivandrum

Application Software Development Lab



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Cycle 1

Exp No 1

1 Aim

Introduction of SQL and review basic SQL commands.

2 What is SQL

SQL is a programming language that enables us to work with databases. SQL stands for Structured Query Language. Essentially, it's a language that allows communication with databases in order to manage all the data they contain. SQL is considered a fourth-generation language (4GL), whereas Java and C++ are third-generation languages (3GLs).

Some features of SQL are:

- SQL can execute queries against a database
- SQL can retrieve data from a database
- SQL can insert records in a database
- SQL can update records in a database
- SQL can delete records from a database
- SQL can create new databases
- SQL can create new tables in a database
- SQL can create stored procedures in a database
- SQL can create views in a database
- SQL can set permissions on tables, procedures, and views

3 Review of Commands

3.1 SELECT

SELECT statement is used to select data from a database. The data returned is stored in a result table, called the result-set.

Syntax

```
SELECT column1, column2, ...  
FROM table_name;
```

3.2 WHERE

WHERE clause is used to filter records. The WHERE clause is used to extract only those records that fulfill a specified condition.

Syntax

```
SELECT column1, column2, ...  
FROM table_name  
WHERE condition;
```

3.3 AND, OR and NOT

The WHERE clause can be combined with AND, OR, and NOT operators. The AND and OR operators are used to filter records based on more than one condition:

- The AND operator displays a record if all the conditions separated by AND are TRUE.
- The OR operator displays a record if any of the conditions separated by OR is TRUE.
- The NOT operator displays a record if the condition(s) is NOT TRUE.

Syntax

```
SELECT column1, column2, ...  
FROM table_name  
WHERE condition1 AND condition2 AND condition3 ...;
```

```
SELECT column1, column2, ...  
FROM table_name  
WHERE condition1 OR condition2 OR condition3 ...;
```

```
SELECT column1, column2, ...  
FROM table_name  
WHERE NOT condition;
```

3.4 ORDER BY

ORDER BY keyword is used to sort the result-set in ascending or descending order. The ORDER BY keyword sorts the records in ascending order by default. To sort the records in descending order, use the DESC keyword.

Syntax

```
SELECT column1, column2, ...  
FROM table_name  
ORDER BY column1, column2, ... ASC|DESC;
```

3.5 INSERT INTO

INSERT INTO statement is used to insert new records in a table.

Syntax

```
INSERT INTO table_name (column1, column2, column3, ...)  
VALUES (value1, value2, value3, ...);
```

-- OR

```
INSERT INTO table_name  
VALUES (value1, value2, value3, ...);
```

3.6 UPDATE

UPDATE statement is used to modify the existing records in a table.

Syntax

```
UPDATE table_name  
SET column1 = value1, column2 = value2, ...  
WHERE condition;
```

3.7 DELETE

UPDATE statement is used to delete existing records in a table.

Syntax

```
DELETE FROM table_name WHERE condition;
```

4 Result

Basic SQL commands were reviewed and their syntax studied.