Task 2: Commands In SQL

DDL:

DDL (Data Defination Languages) in SQL is used to define and manage the structure of database objects like tables, schemas, and indexes. DDL Commands deal with how the data is stored not the data itself.

Command:

CREATE, ALTER, DROP, TRUNCATE, RENAME.

- **CREATE:**

It CREATES a new table, database, index or other Objects.

Example:

```
CREATE TABLE STUDENTS (Roll_NO INT, Name VARCHAR (50));
```

- **ALTER:**

Modifies an existing database object, such as adding (or) deleting columns in a table.

Example:

```
ALTER TABLE students ADD AGE INT;
```

- **Drop:**

Deletes an existing object like a table (or) database permently.

- **Example:**

```
DROP TABLE students;
```

- **Truncate:**

Removes all rows from a table without deleting the table, structure.

output:

STUDENTS

rollno	Name	AGE
empty		

STUDENTS

ROLLNO	Name	AGE
empty		

STUDENTS

ROLLNO	Name	AGE
101	Rahul	

Student

Student_ID	Name
empty	

Department

DeptID	Dept_code
empty	

. Example:

TRUNCATE TABLE STUDENTS;

• RENAME:

Changes the name of a database.

. Example:

RENAME TABLE student to Pupils;

DML:

DML commands are used to mainpulate the data stored in the database. These commands work on the row (records) of a table.

Commands in DML:

• INSERT
• UPDATE
• DELETE

• INSERT:

Add new row (records) to tables.

. Example:

INSERT INTO students (Roll_No, Name) values (101, 'Rahul');

• UPDATE:

Modifies existing data in a table.

Ex:

UPDATE outcomes SET • Name = 'ROJ' where Roll_No = 101;

. Delete:

Removes one (or) more rows from a table.

Ex:

DELETE from students where Roll_No = 101;

2(c)

1. NOT NULL Constraints:

Definition: The NOT NULL Constraints ensures that a Column Cannot Contain NULL values. It enforces the rule that every row must have a value in this Column.

Oracle SQL Codes:

```
CREATE TABLE Employee (Emp_ID Number(5), Name
VARCHAR(50) NOT NULL);
```

Explanation: The Name Column must always have a value. If you try to insert a row without a name, Oracle will throw an error.

2. Unique Constraints:

Defination: The Unique Constraint ensures that all values in a Column are different. It allows NULL values, but only if the Column has a Single UNIQUE Constraints.

Oracle SQL Code:

```
Create Table Department (Dept ID Number(5), Dept Code
VARCHAR2(10) UNIQUE);
```

Explanation:- No two departments can have the same Dept code. It helps maintain data uniqueness in Columns like email, username, etc.

3. Primary key Constraints:

Def: The Primary key Constraints uniquely identifies each record in a table. It is a Combination of NOT NULL and UNIQUE. A table can have only one

Primary Key.

Oracle SQL Code:

Create Table Student (Student ID Number(5), Primary key, Name VARCHAR(50));

Explanation: The Student ID must be unique and not NULL. It's the main identifier for each student.

4. Foreign key Constraint:

Def: The foreign key constraint is used to link two tables. It enforces a relationship between the foreign key column and the primary key in another table.

Oracle SQL Code:

Create Table ~~Orders~~ Course (~~Order~~ Course_ID Number(5), ~~Status~~ Course Name VARCHAR (20) Default Pending));

Explanation:

The Course ID in enrollement must exist in the Course table. You cannot insert invalid Course ID.

5. CHECK Constraints:

The CHECK Constraints limits the values that even be inserted into a column. It ensures data follows specific rules.

Oracle SQL Code:

Create Table ~~Pro~~ Product (Product ID Number(5), Price Number(8,2) CHECK (price > 0));

Explanation: only Positive values are allowed for Price. Negative (or) zero values will cause an error.

6. Default Constraints:

Def: The Default Constraints assign a default value to a column if no value is provided during ~~order~~ insertion.

Oracle SQL Code:

Create Table Orders (order ID Number(5), status VARCHAR(20) Default Pending));

Explanation:

If status is not specified while inserting a row, oracle will automatically insert Pending.

VEL TECH - CSE	
EX NO.	2
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	20
SIGN WITH DATE	8/8/24

Result:

Thus, the SQL Commands line is successfully executed.