



Vidyavardhini's College of Engineering and Technology

Department of Artificial Intelligence & Data Science

AY: 2024-25

Class:	SE	Semester:	IV
Course Code:	CSL402	Course Name:	Database Management System Lab

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Roll No. :	16
Experiment No.:	3
Title of the Experiment:	Create a database using Data Definition Language(DDL) and apply integrity constraints for the specified system
Date of Performance:	23/01/25
Date of Submission:	30/01/25

Evaluation

Performance Indicator	Max. Marks	Marks Obtained
Performance	5	
Understanding	5	
Journal work and timely submission	10	
Total	20	

Performance Indicator	Exceed Expectations (EE)	Meet Expectations (ME)	Below Expectations (BE)
Performance	4-5	2-3	1
Understanding	4-5	2-3	1
Journal work and timely submission	8-10	5-8	1-4

Checked by

Name of Faculty : Ms. Neha Raut

Signature :

Date:



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Experiment No 3

Aim :- Write a query to create tables for each relation in the relational schema of experiment no.2. Apply drop and alter commands on those tables.

Objective :- To learn commands of Data Definition Language(DDL) to create and define databases, and also learn to apply integrity constraints for the specified system.

Theory:

DDL Commands & Syntax :-

Data Definition Language(DDL) is a subset of SQL and a part of DBMS(Database Management System). DDL consist of Commands to commands like CREATE, ALTER, TRUNCATE and DROP. These commands are used to create or modify the tables in SQL.

DDL Commands :

In this section, We will cover the following DDL commands as follows.

1. Create
2. Alter
3. truncate
4. drop
5. Rename

CREATE :

This command is used to create a new table in SQL. The user has to give information like table name, column names, and their data types.

Syntax -CREATE TABLE table_name

```
(  
column_1 datatype,  
column_2 datatype,  
column_3 datatype,  
....  
);
```



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ALTER :

This command is used to add, delete or change columns in the existing table. The user needs

to know the existing table name and can add, delete or modify tasks easily.

Syntax –

ALTER TABLE table_name

ADD column_name datatype;

TRUNCATE :

This command is used to remove all rows from the table, but the structure of the table still

exists.

Syntax –

TRUNCATE TABLE table_name;

DROP :

This command is used to remove an existing table along with its structure from the Database.

Syntax –

DROP TABLE table_name;

RENAME :

It is possible to change name of table with or without data in it using simple RENAME command. We can rename any table object at any point of time.

Syntax –

RENAME TABLE <Table Name> To <New_Table_Name>;

Implementation:

CREATE:

Code:



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create database Movies;

use Movies;

create table Customers(

 user_id int,

 email varchar(255) UNIQUE NOT NULL,

 phone_number varchar(15),

 first_name varchar(255) NOT NULL,

 primary key (user_id)

);

Output:

user_id	email	phone_number	first_name
NULL	NULL	NULL	NULL

ALTER:

Code:

alter table Customers modify column phone_number varchar(10);

select * from Customers;

Output:

user_id	email	phone_number	first_name
NULL	NULL	NULL	NULL

```
create table Movie (
```

movie_id int,**title varchar(255) NOT NULL,****genre varchar(100),****duration int,****release_date** date,

description text,

primary key (movie_id)

);

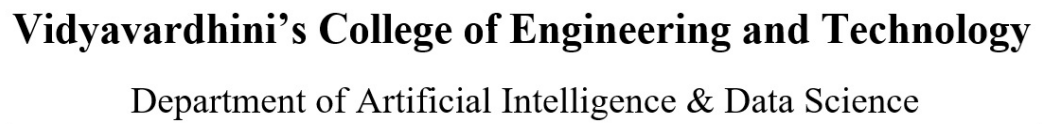
```
alter table Movie add column Movie_lang varchar(255);
```

Output:

[illegible]Movie 6

TRUNCATE :

[illegible]

**TRUNCATE TABLE Customer;**[illegible]**DROP TABLE Customer;**

102	21:30:40	DROP Table Customer	0 row(s) affected
103	21:30:54	select * from Customer LIMIT 0, 50000	Error Code: 1146. Table

RENAME TABLE Customer to Customers;

Result Grid

Filter Rows:

Edit:

Export/Import:

	user_id	email	phone_number	first_name	middle_name	last_name	DOB	Address
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Customers 2



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Conclusion:

In this experiment, we created a relational database using DDL commands and applied essential integrity constraints like PRIMARY KEY, FOREIGN KEY, and NOT NULL. This ensured data consistency and proper relationships between entities. The exercise provided a clear understanding of database design and integrity enforcement in DBMS.

1. Explain DDL commands with syntax.

Ans.

1 CREATE Command

Purpose: Used to create a new table, database, or other database objects.

The CREATE command is used to create a new database, table, index, or other database objects. It defines the structure of the table by specifying column names, data types, and constraints. Once executed, the table or database is permanently created unless explicitly dropped.

♦ Syntax:

```
CREATE TABLE table_name (  
    column1 datatype constraints,  
    column2 datatype constraints,  
    ...  
);
```

2 ALTER Command

- The ALTER command allows modification of an existing table structure without deleting its data.
- It can be used to:

- Add a new column to a table.
- Modify the datatype of an existing column.
- Delete a column from the table.

- This command is useful when changes need to be made to the schema without losing existing records.

♦ Syntax (Adding a Column): ALTER TABLE table_name ADD column_name datatype;



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- ♦ **Syntax (Modifying a Column):** ALTER TABLE table_name MODIFY column_name new_datatype;
- ♦ **Syntax (Dropping a Column):** ALTER TABLE table_name DROP COLUMN column_name;

3 DROP Command

The DROP command is used to remove an existing database object, such as a table, database, or index.

When a table is dropped:

- The entire structure and data are permanently deleted.
- The operation cannot be undone unless there is a backup.

It is useful when a table or database is no longer needed.

- ♦ **Syntax:** DROP TABLE table_name;

4 TRUNCATE Command

Purpose: Deletes all records from a table but retains the table structure for future use.

- ♦ **Syntax:** TRUNCATE TABLE table_name;

5 RENAME Command

The RENAME command is used to change the name of a table.

It helps in renaming tables without affecting the stored data.

Commonly used when restructuring the database or for better table naming conventions.

- ♦ **Syntax:** RENAME TABLE old_table_name TO new_table_name;



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2. Show results of operations performed.

Ans.

user_id	email	phone_number	first_name
NULL	NULL	NULL	NULL

movie_id	title	genre	duration	release_date	description	Movie_lang
NULL	NULL	NULL	NULL	NULL	NULL	NULL

101	21:30:37	create table Customer (user_id, email varchar(255), phone_number, first_name)	Error Code: 1146. Table
102	21:30:40	DROP Table Customer	0 row(s) affected
103	21:30:54	select * from Customer LIMIT 0, 50000	Error Code: 1146. Table