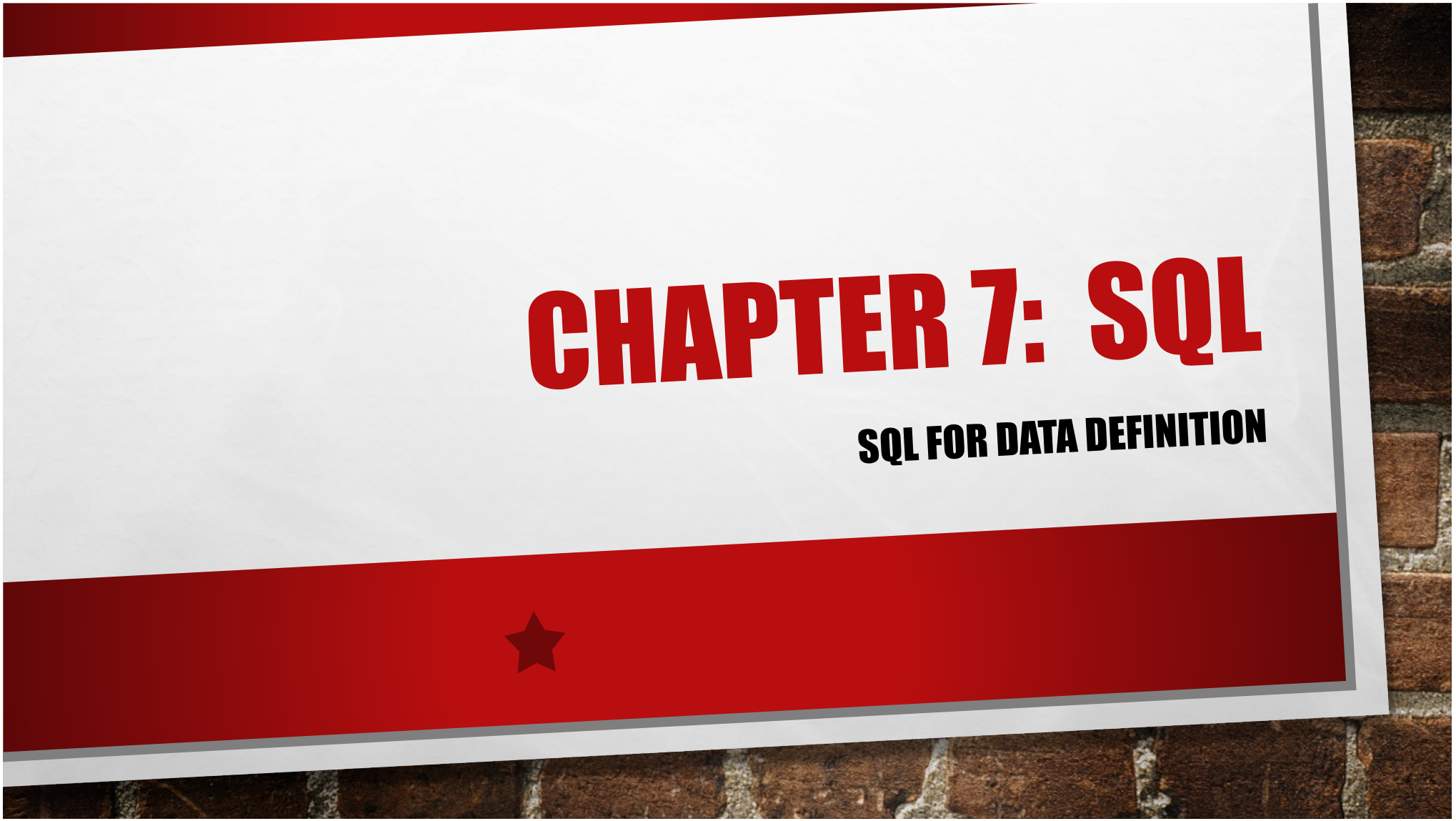
CHAPTER 7: SQL
SQL FOR DATA DEFINITION

CREATE DATABASE

To create a database : we use the CREATE DATABASE statement as shown in the following syntax:

CREATE DATABASE databasename;
CREATE DATABASE StudentAttendance;

To know the names of **existing databases**, we use the statement SHOW DATABASES.

From the listed databases, we can **select the database** to be used. Once the database is selected, we can proceed with creating tables or querying data.

```
USE StudentAttendance;
```

Initially, the created database is empty. It can be checked by using the **show tables** statement that lists names of all the tables within a database.

SHOW TABLES;

CREATE TABLE

We use the CREATE TABLE statement.

Syntax:

```
CREATE TABLE tablename(
attributename1 datatype constraint,
attributename2 datatype constraint,
:
attributenameN datatype constraint);
```

CREATE TABLE

Example : Create table STUDENT.

```
mysql> CREATE TABLE STUDENT(
    -> RollNumber INT,
    -> SName VARCHAR(20),
    -> SDateofBirth DATE,
    -> GUID CHAR (12),
    -> PRIMARY KEY (RollNumber));
```

DESCRIBE TABLE

We can view the structure of an already created table using the

DESCRIBE statement or DESC statement.

Syntax:

DESCRIBE tablename;

mysql> DESCRIBE STUDENT;

PRACTICE

Create the other two relations GUARDIAN and ATTENDANCE as per data types given. Do not add any constraint in these two tables.

ALTER TABLE

(A) Add primary key to a relation

```
mysql> ALTER TABLE GUARDIAN ADD PRIMARY KEY
        (GUID);
```

ALTER TABLE

```
mysql> ALTER TABLE ATTENDANCE
    -> ADD PRIMARY KEY(AttendanceDate, RollNumber);
```

ALTER TABLE

(B) Add foreign key to a relation

Syntax:

ALTER TABLE table_name ADD FOREIGN KEY(attribute name)

REFERENCES referenced_table_name (attribute name);

ALTER TABLE

```
mysql> ALTER TABLE STUDENT
    -> ADD FOREIGN KEY(GUID) REFERENCES
    -> GUARDIAN(GUID);
```

PRACTICE

1. Add foreign key in the ATTENDANCE table to identify referencing and referenced tables.

2. Name foreign keys in table ATTENDANCE and STUDENT. Is there any foreign key in table GUARDIAN.

ALTER TABLE

(C) Add constraint UNIQUE to an existing attribute

Syntax:

ALTER TABLE table_name ADD UNIQUE (attribute name);

ALTER TABLE

```
mysql> ALTER TABLE GUARDIAN
    -> ADD UNIQUE(GPhone);
```

ALTER TABLE

(D) Add an attribute to an existing table

Syntax:

ALTER TABLE table_name ADD attribute name DATATYPE;

ALTER TABLE

```
mysql> ALTER TABLE GUARDIAN
    -> ADD income INT;
```

ALTER TABLE

(E) Modify datatype of an attribute

Syntax:

ALTER TABLE table_name MODIFY attribute DATATYPE;

ALTER TABLE

```
mysql> ALTER TABLE GUARDIAN
    -> MODIFY GAddress VARCHAR(40);
```

ALTER TABLE

(F) Modify constraint of an attribute

Syntax:

ALTER TABLE table_name MODIFY attribute DATATYPE NOT NULL;

ALTER TABLE

```
mysql> ALTER TABLE STUDENT -> MODIFY SName
       VARCHAR(20) NOT NULL;
```

ALTER TABLE

(G) Add default value to an attribute

Syntax:

ALTER TABLE table_name MODIFY attribute DATATYPE DEFAULT default_value;

ALTER TABLE

```
mysql> ALTER TABLE STUDENT -> MODIFY SDateofBirth
       DATE DEFAULT ‘2000-05- 15’;
```

ALTER TABLE

(H) Remove an attribute

Syntax:

ALTER TABLE table_name DROP attribute;

mysql> ALTER TABLE GUARDIAN DROP income;

ALTER TABLE

(I) Remove primary key from the table

Syntax:

ALTER TABLE table_name DROP PRIMARY KEY;

mysql> ALTER TABLE GUARDIAN DROP PRIMARY KEY;

DROP STATEMENT

Syntax to drop a table:

DROP TABLE table_name;

Syntax to drop a database:

DROP DATABASE database_name;

THANK YOU