MySQL Constraints

To ensure data accuracy and integrity inside the table. It also helps to limit the type of data that will be inserted inside the table

Types of MySQL Constraints

Constraints in MySQL is classified into two types:

1.Column Level Constraints: applied only to the single column that limits the type of particular column data.

2.Table Level Constraints: applied to the entire table.

```
CREATE TABLE new_table_name (
    col_name1 datatype constraint,
    col_name2 datatype constraint,
    col_name3 datatype constraint,
    .....
);
```

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Constraints used in MySQL

1. NOT NULL: This constraint specifies that the column cannot have NULL or empty values.
2. CHECK: It controls the value in a particular column. It ensures that the inserted value in a column must be satisfied with the given condition.
3. DEFAULT: This constraint is used to set the default value for the particular column where we have not specified any value
4. PRIMARY KEY: This constraint is used to identify each record in a table uniquely.
5. AUTO_INCREMENT: This constraint automatically generates a unique number whenever we insert a new record into the table.
6. UNIQUE:This constraint ensures that all values inserted into the column will be unique.
7. ENUM:The ENUM data type in MySQL is a string object. It allows us to limit the value chosen from a list of permitted values in the column specification at the time of table creation.
8. FOREIGN KEY:A foreign key column matches the primary key field of another table

Import CSV File in Database/Table

A CSV stands for **comma-separated values**, which is a plain text file that contains the list of data

A CSV file cannot allow saving formulas in this format

Structure of CSV File

Name, Email, Mobile, Address

JAMICA, JAMICA@gmail.com, 546-928-9876, 123 Park Street

Ravan, ravan@gmail.com, 123-348-5678, 321 Fake Avenue

To import a CSV file, we will use the **LOAD DATA INFILE** statement

We have to ensure the following things before importing a file into the database table:

- An empty table where the data from the file will be imported.
- A CSV file that matches the order, number of columns, and data type in each column of the table.
- The user account connected with the database server in MySQL has a FILE and INSERT privileges.

```
CREATE TABLE Address_Book (
    ID int NOT NULL PRIMARY KEY AUTO_INCREMENT,
      Name varchar(35) NOT NULL,
    Email varchar(35),
    Mobile varchar(15),
    Address varchar(45)
);
```

The following **address_book.csv** file contains the first line as column headings, and other lines are the data to be inserted into the table

```
ID, Name, Email, Mobile, Address
1, "Jorge Stephen", "jorge@gmail.com", "546-329-9876", "123 Park Street"
2, "Peter", "peter@gmail.com", "123-786-5678", "321 Fake Avenue"
3, "Michael Clark", "clark@gmail.com", "543-346-5988", "321 Park Avenue"
4, "James Franklin", "james@gmail.com", "890-798-5448", "321 Fake Avenue"
```

```
LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/address_book.csv'
INTO TABLE address_book
FIELDS TERMINATED BY ','
OPTIONALLY ENCLOSED BY ""
LINES TERMINATED BY '\r\n'
IGNORE 1 ROWS;
```

--TO EXPORT DATA INTO CSV

```
SELECT ID, Name, Email, Mobile, Address FROM address_book
INTO OUTFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/employee_backup.csv'
FIELDS ENCLOSED BY '"'
TERMINATED BY ';'
ESCAPED BY '"'
LINES TERMINATED BY '\r\n';
```

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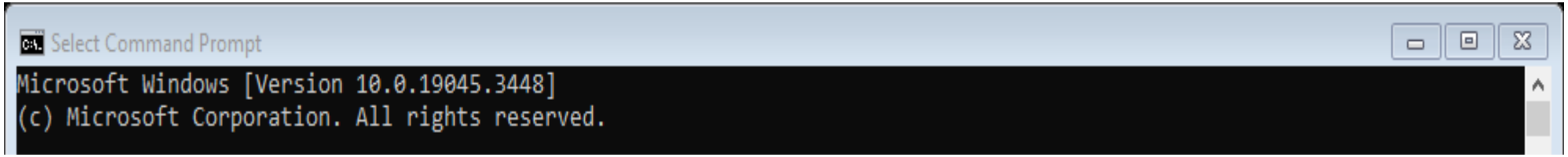
MySQL Export Database

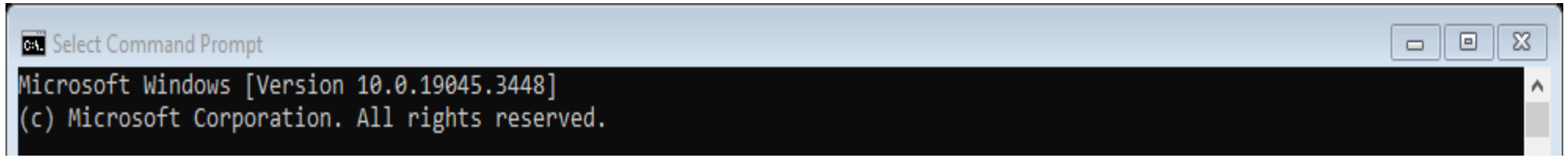


CD C:\Program Files\MySQL\MySQL Server 8.0\bin

C:\Program Files\MySQL\MySQL Server 8.0\bin>mysqldump -u root -p amazon > D:\test.sql

Enter password: ********

MySQL Import Database



C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql -u root -p < D:/mysqlsampledatabase.sql

C:\Program Files\MySQL\MySQL Server 8.0\bin>mysqldump -u root -p amazon < D:\test.sql

Enter password: ********

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