**EXPERIMENT 4 Date: 3rd February 2023**

**TITLE:** **DDL (Data Definition Language) commands with Data Constraints**

**Objective:** To understand the concept of data constraints that is enforced on data being stored in the table. Focus on Primary Key, Foreign Key and constraints.

1. **Create table AUTHOR = {Author\_ID, Lastname, Firstname, Email, City, Country}**

**Constraints:**

* **Author\_ID – text data type, 5 characters, primary key**
* **Lastname – text data type, 15 characters, not null**
* **Firstname – text data type, 15 characters, not null**
* **Email – text data type, 40 characters,**
* **City – text data type, 15 characters,**
* **Country – text data type, 15 characters**

**Query:**

CREATE TABLE AUTHOR (

AUTHOR\_ID VARCHAR(5) PRIMARY KEY,

LASTNAME VARCHAR(15),

FIRSTNAME VARCHAR(15),

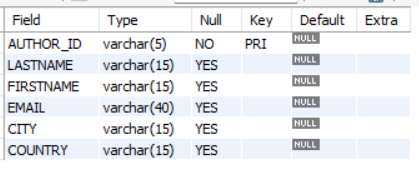
EMAIL VARCHAR(40),

CITY VARCHAR(15),

COUNTRY VARCHAR(15)

);

DESC AUTHOR;



1. **Create Table BOOK = {Book\_ID, Book\_Title, Copies}**

**Constraints:**

* **Book\_ID – text data type, 5 characters Primary Key Start With Character B**
* **Book\_Title - Text data Type Not Null**
* **Copies- No.of copies Data Type int always greater the 2**

**Query:**

CREATE TABLE BOOK (

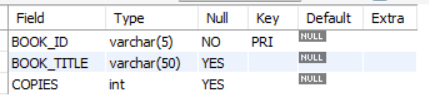
BOOK\_ID VARCHAR(5) PRIMARY KEY CHECK(BOOK\_ID LIKE "B%"),

BOOK\_TITLE VARCHAR(50),

COPIES INT CHECK(COPIES>2)

);

DESC BOOK;



1. **Create table AUTHOR\_LIST = {Author\_ID , Book\_ID , Role}**

**Constraints:**

* **Author\_ID – text data type, 5 characters, referenced by Author\_ID from AUTHOR table**
* **Book\_ID – text data type, 5 characters, referenced by Book\_ID from BOOK table**
* **Role – text data type, 15 characters**
* **and primary key is: Author\_ID, Book\_ID**

**Query:**

CREATE TABLE AUTHOR\_LIST (

AUTHOR\_ID VARCHAR(5),

BOOK\_ID VARCHAR(5),

ROLE VARCHAR(15),

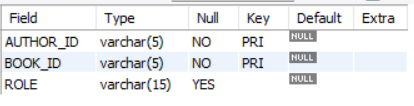
PRIMARY KEY (AUTHOR\_ID, BOOK\_ID),

FOREIGN KEY (AUTHOR\_ID) REFERENCES AUTHOR(AUTHOR\_ID),

FOREIGN KEY (BOOK\_ID) REFERENCES BOOK(BOOK\_ID)

);

DESC AUTHOR\_LIST;



1. **Add four records in each tables AUTHOR, BOOK, BOOK\_LIST.**
2. **AUTHOR Table**

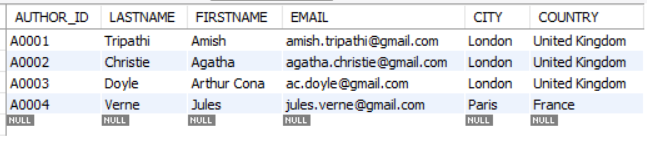
INSERT INTO AUTHOR VALUES("A0001", "Tripathi", "Amish", "amish.tripathi@gmail.com", "London", "United Kingdom");

INSERT INTO AUTHOR VALUES("A0002", "Christie", "Agatha", "agatha.christie@gmail.com", "London", "United Kingdom");

INSERT INTO AUTHOR VALUES("A0003", "Doyle", "Arthur Cona", "ac.doyle@gmail.com", "London", "United Kingdom");

INSERT INTO AUTHOR VALUES("A0004", "Verne", "Jules", "jules.verne@gmail.com", "Paris", "France");

SELECT \* FROM AUTHOR;



1. **BOOK Table**

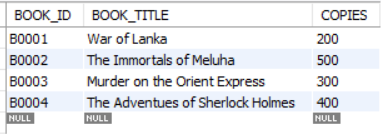
INSERT INTO BOOK VALUES("B0001", "War of Lanka", 200);

INSERT INTO BOOK VALUES("B0002", "The Immortals of Meluha", 500);

INSERT INTO BOOK VALUES("B0003", "Murder on the Orient Express", 300);

INSERT INTO BOOK VALUES("B0004", "The Adventues of Sherlock Holmes", 400);

SELECT \* FROM BOOK;



1. **AUTHOR\_LIST Table**

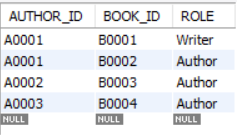
INSERT INTO AUTHOR\_LIST VALUES("A0001", "B0001", "Writer");

INSERT INTO AUTHOR\_LIST VALUES("A0001", "B0002", "Author");

INSERT INTO AUTHOR\_LIST VALUES("A0002", "B0003", "Author");

INSERT INTO AUTHOR\_LIST VALUES("A0003", "B0004", "Author");

SELECT \* FROM AUTHOR\_LIST;



1. **Alter structure of table AUTHOR\_LIST add the field Publisher data type of 30 Character.**

ALTER TABLE AUTHOR\_LIST ADD PUBLISHER VARCHAR(30);

