LAB-1 (SQL Revision)

```
-- Create Tables
CREATE TABLE Artists (
    Artist_id INT PRIMARY KEY,
    Artist_name NVARCHAR(50)
);

CREATE TABLE Albums (
    Album_id INT PRIMARY KEY,
    Album_title NVARCHAR(50),
    Artist_id INT,
    Release_year INT,
    FOREIGN KEY (Artist_id) REFERENCES Artists(Artist_id)
);

CREATE TABLE Songs (
    Song_id INT PRIMARY KEY,
    Song_title NVARCHAR(50),
    Duration DECIMAL(4, 2),
    Genre NVARCHAR(50),
    Album_id INT,
    FOREIGN KEY (Album_id) REFERENCES Albums(Album_id)
);

-- Insert Data into Artists Table
```

```
INSERT INTO Artists (Artist_id, Artist_name) VALUES
(1, 'Aparshakti Khurana'),
(2, 'Ed Sheeran'),
(3, 'Shreya Ghoshal'),
(4, 'Arijit Singh'),
(5, 'Tanishk Bagchi');

-- Insert Data into Albums Table
INSERT INTO Albums (Album_id, Album_title, Artist_id, Release_year) VALUES (1007, 'Album7', 1, 2015),
(1001, 'Album1', 1, 2019),
(1002, 'Album2', 2, 2015),
(1003, 'Album3', 3, 2018),
(1004, 'Album4', 4, 2020),
(1005, 'Album5', 2, 2020),
(1006, 'Album6', 1, 2009);

-- Insert Data into Songs Table
INSERT INTO Songs (Song_id, Song_title, Duration, Genre, Album_id) VALUES
(101, 'Zaroor', 2.55, 'Feel good', 1001),
(102, 'Espresso', 4.10, 'Rhythmic', 1002),
(103, 'Shayad', 3.20, 'Sad', 1003),
(104, 'Roar', 4.05, 'Pop', 1002),
(105, 'Everybody Talks', 3.35, 'Rhythmic', 1003),
(106, 'Dwapara', 3.54, 'Dance', 1002),
(107, 'Sa Re Ga Ma', 4.20, 'Rhythmic', 1004),
```

(108, 'Tauba', 4.05, 'Rhythmic', 1005),

(109, 'Perfect', 4.23, 'Pop', 1002),

(110, 'Good Luck', 3.55, 'Rhythmic', 1004);

LAB-2 (Stored Procedure)

```
-- Create Department Table
CREATE TABLE Department (
    DepartmentID INT PRIMARY KEY,
    DepartmentName VARCHAR(100) NOT NULL UNIQUE
);


-- Create Designation Table
CREATE TABLE Designation (
    DesignationID INT PRIMARY KEY,
    DesignationName VARCHAR(100) NOT NULL UNIQUE
);
-- Create Person Table
CREATE TABLE Person (
    PersonID INT PRIMARY KEY IDENTITY(101,1),
    FirstName VARCHAR(100) NOT NULL,
    LastName VARCHAR(100) NOT NULL,
    Salary DECIMAL(8, 2) NOT NULL,
    JoiningDate DATETIME NOT NULL,
    DepartmentID INT NULL,
    DesignationID INT NULL,
    FOREIGN KEY (DepartmentID) REFERENCES Department(DepartmentID),
    FOREIGN KEY (DesignationID) REFERENCES Designation(DesignationID)
);
```

Lab-3 (Advanced Stored Procedure)

```
CREATE TABLE Departments (
    DepartmentID INT PRIMARY KEY,
    DepartmentName VARCHAR(100) NOT NULL UNIQUE,
    ManagerID INT NOT NULL,
    Location VARCHAR(100) NOT NULL
);
CREATE TABLE Employee (
    EmployeeID INT PRIMARY KEY,
    FirstName VARCHAR(100) NOT NULL,
    LastName VARCHAR(100) NOT NULL,
    DoB DATETIME NOT NULL,
    Gender VARCHAR(50) NOT NULL,
    HireDate DATETIME NOT NULL,
    DepartmentID INT NOT NULL,
    Salary DECIMAL(10, 2) NOT NULL,
    FOREIGN KEY (DepartmentID) REFERENCES Departments(DepartmentID)
);
-- Create Projects Table
CREATE TABLE Projects (
    ProjectID INT PRIMARY KEY,
    ProjectName VARCHAR(100) NOT NULL,
    StartDate DATETIME NOT NULL,
    EndDate DATETIME NOT NULL,
    DepartmentID INT NOT NULL,
```

```
    FOREIGN KEY (DepartmentID) REFERENCES Departments(DepartmentID)
);


INSERT INTO Departments (DepartmentID, DepartmentName, ManagerID, Location)
VALUES
    (1, 'IT', 101, 'New York'),
    (2, 'HR', 102, 'San Francisco'),
    (3, 'Finance', 103, 'Los Angeles'),
    (4, 'Admin', 104, 'Chicago'),
    (5, 'Marketing', 105, 'Miami');
INSERT INTO Employee (EmployeeID, FirstName, LastName, DoB, Gender, HireDate, DepartmentID,
Salary)
VALUES
    (101, 'John', 'Doe', '1985-04-12', 'Male', '2010-06-15', 1, 75000.00),
    (102, 'Jane', 'Smith', '1990-08-24', 'Female', '2015-03-10', 2, 60000.00),
    (103, 'Robert', 'Brown', '1982-12-05', 'Male', '2008-09-25', 3, 82000.00),
    (104, 'Emily', 'Davis', '1988-11-11', 'Female', '2012-07-18', 4, 58000.00),
    (105, 'Michael', 'Wilson', '1992-02-02', 'Male', '2018-11-30', 5, 67000.00);
INSERT INTO Projects (ProjectID, ProjectName, StartDate, EndDate, DepartmentID)
VALUES
    (201, 'Project Alpha', '2022-01-01', '2022-12-31', 1),
    (202, 'Project Beta', '2023-03-15', '2024-03-14', 2),
    (203, 'Project Gamma', '2021-06-01', '2022-05-31', 3),
    (204, 'Project Delta', '2020-10-10', '2021-10-09', 4),
    (205, 'Project Epsilon', '2024-04-01', '2025-03-31', 5);
```

Lab-5 (Trigger)

```
-- Creating PersonInfo Table
CREATE TABLE PersonInfo (
    PersonID INT PRIMARY KEY,
    PersonName VARCHAR(100) NOT NULL,
    Salary DECIMAL(8,2) NOT NULL,
    JoiningDate DATETIME NULL,
    City VARCHAR(100) NOT NULL,
    Age INT NULL,
    BirthDate DATETIME NOT NULL
);

-- Creating PersonLog Table
CREATE TABLE PersonLog (
    PLogID INT PRIMARY KEY IDENTITY(1,1),
    PersonID INT NOT NULL,
    PersonName VARCHAR(250) NOT NULL,
    Operation VARCHAR(50) NOT NULL,
    UpdateDate DATETIME NOT NULL,
    FOREIGN KEY (PersonID) REFERENCES PersonInfo(PersonID) ON DELETE CASCADE
);
```

Lab-6 (Cursor)

```
--  Create the Products table
CREATE TABLE Products (
    Product_id INT PRIMARY KEY,
    Product_Name VARCHAR(250) NOT NULL,
    Price DECIMAL(10, 2) NOT NULL
);


--  Insert data into the Products table
INSERT INTO Products (Product_id, Product_Name, Price) VALUES
(1, 'Smartphone', 35000),
(2, 'Laptop', 65000),
(3, 'Headphones', 5500),
(4, 'Television', 85000),
(5, 'Gaming Console', 32000);
```

Lab-7 (Exception Handling)

```
-- Create the Customers table
CREATE TABLE Customers (
    Customer_id INT PRIMARY KEY,
    Customer_Name VARCHAR(250) NOT NULL,
    Email VARCHAR(50) UNIQUE
);


-- Create the Orders table
CREATE TABLE Orders (
    Order_id INT PRIMARY KEY,
    Customer_id INT,
    Order_date DATE NOT NULL,
    FOREIGN KEY (Customer_id) REFERENCES Customers(Customer_id)
);
```