**Query for Rainbow Database**

CREATE DATABASE Rainbow\_SchoolDb

USE Rainbow\_SchoolDb

-- Create the Subjects table

CREATE TABLE Subjects (

SubjectID INT PRIMARY KEY,

SubjectName NVARCHAR(100) NOT NULL

)

-- Create the Classes table

CREATE TABLE Classes (

ClassID INT PRIMARY KEY,

ClassName NVARCHAR(100) NOT NULL

)

-- Create the Students table

CREATE TABLE Students (

StudentID INT PRIMARY KEY,

FirstName NVARCHAR(50) NOT NULL,

LastName NVARCHAR(50) NOT NULL,

DateOfBirth DATE,

ClassID INT FOREIGN KEY REFERENCES Classes,

SubjectID INT FOREIGN KEY REFERENCES Subjects

)

-- Insert data into Subjects table

INSERT INTO Subjects VALUES

(1, 'Mathematics'),

(2, 'Science'),

(3, 'History'),

(4, 'English'),

(5, 'Physical Education');

-- Insert data into Classes table

INSERT INTO Classes VALUES

(101, 'Class 1'),

(102, 'Class 2'),

(103, 'Class 3'),

(104, 'Class 4'),

(105, 'Class 5');

-- Insert data into Students table

INSERT INTO Students VALUES

(1001, 'John', 'Doe', '2005-01-15', 101, 1),

(1002, 'Jane', 'Smith', '2006-03-22', 102, 2),

(1003, 'Michael', 'Johnson', '2004-07-10', 101, 3),

(1004, 'Emily', 'Brown', '2007-09-05', 103, 1),

(1005, 'William', 'Davis', '2005-11-18', 102, 4);

-- Create index on ClassID column in Students table

CREATE INDEX Student\_Class\_Id\_Index ON Students(ClassID)

-- Create index on SubjectID column in Students table

CREATE INDEX Student\_Subject\_Id\_Index ON Students(SubjectID)

--Display all the records in the Table

SELECT \* FROM Classes

SELECT \* FROM Students

SELECT \* FROM Subjects

--Display all the records in a single table

SELECT StudentID, FirstName +' '+ LastName 'Student Name', DateOfBirth DOB, C.ClassID, c.ClassName, su.SubjectID, su.SubjectName

FROM Students s

JOIN Classes c ON s.ClassID = c.ClassID

JOIN Subjects su ON su.SubjectID = s.SubjectID