

## 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