

Project Part 3

(a)

```
CREATE TABLE Department(  
    DName VARCHAR(100) CHECK(DName LIKE'Department%'),  
    CName VARCHAR(100),  
    FNmuber INT,  
    PRIMARY KEY(DName)  
)
```

```
CREATE TABLE Student(  
    Student_id INT,  
    SName VARCHAR(100),  
    SInitial VARCHAR(100) NOT NULL,  
    PRIMARY KEY(Student_id)  
)
```

```
CREATE TABLE Major(  
    MName VARCHAR(100),  
    MCode VARCHAR(100) CHECK(LENGTH(MCode) = 3),  
    DName VARCHAR(100),  
    PRIMARY KEY(MName),  
    FOREIGN KEY(DName) REFERENCES Department(DName) ON UPDATE CASCADE  
)
```

```
CREATE TABLE Event(  
    EName VARCHAR(100),  
    SDate DATE,  
    EDate DATE CHECK(EDate > SDate),  
    PRIMARY KEY(EName)  
)
```

```
CREATE TABLE StudentMajor(  
    Student_id INT,  
    MName VARCHAR(100),  
    PRIMARY KEY(Student_id, MName),  
    FOREIGN KEY(Student_id) REFERENCES Student(Student_id) ON UPDATE CASCADE ON DELETE  
CASCADE,  
    FOREIGN KEY(MName) REFERENCES Major(MName) ON UPDATE CASCADE ON DELETE  
CASCADE  
)
```

```
CREATE TABLE StudentEvent(  
    Student_id INT,  
    EName VARCHAR(100),  
    PRIMARY KEY(Student_id, EName),  
    FOREIGN KEY(Student_id) REFERENCES Student(Student_id) ON UPDATE CASCADE ON  
DELETE CASCADE,  
    FOREIGN KEY(EName) REFERENCES Event(EName) ON UPDATE CASCADE ON DELETE  
CASCADE  
)
```

```
CREATE TABLE DepartEvent(  
    DName VARCHAR(100),  
    EName VARCHAR(100),  
    PRIMARY KEY(DName, EName),  
    FOREIGN KEY(DName) REFERENCES Department(DName) ON UPDATE CASCADE ON  
DELETE SET NULL,  
    FOREIGN KEY(EName) REFERENCES Event(EName) ON UPDATE CASCADE ON DELETE  
CASCADE  
)
```

(b)

Department table:

```
INSERT INTO Department  
VALUES ("Department phy", "c1", 10)
```

```
INSERT INTO Department  
VALUES ("Department bio", "c2", 12)
```

```
INSERT INTO Department  
VALUES ("Department csc", "c3", 14)
```

```
INSERT INTO Department  
VALUES ("Department eco", "c4", 16)
```

```
INSERT INTO Department  
VALUES ("Department art", "c5", 18)
```

Student table:

```
INSERT INTO Student  
VALUES (1, "A", "A")
```

```
INSERT INTO Student  
VALUES (2, "B", "B")
```

```
INSERT INTO Student  
VALUES (3, "C", "C")
```

```
INSERT INTO Student  
VALUES (4, "D", "D")
```

```
INSERT INTO Student  
VALUES (5, "E", "E")
```

Major table:

```
INSERT INTO Major  
VALUES ("Physics", "PHY", "Department phy")
```

```
INSERT INTO Major  
VALUES ("Biology", "BIO", "Department bio")
```

```
INSERT INTO Major  
VALUES ("Economy", "ECO", "Department eco")
```

```
INSERT INTO Major  
VALUES ("ComputerScience", "CSC", "Department csc")
```

```
INSERT INTO Major  
VALUES ("Art", "ART", "Department art")
```

Event table:

```
INSERT INTO Event  
VALUES ("E1", "2000-01-01", "2000-01-02")
```

```
INSERT INTO Event  
VALUES ("E2", "2001-01-01", "2001-01-02")
```

```
INSERT INTO Event  
VALUES ("E3", "2002-01-01", "2002-01-02")
```

```
INSERT INTO Event  
VALUES ("E4", "2003-01-01", "2003-01-02")
```

```
INSERT INTO Event  
VALUES ("E5", "2004-01-01", "2004-01-02")
```

StudentMajor table:

```
INSERT INTO StudentMajor  
VALUES (1,"Physics")
```

```
INSERT INTO StudentMajor  
VALUES (2,"Biology")
```

```
INSERT INTO StudentMajor  
VALUES (3,"Economy")
```

```
INSERT INTO StudentMajor  
VALUES (4,"ComputerScience")
```

```
INSERT INTO StudentMajor  
VALUES (5,"Art")
```

StudentEvent table:

```
INSERT INTO StudentEvent  
VALUES (1,"E1")
```

```
INSERT INTO StudentEvent  
VALUES (2,"E2")
```

```
INSERT INTO StudentEvent  
VALUES (3,"E3")
```

```
INSERT INTO StudentEvent  
VALUES (4,"E4")
```

```
INSERT INTO StudentEvent  
VALUES (5,"E5")
```

DepartEvent table:

```
INSERT INTO DepartEvent  
VALUES ("Department phy","E1")
```

```
INSERT INTO DepartEvent  
VALUES ("Department bio","E2")
```

```
INSERT INTO DepartEvent  
VALUES ("Department csc","E3")
```

```
INSERT INTO DepartEvent  
VALUES ("Department eco","E4")
```

```
INSERT INTO DepartEvent  
VALUES ("Department art","E5")
```

(c)

In connect_sqlite.py

(d)

Github linke:

<https://github.com/FredGuo0208/CSC423-Final-Project-Zhenyang-Guo>