1. Truncate data from all the five tables: Student, Department, Course,
Batch, StudentStatus.

```
TRUNCATE table STUDENT
TRUNCATE table DEPARTMENT
TRUNCATE table COURSE
TRUNCATE table BATCH
TRUNCATE table StudentStatus
```

2. Create foreign key constraints on the following columns of Student table:

a. DeptId -- references to DeptId of Department with ON DELETE CASCADE

option

```
ALTER TABLE STUDENT
ADD CONSTRAINT FK1
FOREIGN KEY (DeptId)
REFERENCES DEPARTMENT(DeptId)
ON DELETE CASCADE
```

b. CourseId -- references to CourseId of Course with ON UPDATE SET NULL

option

```
ALTER TABLE STUDENT
ADD CONSTRAINT FK2
FOREIGN KEY (CourseId)
REFERENCES COURSE(CourseId)
ON UPDATE SET NULL
```
c. BatchId -- references to BatchId of Batch

```
ALTER TABLE STUDENT
ADD CONSTRAINT FK3
FOREIGN KEY (BatchId)
REFERENCES BATCH(BatchId)
```

d. StatusId -- references to StatusId of Status

```
ALTER TABLE STUDENT
ADD CONSTRAINT FK4
FOREIGN KEY (StatusId)
REFERENCES StudentStatus(StatusId)
```

3. Insert 4 records in each of the four tables.
a. DeptId values: 101,102,103,104

```
INSERT INTO DEPARTMENT
VALUES('101', 'CSE');
INSERT INTO DEPARTMENT
VALUES('102', 'CSBS');
INSERT INTO DEPARTMENT
VALUES('103', 'ECE');
INSERT INTO DEPARTMENT
VALUES('104', 'BPHARM');
```

b. CourseId values: 201,202,203,204

```sql
INSERT INTO COURSE
VALUES('201', 'COMPUTERSCENGG');
INSERT INTO COURSE
VALUES('202', 'ELECTRICALENGG');
INSERT INTO COURSE
VALUES('203', 'CIVILENGG');
INSERT INTO COURSE
VALUES('204', 'MECHANICALENGG');
```

c. BatchId values: 301,302,303,304

```sql
INSERT INTO BATCH
VALUES('301', 'BCS3B');
INSERT INTO BATCH
VALUES('302', 'BCE3');
INSERT INTO BATCH
VALUES('303', 'CSBS2');
INSERT INTO BATCH
VALUES('304', 'BEE3');
```

d. StatusId values: 401,402,403,404

```sql
INSERT INTO StudentStatus
VALUES('401', 'Not Present');
INSERT INTO StudentStatus
VALUES('402', 'Completed');
INSERT INTO StudentStatus
VALUES('403', 'Present');
INSERT INTO StudentStatus
VALUES('404', 'Not Completed');
```

4. Insert 10 records in Student table.

```sql
INSERT INTO STUDENT
VALUES('210', 'Shivam', 'Kolkata', '9900990099', 'shivam@gmail.com', '2001-06-13', '2020-07-21', '2024-06-20', 'Kolkata', '101', '201', '301', '401');
INSERT INTO STUDENT
VALUES('102', 'Rishav', 'Gaya', '9900990099', 'rishav@gmail.com', '2002-03-11', '2020-07-21', '2024-06-20', 'Kolkata', '102', '202', '302', '402');
INSERT INTO STUDENT
VALUES('103', 'Satyam', 'Newtown', '9900990099', 'satyam@gmail.com', '2002-06-19', '2020-07-21', '2024-06-20', 'Kolkata', '101', '201', '301', '401');
INSERT INTO STUDENT
VALUES('104', 'Sameer', 'Kolkata', '9900990099', 'sameer@gmail.com', '2001-09-03', '2020-07-21', '2024-06-20', 'Kolkata', '103', '203', '303', '403');
INSERT INTO STUDENT
VALUES('121', 'Rahul', 'Kolkata', '9900990099', 'rahul@gmail.com', '2002-11-16', '2020-07-21', '2024-06-20', 'Kolkata', '101', '201', '301', '401');
INSERT INTO STUDENT
VALUES('124', 'Raunak', 'Patna', '9900990099', 'raunak@gmail.com', '2001-05-23', '2020-07-21', '2024-06-20', 'Kolkata', '102', '202', '302', '402');
INSERT INTO STUDENT
```
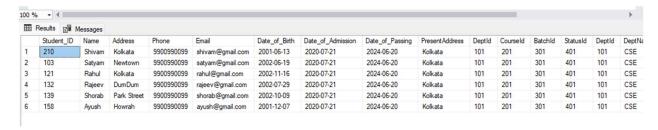
```sql
VALUES('132', 'Rajeev', 'DumDum', '9900990099', 'rajeev@gmail.com', '2002-07-29', '2020-
07-21', '2024-06-20', 'Kolkata', '101', '201', '301', '401');
INSERT INTO STUDENT
VALUES('139', 'Shorab', 'Park Street', '9900990099', 'shorab@gmail.com', '2002-10-09',
'2020-07-21', '2024-06-20', 'Kolkata', '101', '201', '301', '401');
INSERT INTO STUDENT
VALUES('153', 'Aditya', 'Kolkata', '9900990099', 'aditya@gmail.com', '2001-06-20', '2020-
07-21', '2024-06-20', 'Kolkata', '103', '203', '303', '403');
INSERT INTO STUDENT
VALUES('158', 'Ayush', 'Howrah', '9900990099', 'ayush@gmail.com', '2001-12-07', '2020-07-
21', '2024-06-20', 'Kolkata', '101', '201', '301', '401');
```

5. Select records from Department and Student where DeptId = 101

```sql
SELECT * FROM STUDENT
INNER JOIN DEPARTMENT
ON STUDENT.DEPTID = DEPARTMENT.DEPTID
WHERE STUDENT.DEPTID = 101
```

	Student_ID	Name	Address	Phone	Email	Date_of_Birth	Date_of_Admission	Date_of_Passing	PresentAddress	DeptId	CourseId	BatchId	StatusId	DeptId	DeptNa
1	210	Shivam	Kolkata	9900990099	shivam@gmail.com	2001-06-13	2020-07-21	2024-06-20	Kolkata	101	201	301	401	101	CSE
2	103	Satyam	Newtown	9900990099	satyam@gmail.com	2002-06-19	2020-07-21	2024-06-20	Kolkata	101	201	301	401	101	CSE
3	121	Rahul	Kolkata	9900990099	rahul@gmail.com	2002-11-16	2020-07-21	2024-06-20	Kolkata	101	201	301	401	101	CSE
4	132	Rajeev	DumDum	9900990099	rajeev@gmail.com	2002-07-29	2020-07-21	2024-06-20	Kolkata	101	201	301	401	101	CSE
5	139	Shorab	Park Street	9900990099	shorab@gmail.com	2002-10-09	2020-07-21	2024-06-20	Kolkata	101	201	301	401	101	CSE
6	158	Ayush	Howrah	9900990099	ayush@gmail.com	2001-12-07	2020-07-21	2024-06-20	Kolkata	101	201	301	401	101	CSE

6. Delete records from Department where DeptId = 101 and execute Select from Q.5

```sql
DELETE FROM DEPARTMENT
WHERE DEPTID = 101
```

	Student_ID	Name	Address	Phone	Email	Date_of_Birth	Date_of_Admission	Date_of_Passing	PresentAddress	DeptId	CourseId	BatchId	StatusId	DeptId	DeptName

7. Select records from Course and Student where CourseId = 201

```sql
SELECT * FROM STUDENT
INNER JOIN COURSE
ON STUDENT.COURSEID = COURSE.COURSEID
WHERE STUDENT.COURSEID = 201
```

	Student_ID	Name	Address	Phone	Email	Date_of_Birth	Date_of_Admission	Date_of_Passing	PresentAddress	DeptId	CourseId	BatchId	StatusId	CourseId	Cours
1	210	Shivam	Kolkata	9900990099	shivam@gmail.com	2001-06-13	2020-07-21	2024-06-20	Kolkata	101	201	301	401	201	COM
2	103	Satyam	Newtown	9900990099	satyam@gmail.com	2002-06-19	2020-07-21	2024-06-20	Kolkata	101	201	301	401	201	COM
3	121	Rahul	Kolkata	9900990099	rahul@gmail.com	2002-11-16	2020-07-21	2024-06-20	Kolkata	101	201	301	401	201	COM
4	132	Rajeev	DumDum	9900990099	rajeev@gmail.com	2002-07-29	2020-07-21	2024-06-20	Kolkata	101	201	301	401	201	COM
5	139	Shorab	Park Street	9900990099	shorab@gmail.com	2002-10-09	2020-07-21	2024-06-20	Kolkata	101	201	301	401	201	COM
6	158	Ayush	Howrah	9900990099	ayush@gmail.com	2001-12-07	2020-07-21	2024-06-20	Kolkata	101	201	301	401	201	COM

8. Update CourseId from 201 to 210 in Course table and execute Select from Q.7

```sql
UPDATE COURSE
SET COURSEID = '210'
WHERE COURSEID = '201'
```

Student_ID	Name	Address	Phone	Email	Date_of_Birth	Date_of_Admission	Date_of_Passing	PresentAddress	DeptId	CourseId	BatchId	StatusId	CourseId	CourseName

9. Select records from Batch and Student where BatchId = 301

```sql
SELECT * FROM STUDENT
INNER JOIN BATCH
ON BATCH.BATCHID = STUDENT.BATCHID
WHERE STUDENT.BATCHID = 301
```

	Student_ID	Name	Address	Phone	Email	Date_of_Birth	Date_of_Admission	Date_of_Passing	PresentAddress	DeptId	CourseId	BatchId	StatusId	BatchId	Batchl
1	210	Shivam	Kolkata	9900990099	shivam@gmail.com	2001-06-13	2020-07-21	2024-06-20	Kolkata	101	NULL	301	401	301	BCS3
2	103	Satyam	Newtown	9900990099	satyam@gmail.com	2002-06-19	2020-07-21	2024-06-20	Kolkata	101	NULL	301	401	301	BCS3
3	121	Rahul	Kolkata	9900990099	rahul@gmail.com	2002-11-16	2020-07-21	2024-06-20	Kolkata	101	NULL	301	401	301	BCS3
4	132	Rajeev	DumDum	9900990099	rajeev@gmail.com	2002-07-29	2020-07-21	2024-06-20	Kolkata	101	NULL	301	401	301	BCS3
5	139	Shorab	Park Street	9900990099	shorab@gmail.com	2002-10-09	2020-07-21	2024-06-20	Kolkata	101	NULL	301	401	301	BCS3
6	158	Ayush	Howrah	9900990099	ayush@gmail.com	2001-12-07	2020-07-21	2024-06-20	Kolkata	101	NULL	301	401	301	BCS3

10. Delete records from Batch where BatchId = 301 and execute Select from Q.9

```sql
DELETE FROM BATCH
WHERE BATCHID = 301
```

```
Msg 547, Level 16, State 0, Line 121
The DELETE statement conflicted with the REFERENCE constraint "FK3". The conflict occurred in database "uni", table "dbo.STUDENT", column 'BatchId'.
The statement has been terminated.
```