Name:	Sameer Rana
UID:	23bcs13430
Subject:	ADBMS
Section:	622-B

Ans 4.1:

Code:

DROP TABLE IF EXISTS FeePayments;

CREATE TABLE FeePayments (payment_id INT PRIMARY KEY, student_name VARCHAR(100) NOT NULL, amount DECIMAL(10,2) NOT NULL CHECK (amount > 0), payment_date DATE NOT NULL) ENGINE=InnoDB;

-- Part A

START TRANSACTION;

INSERT INTO FeePayments (payment_id, student_name, amount, payment_date)
VALUES

- (1, 'Ashish', 5000.00, '2024-06-01'),
- (2, 'Smaran', 4500.00, '2024-06-02'),

```
(3, 'Vaibhav', 5500.00, '2024-06-03');
```

COMMIT;

SELECT * FROM FeePayments;

-- Part B: Demonstrate rollback

START TRANSACTION;

INSERT INTO FeePayments VALUES (4, 'Kiran', 6000.00, '2024-06-04');

INSERT INTO FeePayments VALUES (1, 'Ashish', -4000.00, '2024-06-05'); - fails

ROLLBACK;

SELECT * FROM FeePayments;

-- Part C: Partial failure (NULL student_name)

START TRANSACTION;

INSERT INTO FeePayments VALUES (5, 'Ramesh', 7000.00, '2024-06-06');

INSERT INTO FeePayments VALUES (6, NULL, 6500.00, '2024-06-07');

ROLLBACK;

SELECT * FROM FeePayments;

-- Part D: ACID demonstration

START TRANSACTION;

INSERT INTO FeePayments VALUES (7, 'Pooja', 8000.00, '2024-06-08'),

(8, 'Arjun', 7500.00, '2024-06-09');

COMMIT;

START TRANSACTION;

INSERT INTO FeePayments VALUES (9, 'Neha', 8200.00, '2024-06-10'); INSERT INTO FeePayments VALUES (2, 'Duplicate', 9000.00, '2024-06-11');

ROLLBACK;

-- Final table state

SELECT * FROM FeePayments;

(a) Department's detail:

payment_id	student_name	amount	payment_date
1	Ashish	5000.00	2024-06-01T00:00:00.000Z
2	Smaran	4500.00	2024-06-02T00:00:00.000Z
3	Vaibhav	5500.00	2024-06-03T00:00:00.000Z

(b) Courses detail:

Error: Check constraint 'feepayments_chk_1' is violated.

payment_id	student_name	amount	payment_date
1	Ashish	5000.00	2024-06-01T00:00:00.000Z
2	Smaran	4500.00	2024-06-02T00:00:00.000Z
3	Vaibhav	5500.00	2024-06-03T00:00:00.000Z

(c)

Error: Column 'student_name' cannot be null

payment_id	student_name	amount	payment_date
1	Ashish	5000.00	2024-06-01T00:00:00.000Z
2	Smaran	4500.00	2024-06-02T00:00:00.000Z
3	Vaibhav	5500.00	2024-06-03T00:00:00.000Z

(d)

Error: Duplicate entry '2' for key 'feepayments.PRIMARY'

payment_id	student_name	amount	payment_date
1	Ashish	5000.00	2024-06-01T00:00:00.000Z
2	Smaran	4500.00	2024-06-02T00:00:00.000Z
3	Vaibhav	5500.00	2024-06-03T00:00:00.000Z
7	Pooja	8000.00	2024-06-08T00:00:00.000Z
8	Arjun	7500.00	2024-06-09T00:00:00.000Z