Name:	Krish Arora
UID:	24BCS80046
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)

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)

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