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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