

# EXPERIMENT 4.1

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UID	23BCS10641
CLASS	622-A
SUBJECT	ADBMS

## **PART – A (Insert Multiple Fee Payments in a Transaction)**

```
CREATE TABLE FeePayments ( payment_id
INT PRIMARY KEY, student_name
VARCHAR(100) NOT NULL, amount
DECIMAL(10,2) CHECK (amount > 0),
payment_date DATE NOT NULL
);
START TRANSACTION;
INSERT INTO FeePayments VALUES (1, 'Ashish', 5000.00, '2024-06-01');
INSERT INTO FeePayments VALUES (2, 'Smaran', 4500.00, '2024-06-02');
INSERT INTO FeePayments VALUES (3, 'Vaibhav', 5500.00, '2024-06-03');
COMMIT;
SELECT * FROM FeePayments;
```

payment_id	student_name	amount	payment_date
1	Ashish	5000.00	2024-06-01
2	Smaran	4500.00	2024-06-02
3	Vaibhav	5500.00	2024-06-03

## PART-B (Demonstrate ROLLBACK for Failed Payment Insertion)

START TRANSACTION;

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

INSERT INTO FeePayments VALUES (1, 'Ashish', -2000.00, '2024-06-05');

ROLLBACK;

SELECT \* FROM FeePayments;

payment_id	student_name	amount	payment_date
1	Ashish	5000.00	2024-06-01
2	Smaran	4500.00	2024-06-02
3	Vaibhav	5500.00	2024-06-03

## PART-C (Simulate Partial Failure and Ensure Consistent State)

START TRANSACTION;

INSERT INTO FeePayments VALUES (5, 'Ravi', 4000.00, '2024-06-06');

INSERT INTO FeePayments VALUES (6, NULL, 7000.00, '2024-06-07');

ROLLBACK;

SELECT \* FROM FeePayments;

payment_id	student_name	amount	payment_date
1	Ashish	5000.00	2024-06-01
2	Smaran	4500.00	2024-06-02
3	Vaibhav	5500.00	2024-06-03

## PART-D (Verify ACID Compliance with Transaction Flow)

START TRANSACTION;

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

INSERT INTO FeePayments VALUES (1, 'DuplicateTest', 1000.00, '2024-06-09');

ROLLBACK;

START TRANSACTION;

INSERT INTO FeePayments VALUES (8, 'Manish', 6500.00, '2024-06-10');

COMMIT;

SELECT \* FROM FeePayments;

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	Sneha	4700.00	2024-06-08T00:00:00.000Z
8	Arjun	4900.00	2024-06-09T00:00:00.000Z