

# SCS 2209 Database II

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Transaction Control Language Commands

Practical Session 03



# TRANSACTION CONTROL LANGUAGE COMMANDS (TCL)

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- Used to manage transactions in the database.

**E.g:** COMMIT , ROLLBACK , SAVEPOINT

- Used to manage the changes made to the data in a table by Data Manipulation Language (DML) statements.

# DATA MANIPULATION LANGUAGE (DML)

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- DML statements are Used for managing data in database.

**E.g:** INSERT , UPDATE , DELETE

- **Not** auto-committed. (Not permanent to database, can be rolled back)

# COMMIT

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- Used to **permanently save** any transaction into the database.

- **Syntax:**

COMMIT;

# ROLLBACK

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- Restores the database to last committed state.
- Also used with SAVEPOINT command to jump to a savepoint in an ongoing transaction.

- **Syntax:**

ROLLBACK TO savepoint\_name;

# SAVEPOINT

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- Used to **temporarily** save a transaction.
- Can rollback to that point whenever required .

- **Syntax:**

```
SAVEPOINT savepoint_name;
```

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# ANSWERS

# 1)

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```
START TRANSACTION;
```

```
SAVEPOINT A;
```

```
INSERT INTO customer(Id,FirstName,LastName,City,Country,Phone) VALUES  
('121','Srinath','Silva','Colombo','Sri Lanka','0712345678');
```

```
SAVEPOINT B;
```

```
INSERT INTO customer(Id,FirstName,LastName,City,Country,Phone) VALUES  
('122','Ramesh','Perera','Kandy','Sri Lanka','0712345678');
```

```
SAVEPOINT C;
```

```
INSERT INTO customer(Id,FirstName,LastName,City,Country,Phone) VALUES  
('123','Nipuni','Gunasekara','Chilaw','Sri Lanka','0712345678');
```



# 2)

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START TRANSACTION;

SAVEPOINT A;

INSERT INTO customer(Id,FirstName,LastName,City,Country,Phone) VALUES ('121','Srinath','Silva','Colombo','Sri Lanka','0712345678');

SAVEPOINT B;

INSERT INTO customer(Id,FirstName,LastName,City,Country,Phone) VALUES ('122','Ramesh','Perera','Kandy','Sri Lanka','0712345678');

SAVEPOINT C;

INSERT INTO customer(Id,FirstName,LastName,City,Country,Phone) VALUES ('123','Nipuni','Gunasekara','Chilaw','Sri Lanka','0712345678');

ROLLBACK TO C;

COMMIT;

# 3)

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START TRANSACTION;

SAVEPOINT Alt1;

UPDATE customer SET FirstName="Mary" where Id="1";

SAVEPOINT Alt2;

UPDATE customer SET FirstName="Ron" where Id="20";

SAVEPOINT Alt3;

UPDATE customer SET FirstName="Eddy" where Id="29";

SAVEPOINT Alt2;

UPDATE customer SET LastName="Alex" where Id="20";

ROLLBACK TO Alt2;

COMMIT;

# 4)

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```
START TRANSACTION;  
SAVEPOINT del_1;  
DELETE FROM customer WHERE country="UK";  
SAVEPOINT del_2;  
DELETE FROM customer WHERE country="Brazil";  
RELEASE SAVEPOINT del_2;  
COMMIT;
```

# 5)

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```
START TRANSACTION;  
SAVEPOINT del_city;  
DELETE FROM customer WHERE City="Paris";  
COMMIT;  
RELEASE SAVEPOINT del_city;
```

# 6)

---

```
START TRANSACTION;  
SAVEPOINT roll_sav;  
INSERT INTO supplier  
(Id,CompanyName,ContactName,ContactTitle,City,Country,Phone,Fax) VALUES  
(99,'ABC Pvt Ltd','Roshan Perera','Mr','Colombo','Sri  
Lanka','0712345678','0712345678');  
RELEASE SAVEPOINT roll_sav;  
ROLLBACK TO roll_sav;
```

# 7)

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```
START TRANSACTION;  
SAVEPOINT roll_sav_1;  
INSERT INTO supplier  
(Id,CompanyName,ContactName,ContactTitle,City,Country,Phone,Fax) VALUES  
(99,'ABC Pvt Ltd','Roshan Perera','Mr','Colombo','Sri  
Lanka','0712345678','0712345678');  
ROLLBACK TO roll_sav_1;  
RELEASE SAVEPOINT roll_sav_1;
```

# THANK YOU