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YASH SARANG - DBMS EXPERIMENT 10.

Aim: Demonstrate DCL & TCL commands.

Objective: To execute commands that control databases and transactions.

Descriptions:

• Data Control Language (DCL)

Commands that control a database, including administering privileges & committing data. Used to create roles, permissions & referential integrity as well as it is used to control access to databases by securing it.

Revoke, Grant are two such commands

• GRANT- gives the user access privileges to the database. Only Database administrator's or owner's of the database object can provide/remove privileges on a database object. used to assign permission to users.

Eg. grant insert on emp to user1;

REVOKE: withdraws user access to database given that with the GRANT command.

Syntax - remove <permission> on <object name>
from username;

GRANT:

```
SQL> grant select, update on emp to flash
2 ;

Grant succeeded.
```

REVOKE:

```
SQL> revoke select, update on emp from flash;

Revoke succeeded.
```

TCL COMMANDS: COMMIT, ROLLBACK, SAVEPOINT---

```
SQL> select * from customer;

  CID CNAME          PHNO
-----
   12 ramesh        99201
   12 ramesh        98021
   13 suresh         86547
   14 mahesh        675320
```

COMMIT:

```
SQL> delete from customer
2 where cid=12;

2 rows deleted.

SQL> commit;

Commit complete.

SQL> select * from customer;
```

```
  CID CNAME          PHNO
-----
   13 suresh         86547
   14 mahesh        675320
```

ROLLBACK:

```
SQL> delete from customer
2 where cid=12;

2 rows deleted.

SQL> rollback;

Rollback complete.
```

SAVEPOINT:

```
SQL> insert into customer values (12,'ramesh',99201);
```

```
1 row created.
```

```
SQL> insert into customer values(12,'ramesh',98021);
```

```
1 row created.
```

```
SQL> savepoint customers;
```

```
Savepoint created.
```

```
SQL> select * from customer;
```

CID	CNAME	PHNO
12	ramesh	99201
13	suresh	86547
14	mahesh	675320
12	ramesh	98021

```
SQL> delete from customer where cid=12;
```

```
2 rows deleted.
```

```
SQL> select * from customer;
```

CID	CNAME	PHNO
13	suresh	86547
14	mahesh	675320

```
SQL> rollback to customers;
```

```
Rollback complete.
```

```
SQL> select * from customer;
```

CID	CNAME	PHNO
12	ramesh	99201
13	suresh	86547
14	mahesh	675320
12	ramesh	98021