1. DDL – Data Definition Language

```
mysql> CREATE DATABASE APPFOLOIO;
Query OK, 1 row affected (0.01 sec)

mysql> CREATE DATABASE a1;
Query OK, 1 row affected (0.01 sec)
```

```
mysql> USE APPFOLOIO;
Database changed
mysql> CREATE TABLE users (user_id INT PRIMARY KEY, name VARCHAR(100), email VARCHAR(100) UNIQUE, role VARCHAR(20), portfolio_link VARCHAR(255));
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE applications (app_id INT PRIMARY KEY, user_id INT, company VARCHAR(100), position VARCHAR(100), status VARCHAR(30), FOREIGN KEY (user_id
) REFERENCES users(user_id));
Query OK, 0 rows affected (0.05 sec)

mysql> SHOW TABLES;
+--------------------+
| Tables_in_appfoloio |
+--------------------+
| applications       |
| users              |
+--------------------+
2 rows in set (0.00 sec)
```

```
mysql> DESC applications;
+----------+--------------+------+-----+---------+-------+
| Field    | Type         | Null | Key | Default | Extra |
+----------+--------------+------+-----+---------+-------+
| app_id   | int          | NO   | PRI | NULL    |       |
| user_id  | int          | YES  | MUL | NULL    |       |
| company  | varchar(100) | YES  |     | NULL    |       |
| position | varchar(100) | YES  |     | NULL    |       |
| status   | varchar(30)  | YES  |     | NULL    |       |
+----------+--------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> DESC users;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| user_id        | int          | NO   | PRI | NULL    |       |
| name           | varchar(100) | YES  |     | NULL    |       |
| email          | varchar(100) | YES  | UNI | NULL    |       |
| role           | varchar(20)  | YES  |     | NULL    |       |
| portfolio_link | varchar(255) | YES  |     | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> ALTER TABLE applications ADD applied_date DATE;
Query OK, 0 rows affected (0.07 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> DESC applications;
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| app_id       | int          | NO   | PRI | NULL    |       |
| user_id      | int          | YES  | MUL | NULL    |       |
| company      | varchar(100) | YES  |     | NULL    |       |
| position     | varchar(100) | YES  |     | NULL    |       |
| status       | varchar(30)  | YES  |     | NULL    |       |
| applied_date | date         | YES  |     | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

```
mysql> ALTER TABLE users ADD phone VARCHAR(15);
Query OK, 0 rows affected (0.09 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> DESC users;
+-----------------+--------------+------+-----+---------+-------+
| Field           | Type         | Null | Key | Default | Extra |
+-----------------+--------------+------+-----+---------+-------+
| user_id         | int          | NO   | PRI | NULL    |       |
| name            | varchar(100) | YES  |     | NULL    |       |
| email           | varchar(100) | YES  | UNI | NULL    |       |
| role            | varchar(20)  | YES  |     | NULL    |       |
| portfolio_link  | varchar(255) | YES  |     | NULL    |       |
| phone           | varchar(15)  | YES  |     | NULL    |       |
+-----------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql> DROP TABLE applications;
Query OK, 0 rows affected (0.04 sec)
```

2. **DML — Data Manipulation Language**
   (Insert, update, delete, retrieve data)

```
mysql> INSERT INTO users VALUES
    -> (1, 'Ravi', 'ravi@gmail.com', 'student', 'ravi.dev', '9876543210');
Query OK, 1 row affected (0.02 sec)
```

```
mysql> INSERT INTO users VALUES(2, 'Ananya Sharma', 'ananya@gmail.com', 'student', 'https://ananya.dev', '9123456780');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO users VALUES (3,'Arjun Patel','arjun@gmail.com','student','https://arjun.dev','9988776655');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO users VALUES (4,'Neha Verma','neha@gmail.com','recruiter','https://neha.company.com','9012345678');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO users VALUES (5,'Admin User','admin@applyfolio.com','admin',NULL,'9000000000');
Query OK, 1 row affected (0.01 sec)

mysql> DESC users;
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| user_id       | int          | NO   | PRI | NULL    |       |
| name          | varchar(100) | YES  |     | NULL    |       |
| email         | varchar(100) | YES  | UNI | NULL    |       |
| role          | varchar(20)  | YES  |     | NULL    |       |
| portfolio_link | varchar(255) | YES  |     | NULL    |       |
| phone         | varchar(15)  | YES  |     | NULL    |       |
+---------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql> SELECT * FROM users;
+---------+---------------+---------------------+-----------+-------------------------+------------+
| user_id | name          | email               | role      | portfolio_link          | phone      |
+---------+---------------+---------------------+-----------+-------------------------+------------+
|       1 | Ravi          | ravi@gmail.com      | student   | ravi.dev                | 9876543210 |
|       2 | Ananya Sharma | ananya@gmail.com    | student   | https://ananya.dev      | 9123456780 |
|       3 | Arjun Patel   | arjun@gmail.com     | student   | https://arjun.dev       | 9988776655 |
|       4 | Neha Verma    | neha@gmail.com      | recruiter | https://neha.company.com | 9012345678 |
|       5 | Admin User    | admin@applyfolio.com | admin     | NULL                    | 9000000000 |
+---------+---------------+---------------------+-----------+-------------------------+------------+
5 rows in set (0.00 sec)
```

```
mysql> INSERT INTO applications VALUES (101,1,'Google','Software Intern','Applied','2026-01-05');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO applications VALUES (102,2,'Microsoft','Cloud Intern','Applied','2026-01-06');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO applications VALUES (103,3,'Amazon','Backend Intern','Interview','2026-01-07');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO applications VALUES (104,1,'Infosys','System Intern','Applied','2026-01-08');
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM applications;
+--------+---------+-----------+-----------------+-----------+--------------+
| app_id | user_id | company   | position        | status    | applied_date |
+--------+---------+-----------+-----------------+-----------+--------------+
|    101 |       1 | Google    | Software Intern | Applied   | 2026-01-05   |
|    102 |       2 | Microsoft | Cloud Intern    | Applied   | 2026-01-06   |
|    103 |       3 | Amazon    | Backend Intern  | Interview | 2026-01-07   |
|    104 |       1 | Infosys   | System Intern   | Applied   | 2026-01-08   |
+--------+---------+-----------+-----------------+-----------+--------------+
4 rows in set (0.00 sec)
```

```
mysql> UPDATE applications SET status='Selected' WHERE app_id=101;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM applications;
+--------+---------+-----------+-----------------+-----------+--------------+
| app_id | user_id | company   | position        | status    | applied_date |
+--------+---------+-----------+-----------------+-----------+--------------+
|    101 |       1 | Google    | Software Intern | Selected  | 2026-01-05   |
|    102 |       2 | Microsoft | Cloud Intern    | Applied   | 2026-01-06   |
|    103 |       3 | Amazon    | Backend Intern  | Interview | 2026-01-07   |
|    104 |       1 | Infosys   | System Intern   | Applied   | 2026-01-08   |
+--------+---------+-----------+-----------------+-----------+--------------+
4 rows in set (0.00 sec)

mysql> DELETE FROM applications WHERE app_id=104;
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM applications;
+--------+---------+-----------+-----------------+-----------+--------------+
| app_id | user_id | company   | position        | status    | applied_date |
+--------+---------+-----------+-----------------+-----------+--------------+
|    101 |       1 | Google    | Software Intern | Selected  | 2026-01-05   |
|    102 |       2 | Microsoft | Cloud Intern    | Applied   | 2026-01-06   |
|    103 |       3 | Amazon    | Backend Intern  | Interview | 2026-01-07   |
+--------+---------+-----------+-----------------+-----------+--------------+
3 rows in set (0.00 sec)
```

```
mysql> SELECT name,email FROM users;
+--------------+----------------------+
| name         | email                |
+--------------+----------------------+
| Ravi         | ravi@gmail.com       |
| Ananya Sharma | ananya@gmail.com     |
| Arjun Patel  | arjun@gmail.com      |
| Neha Verma   | neha@gmail.com       |
| Admin User   | admin@applyfolio.com |
+--------------+----------------------+
5 rows in set (0.00 sec)

mysql> SELECT company,position,status FROM applications WHERE user_id=1;
+---------+-----------------+----------+
| company | position        | status   |
+---------+-----------------+----------+
| Google  | Software Intern | Selected |
+---------+-----------------+----------+
1 row in set (0.00 sec)
```

3. DCL — Data Control Language

(Granting and Revoking permissions)

```
mysql> CREATE USER 'apply_user'@'localhost' IDENTIFIED BY 'apply123';
Query OK, 0 rows affected (0.06 sec)

mysql> GRANT SELECT, INSERT ON appfoloio.* TO 'apply_user'@'localhost';
Query OK, 0 rows affected (0.01 sec)

mysql> SHOW GRANTS FOR 'apply_user'@'localhost';
+-------------------------------------------------------------------+
| Grants for apply_user@localhost                                   |
+-------------------------------------------------------------------+
| GRANT USAGE ON *.* TO `apply_user`@`localhost`                    |
| GRANT SELECT, INSERT ON `appfoloio`.* TO `apply_user`@`localhost` |
+-------------------------------------------------------------------+
2 rows in set (0.00 sec)

mysql> REVOKE INSERT ON appfoloio.* FROM 'apply_user'@'localhost';
Query OK, 0 rows affected (0.01 sec)

mysql> SHOW GRANTS FOR 'apply_user'@'localhost';
+-----------------------------------------------------------+
| Grants for apply_user@localhost                           |
+-----------------------------------------------------------+
| GRANT USAGE ON *.* TO `apply_user`@`localhost`            |
| GRANT SELECT ON `appfoloio`.* TO `apply_user`@`localhost` |
+-----------------------------------------------------------+
2 rows in set (0.00 sec)
```

4. TCL — Transaction Control Language

(Commit, Rollback, Savepoint)

```
mysql> START TRANSACTION;
Query OK, 0 rows affected (0.00 sec)

mysql> INSERT INTO applications VALUES (105,2,'TCS','Data Intern','Applied','2026-01-09');
Query OK, 1 row affected (0.00 sec)

mysql> SAVEPOINT s1;
Query OK, 0 rows affected (0.00 sec)

mysql> UPDATE applications SET status='Rejected' WHERE app_id=105;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> ROLLBACK TO s1;
Query OK, 0 rows affected (0.00 sec)

mysql> COMMIT;
Query OK, 0 rows affected (0.01 sec)

mysql> SELECT * FROM applications;
+--------+---------+-----------+-----------------+-----------+--------------+
| app_id | user_id | company   | position        | status    | applied_date |
+--------+---------+-----------+-----------------+-----------+--------------+
|    101 |       1 | Google    | Software Intern | Selected  | 2026-01-05   |
|    102 |       2 | Microsoft | Cloud Intern    | Applied   | 2026-01-06   |
|    103 |       3 | Amazon    | Backend Intern  | Interview | 2026-01-07   |
|    105 |       2 | TCS       | Data Intern     | Applied   | 2026-01-09   |
+--------+---------+-----------+-----------------+-----------+--------------+
4 rows in set (0.00 sec)

mysql>
```

5. Constraints

```
mysql> Create table a1(id INT PRIMARY KEY,name VARCHAR(50));
Query OK, 0 rows affected (0.03 sec)

mysql> CREATE TABLE b1 (app_id INT PRIMARY KEY,user_id INT,FOREIGN KEY (user_id) REFERENCES users(user_id));
Query OK, 0 rows affected (0.07 sec)

mysql> CREATE TABLE c1_unique (email VARCHAR(100) UNIQUE);
Query OK, 0 rows affected (0.06 sec)

mysql> CREATE TABLE d1_notnull (name VARCHAR(50) NOT NULL);
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE e1_check (age INT CHECK (age>=18));
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE f1_default (status VARCHAR(20) DEFAULT 'Applied');
Query OK, 0 rows affected (0.03 sec)
```

6. Joints

```
mysql> SELECT u.name,a.company,a.position
    -> FROM users u
    -> INNER JOIN applications a
    -> ON u.user_id = a.user_id;
+---------------+-----------+-----------------+
| name          | company   | position        |
+---------------+-----------+-----------------+
| Ravi          | Google    | Software Intern |
| Ananya Sharma | Microsoft | Cloud Intern    |
| Ananya Sharma | TCS       | Data Intern     |
| Arjun Patel   | Amazon    | Backend Intern  |
+---------------+-----------+-----------------+
4 rows in set (0.00 sec)

mysql> SELECT u.name,a.company
    -> FROM users u
    -> LEFT JOIN applications a
    -> ON u.user_id = a.user_id;
+---------------+-----------+
| name          | company   |
+---------------+-----------+
| Ravi          | Google    |
| Ananya Sharma | Microsoft |
| Ananya Sharma | TCS       |
| Arjun Patel   | Amazon    |
| Neha Verma    | NULL      |
| Admin User    | NULL      |
+---------------+-----------+
6 rows in set (0.01 sec)

mysql> SELECT u.name,a.company
    -> FROM users u
    -> RIGHT JOIN applications a
    -> ON u.user_id = a.user_id;
+---------------+-----------+
| name          | company   |
+---------------+-----------+
| Ravi          | Google    |
| Ananya Sharma | Microsoft |
| Arjun Patel   | Amazon    |
| Ananya Sharma | TCS       |
+---------------+-----------+
4 rows in set (0.00 sec)

mysql> SELECT a.company,u.name
    -> FROM users u
    -> LEFT JOIN applications a
    -> ON a.user_id = u.user_id;
+-----------+---------------+
| company   | name          |
+-----------+---------------+
| Google    | Ravi          |
| Microsoft | Ananya Sharma |
| TCS       | Ananya Sharma |
| Amazon    | Arjun Patel   |
| NULL      | Neha Verma    |
| NULL      | Admin User    |
+-----------+---------------+
6 rows in set (0.00 sec)
```

```
mysql> SELECT u.name,a.company
    -> FROM users u
    -> LEFT JOIN applications a
    -> ON u.user_id = a.user_id
    -> UNION
    -> SELECT u.name,a.company
    -> FROM users u
    -> RIGHT JOIN applications a
    -> ON u.user_id = a.user_id;
+---------------+-----------+
| name          | company   |
+---------------+-----------+
| Ravi          | Google    |
| Ananya Sharma | TCS       |
| Ananya Sharma | Microsoft |
| Arjun Patel   | Amazon    |
| Neha Verma    | NULL      |
| Admin User    | NULL      |
+---------------+-----------+
6 rows in set (0.01 sec)

mysql> SELECT A.name,B.name
    -> FROM users A, users B
    -> WHERE A.user_id <> B.user_id;
+---------------+---------------+
| name          | name          |
+---------------+---------------+
| Admin User    | Ravi          |
| Neha Verma    | Ravi          |
| Arjun Patel   | Ravi          |
| Ananya Sharma | Ravi          |
| Admin User    | Ananya Sharma |
| Neha Verma    | Ananya Sharma |
| Arjun Patel   | Ananya Sharma |
| Ravi          | Ananya Sharma |
| Admin User    | Arjun Patel   |
| Neha Verma    | Arjun Patel   |
| Ananya Sharma | Arjun Patel   |
| Ravi          | Arjun Patel   |
| Admin User    | Neha Verma    |
| Arjun Patel   | Neha Verma    |
| Ananya Sharma | Neha Verma    |
| Ravi          | Neha Verma    |
| Neha Verma    | Admin User    |
| Arjun Patel   | Admin User    |
| Ananya Sharma | Admin User    |
| Ravi          | Admin User    |
+---------------+---------------+
20 rows in set (0.00 sec)
```

```
mysql> SELECT u.name,a.company
    -> FROM users u
    -> CROSS JOIN applications a;
+---------------+-----------+
| name          | company   |
+---------------+-----------+
| Admin User    | Google    |
| Neha Verma    | Google    |
| Arjun Patel   | Google    |
| Ananya Sharma | Google    |
| Ravi          | Google    |
| Admin User    | Microsoft |
| Neha Verma    | Microsoft |
| Arjun Patel   | Microsoft |
| Ananya Sharma | Microsoft |
| Ravi          | Microsoft |
| Admin User    | Amazon    |
| Neha Verma    | Amazon    |
| Arjun Patel   | Amazon    |
| Ananya Sharma | Amazon    |
| Ravi          | Amazon    |
| Admin User    | TCS       |
| Neha Verma    | TCS       |
| Arjun Patel   | TCS       |
| Ananya Sharma | TCS       |
| Ravi          | TCS       |
+---------------+-----------+
20 rows in set (0.00 sec)
```

```
mysql> SELECT A.name,B.role
    -> FROM users A, users B
    -> WHERE A.user_id <> B.user_id;
+---------------+-----------+
| name          | role      |
+---------------+-----------+
| Admin User    | student   |
| Neha Verma    | student   |
| Arjun Patel   | student   |
| Ananya Sharma | student   |
| Admin User    | student   |
| Neha Verma    | student   |
| Arjun Patel   | student   |
| Ravi          | student   |
| Admin User    | student   |
| Neha Verma    | student   |
| Ananya Sharma | student   |
| Ravi          | student   |
| Admin User    | recruiter |
| Arjun Patel   | recruiter |
| Ananya Sharma | recruiter |
| Ravi          | recruiter |
| Neha Verma    | admin     |
| Arjun Patel   | admin     |
| Ananya Sharma | admin     |
| Ravi          | admin     |
+---------------+-----------+
20 rows in set (0.00 sec)
```

7. SQL CLAUSES

```
mysql> SELECT * FROM users WHERE role='student';
+---------+---------------+-------------------+---------+--------------------+------------+
| user_id | name          | email             | role    | portfolio_link     | phone      |
+---------+---------------+-------------------+---------+--------------------+------------+
|       1 | Ravi          | ravi@gmail.com    | student | ravi.dev           | 9876543210 |
|       2 | Ananya Sharma | ananya@gmail.com  | student | https://ananya.dev | 9123456780 |
|       3 | Arjun Patel   | arjun@gmail.com   | student | https://arjun.dev  | 9988776655 |
+---------+---------------+-------------------+---------+--------------------+------------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM users ORDER BY name;
+---------+---------------+----------------------+-----------+--------------------------+------------+
| user_id | name          | email                | role      | portfolio_link           | phone      |
+---------+---------------+----------------------+-----------+--------------------------+------------+
|       5 | Admin User    | admin@applyfolio.com | admin     | NULL                     | 9000000000 |
|       2 | Ananya Sharma | ananya@gmail.com     | student   | https://ananya.dev       | 9123456780 |
|       3 | Arjun Patel   | arjun@gmail.com      | student   | https://arjun.dev        | 9988776655 |
|       4 | Neha Verma    | neha@gmail.com       | recruiter | https://neha.company.com | 9012345678 |
|       1 | Ravi          | ravi@gmail.com       | student   | ravi.dev                 | 9876543210 |
+---------+---------------+----------------------+-----------+--------------------------+------------+
5 rows in set (0.00 sec)

mysql> SELECT * FROM users ORDER BY name DESC;
+---------+---------------+----------------------+-----------+--------------------------+------------+
| user_id | name          | email                | role      | portfolio_link           | phone      |
+---------+---------------+----------------------+-----------+--------------------------+------------+
|       1 | Ravi          | ravi@gmail.com       | student   | ravi.dev                 | 9876543210 |
|       4 | Neha Verma    | neha@gmail.com       | recruiter | https://neha.company.com | 9012345678 |
|       3 | Arjun Patel   | arjun@gmail.com      | student   | https://arjun.dev        | 9988776655 |
|       2 | Ananya Sharma | ananya@gmail.com     | student   | https://ananya.dev       | 9123456780 |
|       5 | Admin User    | admin@applyfolio.com | admin     | NULL                     | 9000000000 |
+---------+---------------+----------------------+-----------+--------------------------+------------+
5 rows in set (0.00 sec)

mysql> SELECT role,COUNT(*) FROM users GROUP BY role;
+-----------+----------+
| role      | COUNT(*) |
+-----------+----------+
| student   |        3 |
| recruiter |        1 |
| admin     |        1 |
+-----------+----------+
3 rows in set (0.00 sec)

mysql> SELECT role,COUNT(*) FROM users GROUP BY role HAVING COUNT(*)>1;
+---------+----------+
| role    | COUNT(*) |
+---------+----------+
| student |        3 |
+---------+----------+
1 row in set (0.00 sec)
```

```
mysql> SELECT DISTINCT role FROM users;
+-----------+
| role      |
+-----------+
| student   |
| recruiter |
| admin     |
+-----------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM users LIMIT 3;
+---------+---------------+-------------------+---------+--------------------+------------+
| user_id | name          | email             | role    | portfolio_link     | phone      |
+---------+---------------+-------------------+---------+--------------------+------------+
|       1 | Ravi          | ravi@gmail.com    | student | ravi.dev           | 9876543210 |
|       2 | Ananya Sharma | ananya@gmail.com  | student | https://ananya.dev | 9123456780 |
|       3 | Arjun Patel   | arjun@gmail.com   | student | https://arjun.dev  | 9988776655 |
+---------+---------------+-------------------+---------+--------------------+------------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM applications WHERE app_id BETWEEN 101 AND 103;
+--------+---------+-----------+-----------------+-----------+--------------+
| app_id | user_id | company   | position        | status    | applied_date |
+--------+---------+-----------+-----------------+-----------+--------------+
|    101 |       1 | Google    | Software Intern | Selected  | 2026-01-05   |
|    102 |       2 | Microsoft | Cloud Intern    | Applied   | 2026-01-06   |
|    103 |       3 | Amazon    | Backend Intern  | Interview | 2026-01-07   |
+--------+---------+-----------+-----------------+-----------+--------------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM users WHERE role IN ('student','admin');
+---------+---------------+----------------------+---------+--------------------+------------+
| user_id | name          | email                | role    | portfolio_link     | phone      |
+---------+---------------+----------------------+---------+--------------------+------------+
|       1 | Ravi          | ravi@gmail.com       | student | ravi.dev           | 9876543210 |
|       2 | Ananya Sharma | ananya@gmail.com     | student | https://ananya.dev | 9123456780 |
|       3 | Arjun Patel   | arjun@gmail.com      | student | https://arjun.dev  | 9988776655 |
|       5 | Admin User    | admin@applyfolio.com | admin   | NULL               | 9000000000 |
+---------+---------------+----------------------+---------+--------------------+------------+
4 rows in set (0.00 sec)

mysql> SELECT * FROM users WHERE name LIKE 'A%';
+---------+---------------+----------------------+---------+--------------------+------------+
| user_id | name          | email                | role    | portfolio_link     | phone      |
+---------+---------------+----------------------+---------+--------------------+------------+
|       2 | Ananya Sharma | ananya@gmail.com     | student | https://ananya.dev | 9123456780 |
|       3 | Arjun Patel   | arjun@gmail.com      | student | https://arjun.dev  | 9988776655 |
|       5 | Admin User    | admin@applyfolio.com | admin   | NULL               | 9000000000 |
+---------+---------------+----------------------+---------+--------------------+------------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM users WHERE portfolio_link IS NULL;
+---------+------------+----------------------+-------+----------------+------------+
| user_id | name       | email                | role  | portfolio_link | phone      |
+---------+------------+----------------------+-------+----------------+------------+
|       5 | Admin User | admin@applyfolio.com | admin | NULL           | 9000000000 |
+---------+------------+----------------------+-------+----------------+------------+
1 row in set (0.00 sec)
```

```
mysql> SELECT COUNT(*) FROM users;
+----------+
| COUNT(*) |
+----------+
|        5 |
+----------+
1 row in set (0.00 sec)

mysql> SELECT phone, IF(CHAR_LENGTH(phone)=10,'VALID','INVALID') AS phone_status FROM users;
+------------+--------------+
| phone      | phone_status |
+------------+--------------+
| 9876543210 | VALID        |
| 9123456780 | VALID        |
| 9988776655 | VALID        |
| 9012345678 | VALID        |
| 9000000000 | VALID        |
+------------+--------------+
5 rows in set (0.17 sec)

mysql> SELECT * FROM users WHERE CHAR_LENGTH(phone)=10;
+---------+---------------+----------------------+-----------+--------------------------+------------+
| user_id | name          | email                | role      | portfolio_link           | phone      |
+---------+---------------+----------------------+-----------+--------------------------+------------+
|       1 | Ravi          | ravi@gmail.com       | student   | ravi.dev                 | 9876543210 |
|       2 | Ananya Sharma | ananya@gmail.com     | student   | https://ananya.dev       | 9123456780 |
|       3 | Arjun Patel   | arjun@gmail.com      | student   | https://arjun.dev        | 9988776655 |
|       4 | Neha Verma    | neha@gmail.com       | recruiter | https://neha.company.com | 9012345678 |
|       5 | Admin User    | admin@applyfolio.com | admin     | NULL                     | 9000000000 |
+---------+---------------+----------------------+-----------+--------------------------+------------+
5 rows in set (0.01 sec)
```

```
mysql> \c
mysql> DELIMITER //
mysql> CREATE FUNCTION check_phone(phone_no VARCHAR(15))
    -> RETURNS VARCHAR(10)
    -> DETERMINISTIC
    -> BEGIN
    ->     IF CHAR_LENGTH(phone_no)=10 THEN
    ->         RETURN 'VALID';
    ->     ELSE
    ->         RETURN 'INVALID';
    ->     END IF;
    -> END//
Query OK, 0 rows affected (0.10 sec)

mysql> DELIMITER ;
mysql> SELECT name,phone,check_phone(phone) AS phone_status FROM users;
+---------------+------------+--------------+
| name          | phone      | phone_status |
+---------------+------------+--------------+
| Ravi          | 9876543210 | VALID        |
| Ananya Sharma | 9123456780 | VALID        |
| Arjun Patel   | 9988776655 | VALID        |
| Neha Verma    | 9012345678 | VALID        |
| Admin User    | 9000000000 | VALID        |
+---------------+------------+--------------+
5 rows in set (0.02 sec)
```

```
mysql> INSERT INTO users VALUES (6,'Test User','test@gmail.com','student','test.dev','9876543210');
Query OK, 1 row affected (0.03 sec)

mysql> SHOW TRIGGERS;
Empty set (0.05 sec)
```