DATA DEFINITION LANGUAGE (DDL)
`--To create a database with a proper character set and collation`

CREATE

1) CREATE DATABASE

```
CREATE DATABASE IF NOT EXISTS profile_maker CHARACTER SET utf8mb4 COLLATE
utf8mb4_unicode_ci;
```

2) CREATE TABLE

```
--Creating a `users` table
CREATE TABLE `users` (
  `id` int(11) UNSIGNED NOT NULL AUTO_INCREMENT,
  `username` varchar(25) NOT NULL UNIQUE,
  `password` varchar(25) NOT NULL,
  `prefix` enum('Mr.','Mrs.','Ms.', 'Mx.') DEFAULT NULL,
  `name` varchar(25) DEFAULT NULL,
  `email` varchar(50) DEFAULT NULL,
  `mobile` varchar(10) DEFAULT NULL,
  `age` tinyint UNSIGNED DEFAULT NULL,
  `gender` enum('Male','Female','Genderqueer', 'Undisclosed') DEFAULT NULL,
  `state` varchar(30) DEFAULT NULL,
  `profilePic` varchar(50) DEFAULT NULL,
  `resume` varchar(50) DEFAULT NULL,
  `creationTime` datetime DEFAULT CURRENT_TIMESTAMP,
  `modificationTime` datetime DEFAULT CURRENT_TIMESTAMP ON UPDATE
CURRENT_TIMESTAMP,
  CONSTRAINT `PK_users` PRIMARY KEY (`id`),
  CONSTRAINT `UQ_users_email` UNIQUE (`email`),
  CONSTRAINT `UQ_users_profilePic` UNIQUE (`profilePic`),
  CONSTRAINT `UQ_users_resume` UNIQUE (`resume`),
  CONSTRAINT `CHK_users_mobile` CHECK(`mobile` is null or `mobile` regexp
'^[0-9]{10}$'),
  INDEX `IX_users_email` (`email`),
  INDEX `IX_users_username_password` (`username`, `password`)
) ENGINE=InnoDB;
```

3) Creating Table from Existing Table

We can take structure only, take structure plus data.

```
sql> create table hm1 as select * from dept;
```

ALTER

1) **Adding Primary Key Constraint (Table Level)**

   ```
   ALTER TABLE `job_history` ADD CONSTRAINT `PK_jobhistory` PRIMARY
   KEY(`employee_id`);
   ```

2) **Adding Unique Key Constraint (Table Level)**

   ```
   ALTER TABLE `job_history` ADD CONSTRAINT `UQ_jobhistory`
   UNIQUE(`employee_id`);
   ```

3) **Adding Foreign Key COnstraint**

   ```
   ALTER TABLE `job_history` ADD CONSTRAINT `FK_jobs_jobhistory` FOREIGN
   KEY(`job_id`) REFERENCES `jobs`(`job_id`) ON DELETE CASCADE;
   ```
                            Or
         For Multiple Foreign Keys From Same Table
   ```
   ALTER TABLE `employees` ADD CONSTRAINT `FK_departments_employees`
   FOREIGN KEY(`manager_id`,`department_id`)
   REFERENCES `departments`(`manager_id`, `department_id`);
   ```

4) **Add a Column to Table**

   ```
   ALTER TABLE <TABLE NAME>
   ADD <COLUMN NAME> <DATATYPE>;
   ```

5) **Remove a Column From a Table**

   ```
   ALTER TABLE <TABLE NAME>
   DROP <COLUMN NAME>;
   ```

6) **Modify a Column**

   ```
   ALTER TABLE <TABLE NAME>
   MODIFY COLUMN <COLUMN NAME> <DATATYPE>;
   ```


TRUNCATE

The SQL TRUNCATE TABLE command is used to delete complete data from an existing table.

You can also use the DROP TABLE command to delete the complete table but it would remove the complete table structure from the database and you would need to re-create this table once again if you wish to store some data.

Syntax
TRUNCATE TABLE table_name;

DROP

1. Delete a Database
   DROP DATABASE dbName;
2. Delete/Drop a Column
   ALTER TABLE table_name
   DROP [COLUMN] column_name;