SET 1

consider a table called Students which contains student_id, first_name, last_name, department, and age as Columns. Create a simple select stored procedure that will select and display student records based on a specified department.

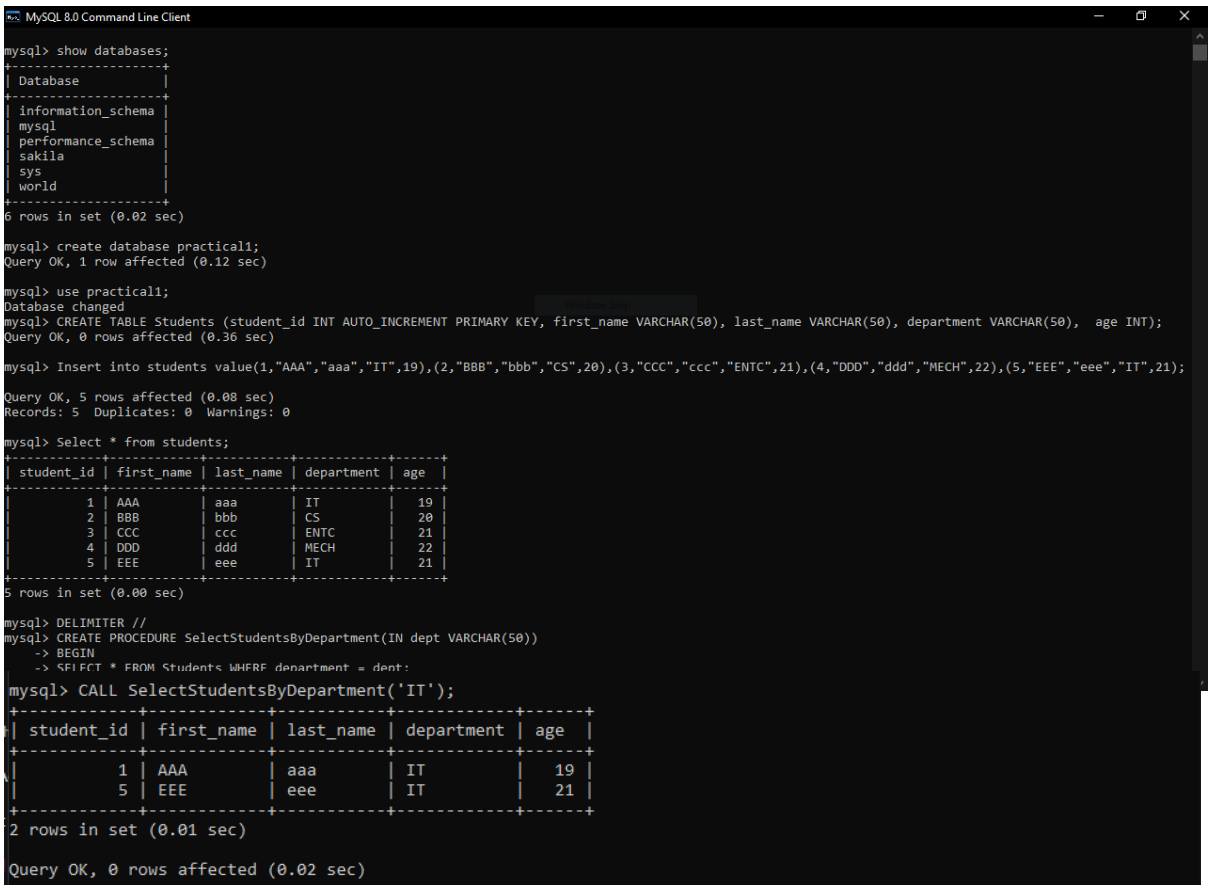
Solution :-

CREATE TABLE Students (student_id INT AUTO_INCREMENT PRIMARY KEY, first_name VARCHAR(50), last_name VARCHAR(50), department VARCHAR(50), age INT);

Insert into students value(1,”AAA”,”aaa”,”IT”,19),(2,”BBB”,”bbb”,”CS”,20),(3,”CCC”,”ccc”,”ENTC”,21),(4,”DDD”,”ddd”,”MECH”,22),(5,”EEE”,”eee”,”IT”,21);

Select * from students;

DELIMITER //
CREATE PROCEDURE SelectStudentsByDepartment(IN dept VARCHAR(50)) BEGIN SELECT * FROM Students WHERE department = dept; END //
CALL SelectStudentsByDepartment('IT');



OR

Create database, create table, give any 3 example query for arithematic operator, any 3 boolean sql query, any three pattern matching operator. Demonstrate the difference between truncate table and drop table.

Solution :-

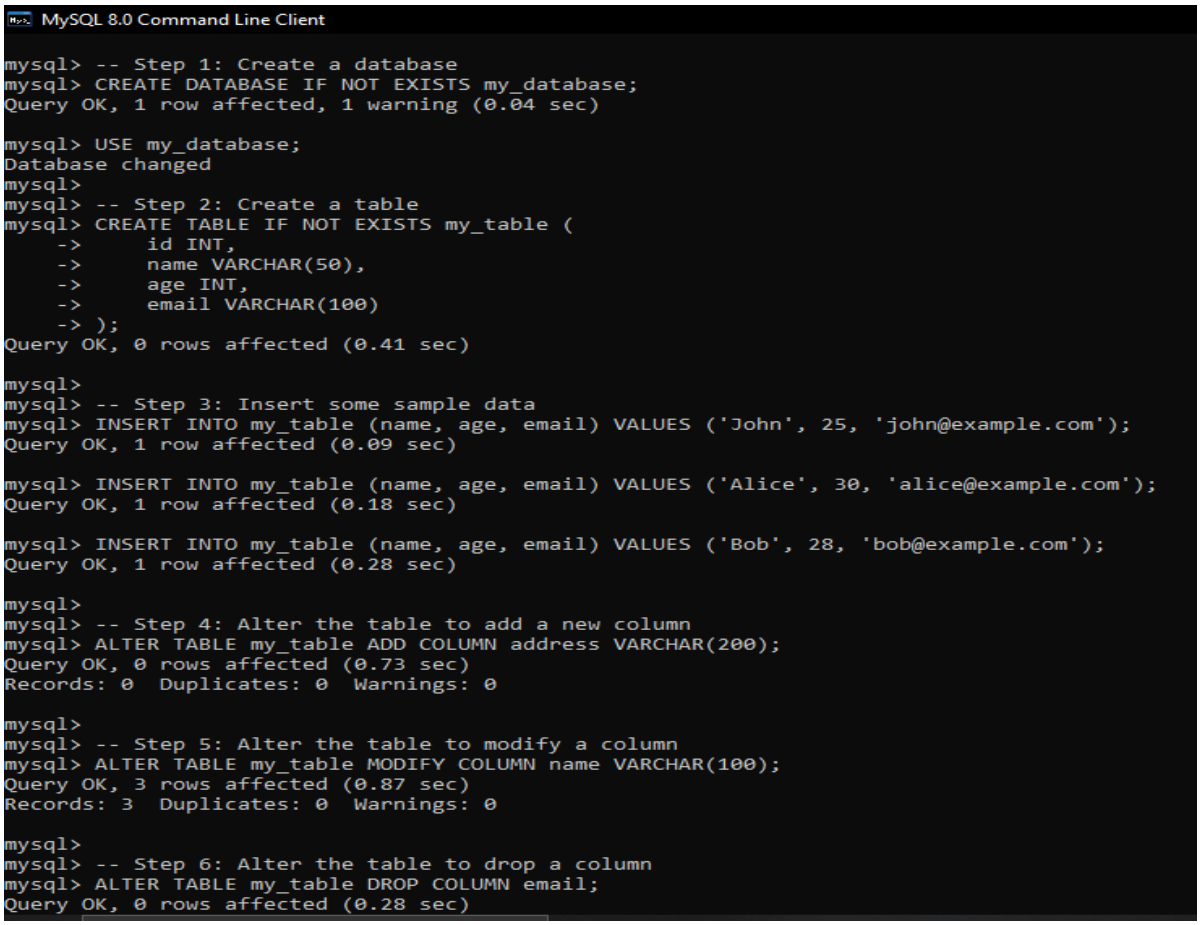
```
-- Step 1: Create a database
CREATE DATABASE IF NOT EXISTS my_database;
USE my_database;

-- Step 2: Create a table
CREATE TABLE IF NOT EXISTS my_table (
id INT,
name VARCHAR(50),
age INT,
email VARCHAR(100)
);

-- Step 3: Insert some sample data
INSERT INTO my_table (name, age, email) VALUES ('John', 25, 'john@example.com');
INSERT INTO my_table (name, age, email) VALUES ('Alice', 30, 'alice@example.com');
INSERT INTO my_table (name, age, email) VALUES ('Bob', 28, 'bob@example.com');

-- Step 4: Alter the table to add a new column
ALTER TABLE my_table ADD COLUMN address VARCHAR(200);

-- Step 5: Alter the table to modify a column
ALTER TABLE my_table MODIFY COLUMN name VARCHAR(100);

-- Step 6: Alter the table to drop a column ALTER TABLE my_table DROP COLUMN email;

-- Step 7: Rename the table
RENAME TABLE my_table TO new_table;
```

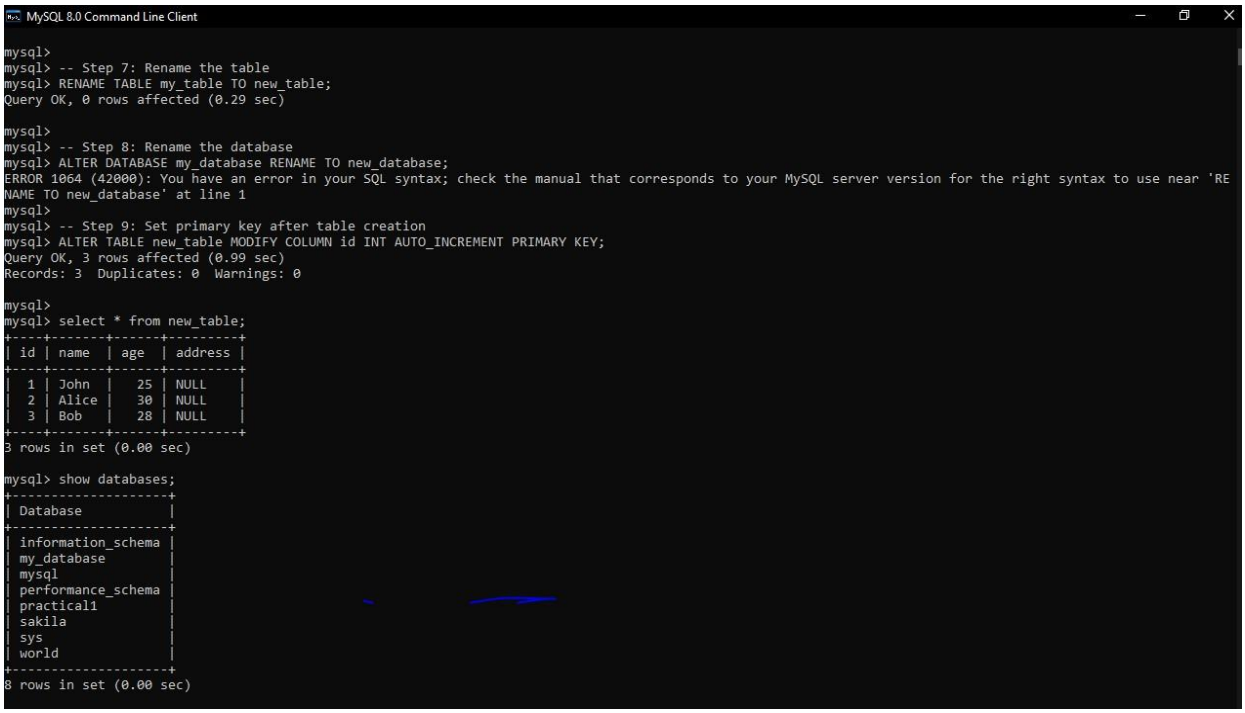
-- Step 8: Rename the database

ALTER DATABASE my_database RENAME TO new_database;

-- Step 9: Set primary key after table creation

ALTER TABLE new_table MODIFY COLUMN id INT AUTO_INCREMENT PRIMARY KEY;





Set 3

Create a table to store employee details. Define input parameters within the CREATE PROCEDURE statement and pass them in the CALL statement

Answer:-

```
-- Create the table to store employee details
CREATE TABLE Employee (
EmployeeID INT AUTO_INCREMENT PRIMARY KEY,
FirstName VARCHAR(50), LastName VARCHAR(50), Department VARCHAR(50), Position VARCHAR(50), Salary DECIMAL(10,2)
);

-- Create a stored procedure to insert data into the Employee table DELIMITER //
CREATE PROCEDURE InsertEmployee( IN p_FirstName VARCHAR(50),
IN p_LastName VARCHAR(50), IN p_Department VARCHAR(50), IN p_Position VARCHAR(50),
IN p_Salary DECIMAL(10, 2)
)
```

BEGIN
INSERT INTO Employee (FirstName, LastName, Department, Position, Salary) VALUES (p_FirstName, p_LastName, p_Department, p_Position, p_Salary);
END //
DELIMITER ;

-- Call the stored procedure to insert data into the Employee table CALL InsertEmployee('John', 'Doe', 'IT', 'Software Engineer', 60000.00);

OR

Create a database, create a table, demonstrate all DML commands. Add column to the existing table, set primary key to any of the column, remove the primary key.

Answer :-
****Create a Database**:**
```sql
CREATE DATABASE CompanyDB;
```

****Use the Database**:**

```sql
USE CompanyDB;
```

****Create a Table**:**
```sql
CREATE TABLE Employees (EmployeeID INT AUTO_INCREMENT,
FirstName VARCHAR(50), LastName VARCHAR(50), Department VARCHAR(50), Position VARCHAR(50), Salary DECIMAL(10, 2),
PRIMARY KEY (EmployeeID)
);
```

Insert Data:

```sql
INSERT INTO Employees (FirstName, LastName, Department, Position, Salary) VALUES
('John', 'Doe', 'IT', 'Software Engineer', 60000.00);
```

Select Data:
```sql
SELECT * FROM Employees;
```

Update Data:
```sql
UPDATE Employees SET Salary = 65000.00
WHERE EmployeeID = 1;
```

Delete Data:
```sql
DELETE FROM Employees WHERE EmployeeID = 1;
```

Add Column to Existing Table:
```sql
ALTER TABLE Employees

ADD Email VARCHAR(100);
```

Set Primary Key:
```sql
ALTER TABLE Employees
ADD PRIMARY KEY (EmployeeID);
```

****Remove Primary Key**:**

```sql
ALTER TABLE Employees DROP PRIMARY KEY;
```

SET 8

Write a SQL statement

- **to add a primary key for a combination of columns location_id and country_id.**

Solution :

```
create table locations(location_id int,street_address varchar(40),pin_code varchar(12),city varchar(30),state varchar(25),country_id varchar(2));
ALTER TABLE locations ADD PRIMARY KEY(location_id,country_id); show columns from locations;
```

- **to drop the existing primary from the table locations on a combination of columns location_id and country_id.**

Solution :

```
ALTER TABLE locations DROP PRIMARY KEY;
show columns from locations;
```

- **c) to add a foreign key on job id column of job_history table referencing to the primary key job id of jobs table**

Solution :-

```
ALTER TABLE jobs ADD PRIMARY KEY(job_id);
alter table job_history add foreign key(job_id) references jobs(job_id); show columns from job_history;
```

SET 9

Write a SQL statement to change salary of employee to 8000 whose ID is 105, if the existing salary is less than 5000,

Solution :-

```
create table employee(emp_id int , first_name varchar(25), last_name varchar(25), salary int
,job_title varchar(40));
insert into employee values(105 , "DIPALI" , "KHAIRNAR" , 4000 , 'CEO' ); update employee set salary = 8000 where emp_id = 105 and salary < 5000;\ select * from employee;
```

B) change job title of employee which ID is 118, to SH_CLERK if the employee belongs to department, which ID is 30 and the existing job title does not start with SH.

Solution :-

```
create table employee(employee_id int,first_name varchar(25), last_name varchar(25),salary int ,job_id varchar(40) , department_id int);
insert into employee values(118 , "DIPALI" , "KHAIRNAR" , 4000 , 'jn_clerk' ,30); select * from employee;
update employee set job_id = "SH_CLERK" WHERE employee_id = 118 AND department_id = 30  AND NOT job_id LIKE 'SH%';
select * from employee;
```

SET 16

Create table EMPLOYEE with attributes E_id, E_name, E_dept, E_salary, E_pno, E_city. Create view having E_id, E_name, E_dept, E_salary. create another table Employee details with some attributes and create another view from both the tables

answer :

```
CREATE TABLE employee ( e_id INT PRIMARY KEY,
e_name VARCHAR(70), e_dept VARCHAR(70), e_salary int ,
e_pno  VARCHAR(15),
e_city VARCHAR(30)
);
```

INSERT INTO employee (e_id, e_name, e_dept, e_salary, e_pno, e_city) VALUES (1, 'John Doe', 'IT', 50000.00, '123-456-7890', 'New York'), (2, 'Jane Smith', 'HR', 45000.00, '987-654-3210', 'Los Angeles'), (3, 'Michael Johnson', 'Finance', 55000.00, '555-555-5555', 'Chicago');

CREATE VIEW employee_view AS SELECT e_id, e_name, e_dept, e_salary FROM employee;

CREATE TABLE employee_details (e_id INT PRIMARY KEY,
e_doj DATE, e_age int,
e_pf int
);

INSERT INTO employee_details (e_id, e_doj, e_tpo, e_pf) VALUES (1, '2022- 01-15', 2000.00, 1500.00), (2, '2021-05-20', 1800.00, 1200.00), (3, '2023-03-10', 2200.00, 1600.00);

CREATE VIEW employee_details_view ASSELECT e_id, e_doj, e_tpo, e_pf FROM employee_details;

SET 17 :

Display name, credit_rating, sales_rep_id from S_customer table of those customer who either satisfies the condition that credit_rating is greater than 5 out of 10 and sales_rep_id is equal to 4232. Demonstrate pattern matching and logical operator.

Solution :-

CREATE TABLE S_customer (name VARCHAR(50), credit_rating INT, sales_rep_id INT);
INSERT INTO S_customer VALUES('Arun', 7, 4231), ('Atharva', 6, 4231);
SELECT name, credit_rating, sales_rep_id FROM S_customer
WHERE (credit_rating > 5 AND sales_rep_id = 4232);

SET 18 :

Display the id, name and phone number of the customer
Whose id falls in the range 303 to 306
Whose id is greater than 300 and customer belongs to Pune
display the id, names of employee whose names contains fourth and fifth leters are 'sh' followed by anything and also belogs to pune city.

Solution :-

```
CREATE TABLE customers ( id INT PRIMARY KEY,
name VARCHAR(100),
phone_number VARCHAR(15), city VARCHAR(50)
);


CREATE TABLE employees ( id INT PRIMARY KEY,
name VARCHAR(100), city VARCHAR(50)
);

INSERT INTO customers (id, name, phone_number, city) VALUES
(301, 'John Doe', '123-456-7890', 'Pune'),
(302, 'Jane Smith', '987-654-3210', 'Mumbai'),
(303, 'Alice Wonderland', '555-123-4567', 'Pune'),
(304, 'Bob Builder', '777-888-9999', 'Pune'),
(305, 'Charlie Chaplin', '444-555-6666', 'Pune'),
(306, 'David Beckham', '111-222-3333', 'Delhi');


INSERT INTO employees (id, name, city) VALUES
(101, 'Ashley Johnson', 'Pune'), (102, 'Michelle Sharma', 'Mumbai'), (103, 'Joshua Smith', 'Pune'),
(104, 'Nisha Shah', 'Pune'),
(105, 'Rajesh Patel', 'Mumbai'),
(106, 'Rakesh Kumar', 'Pune');


SELECT * FROM customers WHERE id BETWEEN 303 AND 306;
```

SELECT * FROM customers WHERE id > 300 AND city = 'Pune';

SELECT * FROM employees
WHERE name LIKE '_sh%' AND city = 'Pune';

SET 16TH AND 19TH

Step 1 = Create database,
CREATE DATABASE IF NOT EXISTS MyDatabase;

Step 2 = Use database,
USE MyDatabase;

Step 3 = Create Table,
CREATE TABLE IF NOT EXISTS Employees (employee_id INT PRIMARY KEY, employee_name VARCHAR(100) NOT NULL, department VARCHAR(100), salary DECIMAL(10, 2));

Step 4 = Insert Values,
INSERT INTO Employees (employee_id, employee_name, department, salary)VALUES (1, 'John Doe', 'IT', 50000.00),(2, 'Jane Smith', 'HR', 45000.00),(3, 'Alice Johnson', 'Finance', 55000.00);

Step 5 = Showing Table,
select * from Employees;

step 6 = Adding not null constraint,
ALTER TABLE Employees MODIFY COLUMN employee_name VARCHAR(100) NOT NULL;

Step 7 = Insert Value into table,
INSERT INTO Employees (employee_id, employee_name, department, salary)VALUES (4, null, 'IT', 50000.00);
(NOTE : It shows an error means part a is completed)

Step 8 = Remove not null constraint,

ALTER TABLE Employees MODIFY COLUMN employee_name VARCHAR(100) NULL;

Step 9 = Insert value into table,

INSERT INTO Employees (employee_id, employee_name, department, salary)VALUES (4, null, 'IT', 50000.00);

Step 10 = Showing table,

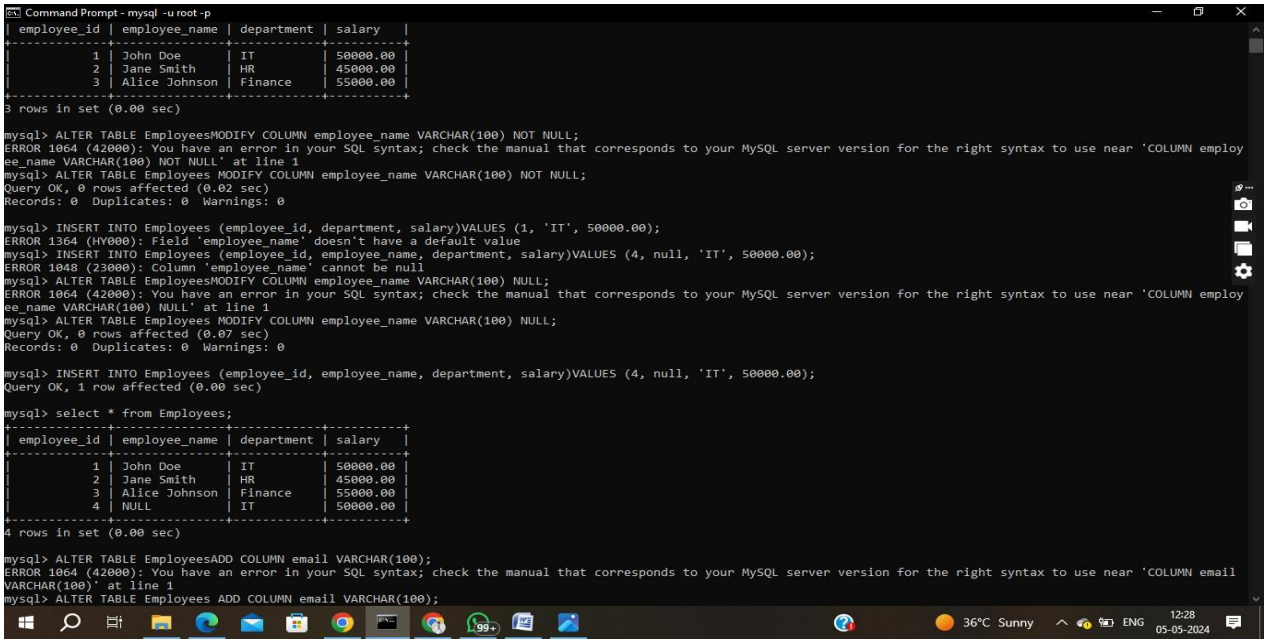
select * from Employees;

step 11 = Adding a new column,

ALTER TABLE Employees ADD COLUMN email VARCHAR(100);

Step 12 = showing table,

select * from Employees;



Set : 20

```
mysql> create table EmployeeDetails
    -> (
    -> EmpId int primary key,
    -> FullName varchar(50),
    -> ManagerId int,
    -> DateOfJoining date,
    -> City varchar(20)
    -> );
Query OK, 0 rows affected (0.20 sec)

mysql> insert into EmployeeDetails values
    -> (121,'John Snow',321,'2019-01-31','Toronto'),
    -> (321,'Walter White',986,'2020-01-30','California'),
    -> (421,'Kuldeep Rana',876,'2021-11-27','New Delhi');
Query OK, 3 rows affected (0.05 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

- **Reference Table to solve following SQL queries : -**

```
mysql> select * from EmployeeDetails;
+-------+--------------+-----------+---------------+------------+
| EmpId | FullName     | ManagerId | DateOfJoining | City       |
+-------+--------------+-----------+---------------+------------+
|   121 | John Snow    |       321 | 2019-01-31    | Toronto    |
|   321 | Walter White |       986 | 2020-01-30    | California |
|   421 | Kuldeep Rana |       876 | 2021-11-27    | New Delhi  |
+-------+--------------+-----------+---------------+------------+
3 rows in set (0.01 sec)
```

A) Write an SQL query to fetch the EmpId and FullName of all the employees working under the Manager Id – ‘986’.

```
mysql> select EmpId,FullName from EmployeeDetails where ManagerId = '986';
+-------+--------------+
| EmpId | FullName     |
+-------+--------------+
|   321 | Walter White |
+-------+--------------+
1 row in set (0.06 sec)
```

B) write an sql query to fetch the employees whose name begins with any two characters,followed by text 'hn' and ends with any sequence of characters.

```
mysql> select * from EmployeeDetails
    -> where FullName like 'hn%';
Empty set (0.05 sec)
```

C) write an sql query to fetch the employees full names and replace the space with '-'

```
mysql> select replace(FullName, ' ','-')as modified_full_name
    -> from EmployeeDetails;
+--------------------+
| modified_full_name |
+--------------------+
| John-Snow          |
| Walter-White       |
| Kuldeep-Rana       |
+--------------------+
3 rows in set (0.01 sec)
```

OR

```
mysql> DELIMITER //
mysql>
mysql> CREATE PROCEDURE AddTwoNumbers (IN num1 INT, IN num2 INT, OUT
result INT)
    -> BEGIN
    ->     SET result = num1 + num2;
    -> END //
Query OK, 0 rows affected (0.02 sec)

mysql>
mysql> DELIMITER ;
mysql> CALL AddTwoNumbers(10, 5, @sum);
Query OK, 0 rows affected (0.05 sec)

mysql> SELECT @sum AS SumResult;
+-----------+
| SumResult |
+-----------+
|        15 |
+-----------+
1 row in set (0.00 sec)
```

SET 16TH AND 19TH

Step 1 = Create database,

```
CREATE DATABASE IF NOT EXISTS MyDatabase;
```

Step 2 = Use database,

```
USE MyDatabase;
```

Step 3 = Create Table,

```
CREATE TABLE IF NOT EXISTS Employees
(    employee_id INT PRIMARY KEY,
employee_name VARCHAR(100) NOT NULL,
department VARCHAR(100),    salary DECIMAL(10,
2));
```

Step 4 = Insert Values,

```
INSERT INTO Employees (employee_id,
employee_name, department, salary)VALUES (1,
```

'John Doe', 'IT', 50000.00),(2, 'Jane Smith', 'HR', 45000.00),(3, 'Alice Johnson', 'Finance', 55000.00);

Step 5 = Showing Table,

select * from Employees;

step 6 = Adding not null constraint,

ALTER TABLE Employees MODIFY COLUMN employee_name VARCHAR(100) NOT NULL;

Step 7 = Insert Value into table,

INSERT INTO Employees (employee_id, employee_name, department, salary)VALUES (4, null, 'IT', 50000.00);

(NOTE : It shows an error means part a is completed)

Step 8 = Remove not null constraint,

ALTER TABLE Employees MODIFY COLUMN employee_name VARCHAR(100) NULL;

Step 9 = Insert value into table,

INSERT INTO Employees (employee_id, employee_name, department, salary)VALUES (4, null, 'IT', 50000.00);

Step 10 = Showing table,

select * from Employees;

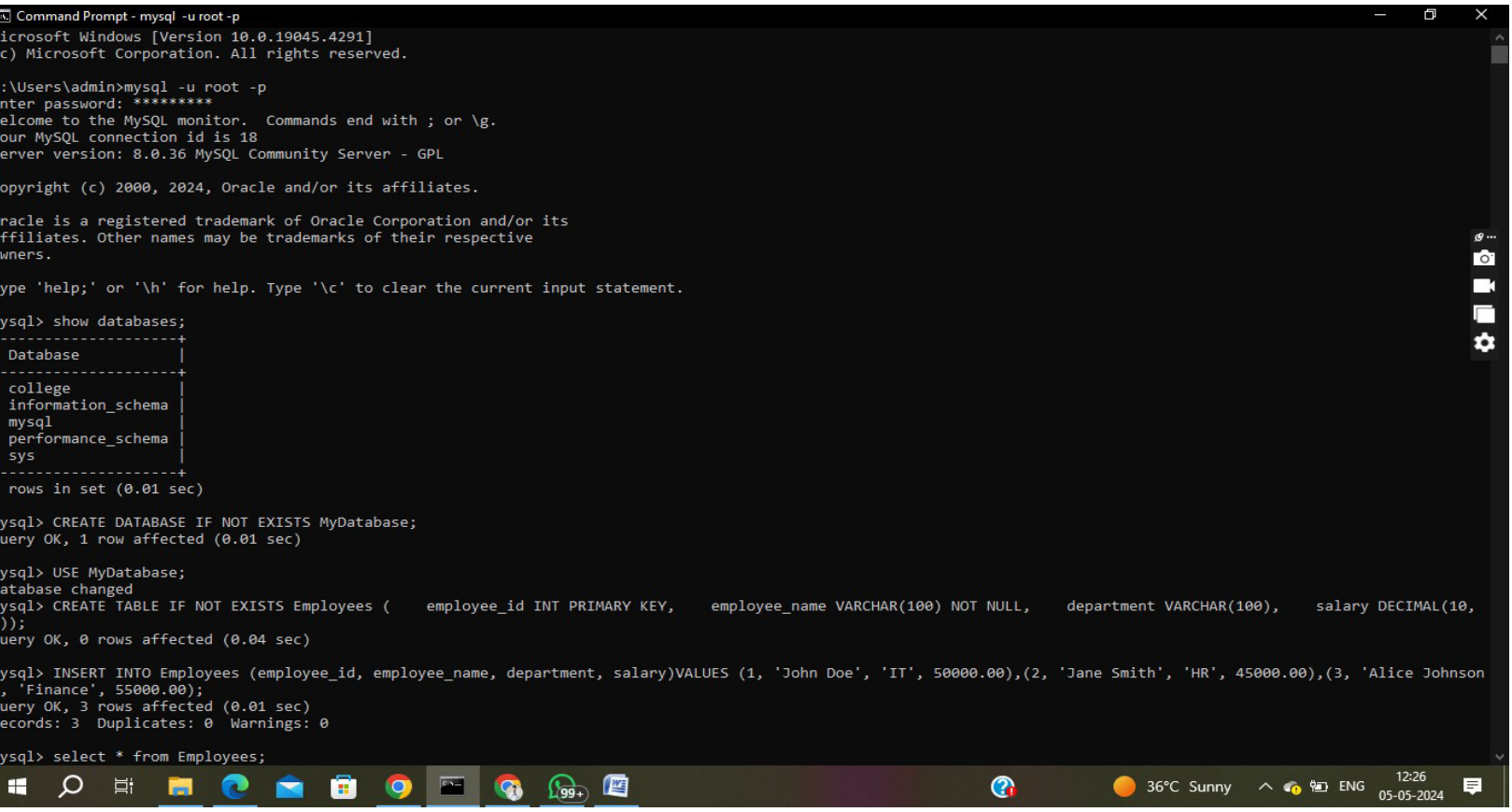
step 11 = Adding a new column,

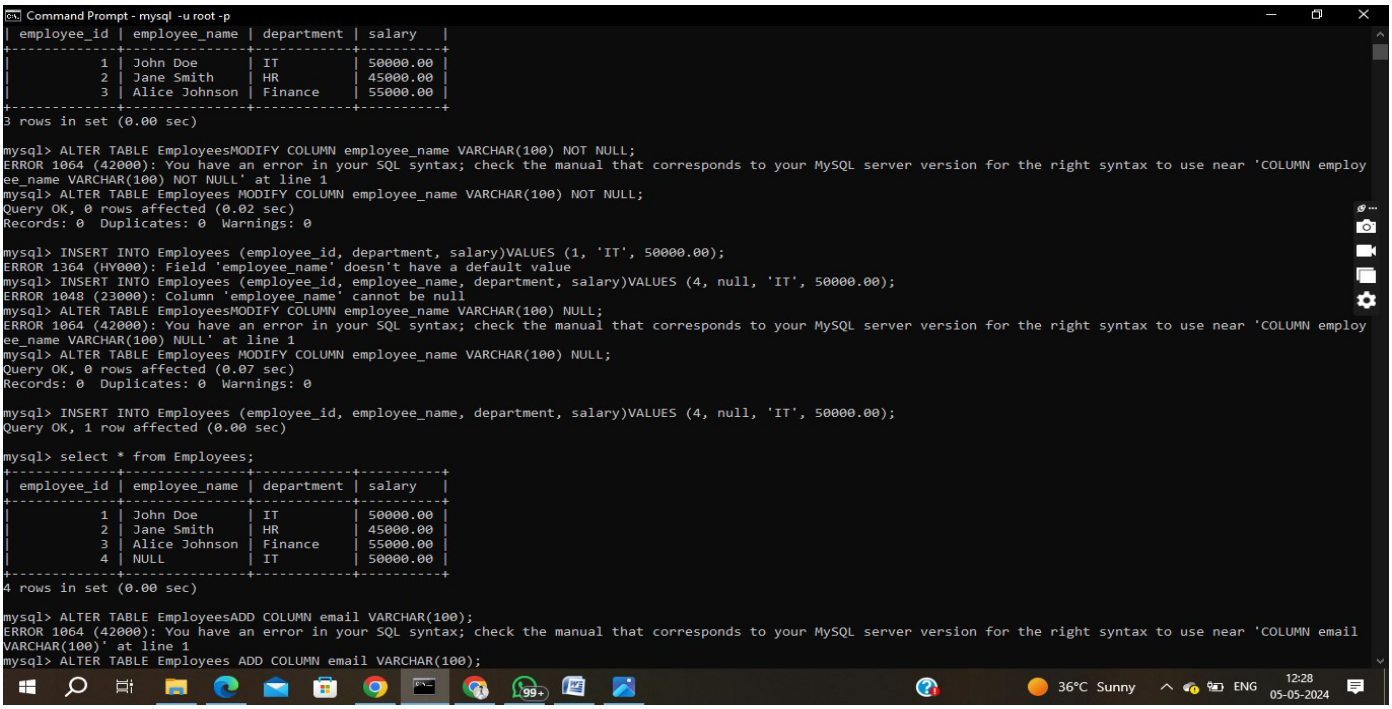
ALTER TABLE Employees ADD COLUMN email VARCHAR(100);

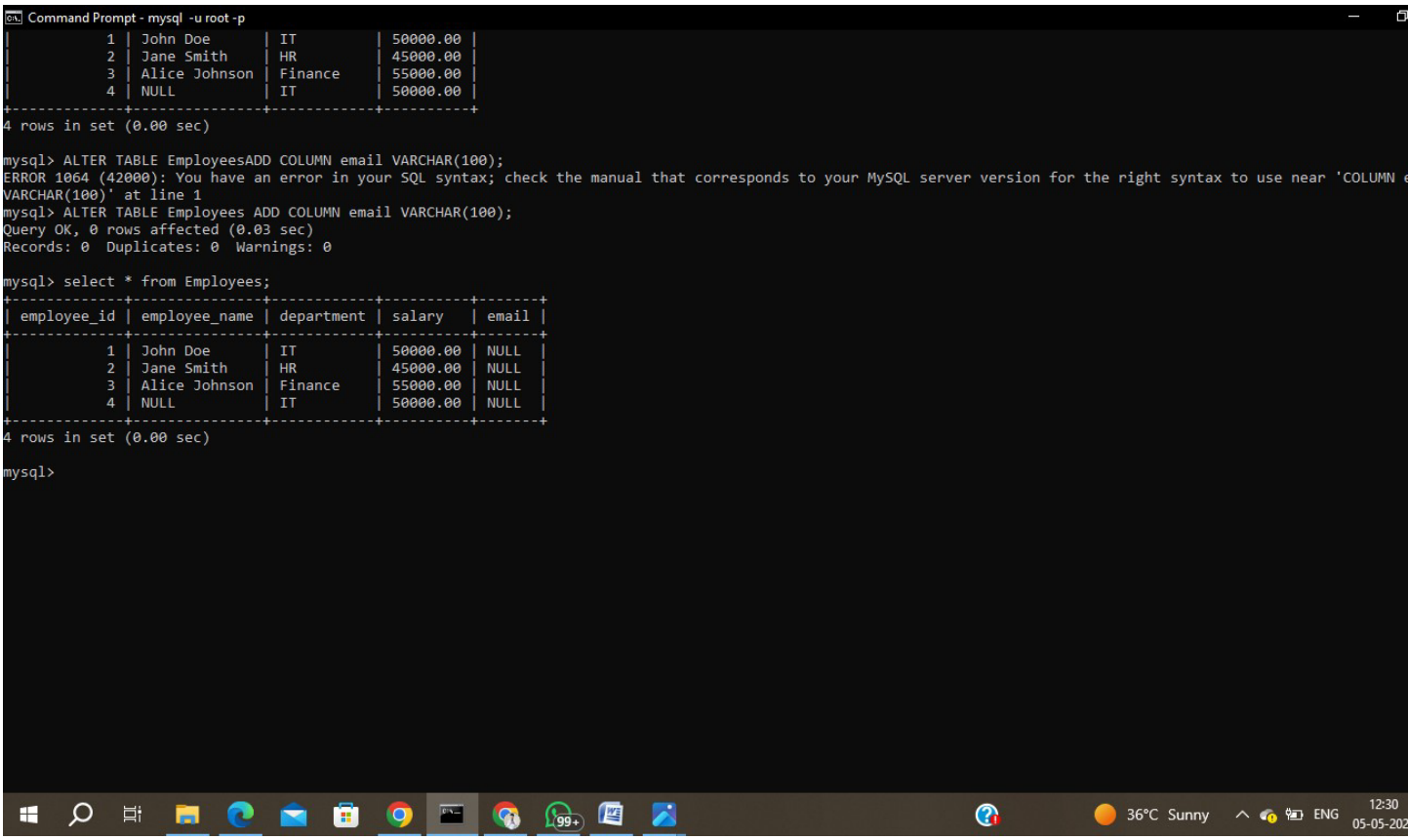
Step 12 = showing table,

select * from Employees;

DONE !!


Command Prompt - mysql -u root -p
icrosoft Windows [Version 10.0.19045.4291]
c) Microsoft Corporation. All rights reserved.
:\Users\admin>mysql -u root -p
nter password: *********
elcome to the MySQL monitor. Commands end with ; or \g.
our MySQL connection id is 18
erver version: 8.0.36 MySQL Community Server - GPL
opyright (c) 2000, 2024, Oracle and/or its affiliates.
racle is a registered trademark of Oracle Corporation and/or its
ffiliates. Other names may be trademarks of their respective
wners.
ype 'help;' or '\h' for help. Type '\c' to clear the current input statement.
ysql> show databases;
Database
college
information_schema
mysql
performance_schema
sys
rows in set (0.01 sec)
ysql> CREATE DATABASE IF NOT EXISTS MyDatabase;
uery OK, 1 row affected (0.01 sec)
ysql> USE MyDatabase;
atabase changed
ysql> CREATE TABLE IF NOT EXISTS Employees (employee_id INT PRIMARY KEY, employee_name VARCHAR(100) NOT NULL, department VARCHAR(100), salary DECIMAL(10,
));
uery OK, 0 rows affected (0.04 sec)
ysql> INSERT INTO Employees (employee_id, employee_name, department, salary)VALUES (1, 'John Doe', 'IT', 50000.00),(2, 'Jane Smith', 'HR', 45000.00),(3, 'Alice Johnson
, 'Finance', 55000.00);
uery OK, 3 rows affected (0.01 sec)
ecords: 3 Duplicates: 0 Warnings: 0
ysql> select * from Employees;
36°C Sunny
ENG
12:26
05-05-2024


Command Prompt - mysql -u root -p
employee_id	employee_name	department	salary
1	John Doe	IT	50000.00
2	Jane Smith	HR	45000.00
3	Alice Johnson	Finance	55000.00
3 rows in set (0.00 sec)
mysql> ALTER TABLE EmployeesMODIFY COLUMN employee_name VARCHAR(100) NOT NULL;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'COLUMN employee_name VARCHAR(100) NOT NULL' at line 1
mysql> ALTER TABLE Employees MODIFY COLUMN employee_name VARCHAR(100) NOT NULL;
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> INSERT INTO Employees (employee_id, department, salary)VALUES (1, 'IT', 50000.00);
ERROR 1364 (HY000): Field 'employee_name' doesn't have a default value
mysql> INSERT INTO Employees (employee_id, employee_name, department, salary)VALUES (4, null, 'IT', 50000.00);
ERROR 1048 (23000): Column 'employee_name' cannot be null
mysql> ALTER TABLE EmployeesMODIFY COLUMN employee_name VARCHAR(100) NULL;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'COLUMN employee_name VARCHAR(100) NULL' at line 1
mysql> ALTER TABLE Employees MODIFY COLUMN employee_name VARCHAR(100) NULL;
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> INSERT INTO Employees (employee_id, employee_name, department, salary)VALUES (4, null, 'IT', 50000.00);
Query OK, 1 row affected (0.00 sec)
mysql> select * from Employees;
employee_id	employee_name	department	salary
1	John Doe	IT	50000.00
2	Jane Smith	HR	45000.00
3	Alice Johnson	Finance	55000.00
4	NULL	IT	50000.00
4 rows in set (0.00 sec)
mysql> ALTER TABLE EmployeesADD COLUMN email VARCHAR(100);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'COLUMN email VARCHAR(100)' at line 1
mysql> ALTER TABLE Employees ADD COLUMN email VARCHAR(100);
36°C Sunny
ENG
12:28
05-05-2024


Command Prompt - mysql -u root -p
1	John Doe	IT	50000.00
2	Jane Smith	HR	45000.00
3	Alice Johnson	Finance	55000.00
4	NULL	IT	50000.00
4 rows in set (0.00 sec)
mysql> ALTER TABLE EmployeesADD COLUMN email VARCHAR(100);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'COLUMN e
VARCHAR(100)' at line 1
mysql> ALTER TABLE Employees ADD COLUMN email VARCHAR(100);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> select * from Employees;
employee_id	employee_name	department	salary	email
1	John Doe	IT	50000.00	NULL
2	Jane Smith	HR	45000.00	NULL
3	Alice Johnson	Finance	55000.00	NULL
4	NULL	IT	50000.00	NULL
4 rows in set (0.00 sec)
mysql>
36°C Sunny
ENG
12:30
05-05-202