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Lab: SL1(DBMS)

Lab Assignment 7

Problem Statement : Write a program to implement MySQL/Oracle database connectivity with any front end language toimplement Database navigation operations (add, delete, edit etc.)

```
import mysql.connector
# Connect to MySQL
conn = mysql.connector.connect(
    host="localhost",
    user="root",
    password="Root@123",
    database="student_db"
)
cursor = conn.cursor()
# Functions for DB operations
def add_student(name, roll_no, division):
    query = "INSERT INTO students (name, roll_no, division) VALUES (%s, %s, %s)"
    cursor.execute(query, (name, roll_no, division))
    conn.commit()
    print(" Student added successfully!")
def view_students():
    cursor.execute("SELECT * FROM students")
    rows = cursor.fetchall()
    if not rows:
        print("\nNo records found.")
        return
    print("\n Student List:")
    for row in rows:
        print(f"ID: {row[0]}, Name: {row[1]}, Roll No: {row[2]}, Division: {row[3]}")
def edit_student(student_id, name, roll_no, division):
    query = "UPDATE students SET name=%s, roll_no=%s, division=%s WHERE id=%s"
    cursor.execute(query, (name, roll_no, division, student_id))
    conn.commit()
    print(" Student details updated successfully!")

def delete_student(student_id):
    query = "DELETE FROM students WHERE id=%s"
    cursor.execute(query, (student_id,))
    conn.commit()
    print(" Student deleted successfully!")
# Terminal menu
while True:
    print("\n--- Student Database Menu ---")
    print("1. Add Student")
    print("2. View Students")
    print("3. Edit Student")
    print("4. Delete Student")
    print("5. Exit")
   choice = input("Enter your choice: ")
    if choice == "1":
```

```
            name = input("Enter Name: ")
            roll_no = int(input("Enter Roll No: "))
            division = input("Enter Division: ")
            add_student(name, roll_no, division)

        elif choice == "2":
            view_students()

        elif choice == "3":
            student_id = int(input("Enter Student ID to edit: "))
            name = input("Enter New Name: ")
            roll_no = int(input("Enter New Roll No: "))
            division = input("Enter New Division: ")
            edit_student(student_id, name, roll_no, division)

        elif choice == "4":
            student_id = int(input("Enter Student ID to delete: "))
            delete_student(student_id)

        elif choice == "5":
            print("Exiting...")
            break
        else:
            print(" Invalid choice! Please try again.")
    # Close connection
    cursor.close()
    conn.close()
```

OUTPUT

```
(base) admin1@admin1-MS-7D48:~$ python3 7.py

--- Student Database Menu ---
1. Add Student
2. View Students
3. Edit Student
4. Delete Student
5. Exit
Enter your choice: 1
Enter Name: x
Enter Roll No: 1
Enter Division: B
 Student added successfully!

--- Student Database Menu ---
1. Add Student
2. View Students
3. Edit Student
4. Delete Student
5. Exit
Enter your choice: 1
Enter Name: y
Enter Roll No: 2
Enter Division: B
 Student added successfully!

--- Student Database Menu ---
1. Add Student
2. View Students
3. Edit Student
4. Delete Student
5. Exit
Enter your choice: 1
Enter Name: z
Enter Roll No: 3
Enter Division: B
 Student added successfully!

--- Student Database Menu ---
1. Add Student
2. View Students
3. Edit Student
4. Delete Student
5. Exit
Enter your choice: 1
Enter Name: a
Enter Roll No: 4
Enter Division: C
 Student added successfully!
```

```
--- Student Database Menu ---
1. Add Student
2. View Students
3. Edit Student
4. Delete Student
5. Exit
Enter your choice: 2

 Student List:
ID: 4, Name: x, Roll No: 1, Division: B
ID: 5, Name: y, Roll No: 2, Division: B
ID: 6, Name: z, Roll No: 3, Division: B
ID: 7, Name: a, Roll No: 4, Division: C

--- Student Database Menu ---
1. Add Student
2. View Students
3. Edit Student
4. Delete Student
5. Exit
Enter your choice: 3
Enter Student ID to edit: 4
Enter New Name: v
Enter New Roll No: 9
Enter New Division: A
 Student details updated successfully!

--- Student Database Menu ---
1. Add Student
2. View Students
3. Edit Student
4. Delete Student
5. Exit
Enter your choice: 4
Enter Student ID to delete: 7
 Student deleted successfully!

--- Student Database Menu ---
1. Add Student
2. View Students
3. Edit Student
4. Delete Student
5. Exit
Enter your choice: 5
Exiting...
(base) admin1@admin1-MS-7D48:~$
```

Mysql connection (before):

```
mysql> create database student;
Query OK, 1 row affected (0.00 sec)

mysql> USE student
Database changed
mysql> CREATE TABLE students (
    ->      id INT PRIMARY KEY,
    ->      name VARCHAR(100),
    ->      roll_no INT,
    ->      div CHAR(1)
    -> );
ERROR 1064 (42000): You have an error in your SQL syntax;
)' at line 5
mysql> CREATE TABLE students (
    -> id INT PRIMARY KEY,
    -> NAME VARCHAR(100),
    -> ROLL_NO INT,
    -> DIVISION VARCHAR(5));
Query OK, 0 rows affected (0.04 sec)

mysql> select * from students;
Empty set (0.01 sec)
```

Mysql connection (after):

1.View of database after adding table and data.

```
mysql> select * from students;
+----+------+---------+----------+
| id | NAME | ROLL_NO | DIVISION |
+----+------+---------+----------+
|  4 | x    |       1 | B        |
|  5 | y    |       2 | B        |
|  6 | z    |       3 | B        |
|  7 | a    |       4 | C        |
+----+------+---------+----------+
4 rows in set (0.00 sec)
```

2. after editing the table

```
mysql> select * from students;
+----+------+---------+----------+
| id | NAME | ROLL_NO | DIVISION |
+----+------+---------+----------+
|  4 | v    |       9 | A        |
|  5 | y    |       2 | B        |
|  6 | z    |       3 | B        |
|  7 | a    |       4 | C        |
+----+------+---------+----------+
4 rows in set (0.01 sec)
```

3.After Deleting data

```
mysql> select * from students;
+----+------+---------+----------+
| id | NAME | ROLL_NO | DIVISION |
+----+------+---------+----------+
|  4 | v    |       9 | A        |
|  5 | y    |       2 | B        |
|  6 | z    |       3 | B        |
+----+------+---------+----------+
3 rows in set (0.00 sec)
```