

Finals Lab Task 6. Connection Mysql using Python using CLI

1. Make sure you have installed the following pre-requisites before proceeding:
 - a. Mysql-connector
 - b. Mysql-connector-python
 - c. Xampp is running along with Apache and Mysql in the background
 - d. Make sure you have a database in Mysql named testDB with an employees table with at-least 10 records (You may import the attached SQL file to start with)
2. Guided by the Demo code attached in this task. Test_DemoDB.py
3. Kindly continue working on the code that will allow the user to navigate through the Database and perform CRUD operations. Follow the following **CLI Menu Options**:

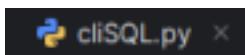
```
----- Employee Manager -----
```

1. Add Employee
2. View Employees
3. Update Employee
4. Delete Employee
5. Exit

```
Select an option (1-5):
```

4. The user should be able to add New Records when 1 is selected and show the records, 2- Display all records, 3 Update a Record and show the updates, 4 – Delete a record 5- Exit
5. For additional challenge, Task – You are tasked to add a **SEARCH option** in the MENU that will allow the user to search by Name or emp_id, then display the information about the record being search.

PROGRAM CODE:



```
1 import mysql.connector
2
3 conn = mysql.connector.connect(
4     host="localhost",
5     user="root",
6     password="",
7     database="testdb"
8 )
9
10 cursor = conn.cursor()
11
12 def add_employee(): 1usage
13     name = input("Enter name: ")
14     emp_id = input("Enter employee ID: ")
15     salary = float(input("Enter salary: "))
16
17     cursor.execute(
18         operation: "INSERT INTO employees (name, emp_id, salary) VALUES (%s, %s, %s)",
19         params: (name, emp_id, salary)
20     )
21     conn.commit()
22     print("\n✓ Employee added successfully!\n")
23
24 def view_employees(): 1usage
25     cursor.execute("SELECT * FROM employees")
26     rows = cursor.fetchall()
27
28     print("\n*** EMPLOYEES LIST ***")
29     if rows:
30         for row in rows:
31             print(row)
32     else:
33         print("No employees found.")
34     print()
35
36 def update_employee(): 1usage
37     emp_id = input("Enter employee ID to update: ")
38
39     cursor.execute(operation: "SELECT * FROM employees WHERE emp_id=%s", params: (emp_id,))
40     result = cursor.fetchone()
```

```
41     if not result:
42         print("\n⚠ Employee not found!\n")
43         return
44
45     print("\nCurrent Info:", result)
46
47     new_name = input("Enter new name: ")
48     new_salary = float(input("Enter new salary: "))
49
50     cursor.execute(
51         operation: "UPDATE employees SET name=%s, salary=%s WHERE emp_id=%s",
52         params: (new_name, new_salary, emp_id)
53     )
54     conn.commit()
55     print("\n✓ Employee updated successfully!\n")
56
57 def delete_employee():  usage
58     emp_id = input("Enter employee ID to delete: ")
59
60     cursor.execute( operation: "SELECT * FROM employees WHERE emp_id=%s", params: (emp_id,))
61     result = cursor.fetchone()
62
63     if not result:
64         print("\n⚠ Employee not found!\n")
65         return
66
67     cursor.execute( operation: "DELETE FROM employees WHERE emp_id=%s", params: (emp_id,))
68     conn.commit()
69     print("\n✓ Employee deleted successfully!\n")
70
71 def search_employee():  usage
72     print("\nSearch by:")
73     print("1 - Name")
74     print("2 - Employee ID")
75     choice = input("Choose search type: ")
```

```

77
78     if choice == "1":
79         name = input("Enter name to search: ")
80         cursor.execute(operation: "SELECT * FROM employees WHERE name LIKE %s", params: (f"%{name}%",))
81     elif choice == "2":
82         emp_id = input("Enter employee ID: ")
83         cursor.execute(operation: "SELECT * FROM employees WHERE emp_id=%s", params: (emp_id,))
84     else:
85         print("Invalid option!\n")
86         return
87
88     results = cursor.fetchall()
89
90     print("\n==== SEARCH RESULT ====")
91     if results:
92         for r in results:
93             print(r)
94     else:
95         print("No matching records found.")
96     print()
97
98 def main():
99     usage
100    while True:
101        print("\n===== EMPLOYEE DATABASE MENU =====")
102        print("1 - Add New Employee")
103        print("2 - Display All Employees")
104        print("3 - Update Employee")
105        print("4 - Delete Employee")
106        print("5 - Search Employee")
107        print("6 - Exit")
108
109        option = input("Choose an option: ")

```

```

110    if option == "1":
111        add_employee()
112    elif option == "2":
113        view_employees()
114    elif option == "3":
115        update_employee()
116    elif option == "4":
117        delete_employee()
118    elif option == "5":
119        search_employee()
120    elif option == "6":
121        print("\nExiting program...")
122        break
123    else:
124        print("\nInvalid option. Try again.\n")
125
126 if __name__ == "__main__":
127     main()
128

```

SAMPLE OUTPUTs:

testrun1(Display):

```
===== EMPLOYEE DATABASE MENU =====
1 - Add New Employee
2 - Display All Employees
3 - Update Employee
4 - Delete Employee
5 - Search Employee
6 - Exit
Choose an option: 2

== EMPLOYEES LIST ==
('Bradd Pitt', 101, 3000.0)
('Tom Cruise', 102, 15000.0)
('Patchak', 103, 3000.0)
('Angeee', 107, 5000.0)
('Trish', 108, 600.0)
```

testrun2(Search):

```
===== EMPLOYEE DATABASE MENU =====
1 - Add New Employee
2 - Display All Employees
3 - Update Employee
4 - Delete Employee
5 - Search Employee
6 - Exit
Choose an option: 5

Search by:
1 - Name
2 - Employee ID
Choose search type: 2
Enter employee ID: 108

== SEARCH RESULT ==
('Trish', 108, 600.0)
```

testrun3(Add):

```
===== EMPLOYEE DATABASE MENU =====
1 - Add New Employee
2 - Display All Employees
3 - Update Employee
4 - Delete Employee
5 - Search Employee
6 - Exit
Choose an option: 1
Enter name: Gold Ship
Enter employee ID: 999
Enter salary: 9999999999999999

✓ Employee added successfully!
```

(Evidence)

	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	name	emp_id	salary
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	Bradd Pitt	101	3000
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	Tom Cruise	102	15000
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	Patchak	103	3000
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	Angeeee	107	5000
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	Trish	108	600
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	Gold Ship	999	1e16

testrun4(Update):

```
===== EMPLOYEE DATABASE MENU =====
1 - Add New Employee
2 - Display All Employees
3 - Update Employee
4 - Delete Employee
5 - Search Employee
6 - Exit
Choose an option: 3
Enter employee ID to update: 999

Current Info: ('Gold Ship', 999, 1e+16)
Enter new name: Golshi
Enter new salary: 99

✓ Employee updated successfully!
```

(Evidence)

			name	emp_id	salary	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Bradd Pitt	101	3000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Tom Cruise	102	15000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Patchak	103	3000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Angeeee	107	5000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Trish	108	600
<input type="checkbox"/>	 Edit	 Copy	 Delete	Golshi	999	99

Up Check all With selected:  Edit  Copy  Delete  Export

testrun5>Delete):

```
===== EMPLOYEE DATABASE MENU =====
1 - Add New Employee
2 - Display All Employees
3 - Update Employee
4 - Delete Employee
5 - Search Employee
6 - Exit
Choose an option: 4
Enter employee ID to delete: 999

✓ Employee deleted successfully!
```

(Evidence)

			name	emp_id	salary	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Bradd Pitt	101	3000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Tom Cruise	102	15000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Patchak	103	3000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Angeeee	107	5000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Trish	108	600

Up Check all With selected:  Edit  Copy  Delete  Export