**OOP LABSET 9 DATABASE**

Python program that performs CRUD operations on a MySQL database using the mysql-connector-python package.

To run this program, you'll need to have MySQL and the mysql-connector-python package installed. You'll also need to create a database and a table with the following schema:

CREATE TABLE `users` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`name` varchar(255) NOT NULL,

`email` varchar(255) NOT NULL,

PRIMARY KEY (`id`)

);

Once you have everything set up, you can run the program below:

import mysql.connector

# Connect to the MySQL database

db = mysql.connector.connect(

host="localhost",

user="root",

password="password",

database="test\_db"

)

# Create a cursor object to interact with the database

cursor = db.cursor()

# Create a new user in the database

def create\_user(name, email):

sql = "INSERT INTO users (name, email) VALUES (%s, %s)"

values = (name, email)

cursor.execute(sql, values)

db.commit()

print("User created successfully!")

# Read a user from the database

def read\_user(id):

sql = "SELECT \* FROM users WHERE id = %s"

values = (id,)

cursor.execute(sql, values)

result = cursor.fetchone()

if result:

print("User ID:", result[0])

print("Name:", result[1])

print("Email:", result[2])

else:

print("User not found")

# Update a user in the database

def update\_user(id, name, email):

sql = "UPDATE users SET name = %s, email = %s WHERE id = %s"

values = (name, email, id)

cursor.execute(sql, values)

db.commit()

print("User updated successfully!")

# Delete a user from the database

def delete\_user(id):

sql = "DELETE FROM users WHERE id = %s"

values = (id,)

cursor.execute(sql, values)

db.commit()

print("User deleted successfully!")

# Create a new user

create\_user("Alice", "alice@example.com")

# Read the user we just created

read\_user(1)

# Update the user's name and email

update\_user(1, "Alice Smith", "alice.smith@example.com")

# Read the user again to verify the changes

read\_user(1)

# Delete the user from the database

delete\_user(1)

# Try to read the user again (should fail)

read\_user(1)

# Close the database connection

db.close()

This program creates a users table in a database called test\_db, and defines four functions that perform CRUD operations on that table. The create\_user function inserts a new user into the table, the read\_user function retrieves a user from the table, the update\_user function updates a user's information in the table, and the delete\_user function deletes a user from the table.

The program then uses these functions to create, read, update, and delete a user from the table. You can modify this program to perform CRUD operations on your own MySQL tables by changing the table schema and modifying the functions to match your table structure.