import mysql.connector

import getpass

# Database connection

def db\_connect():

    # Connect to the MySQL server and specify the database

    conn = mysql.connector.connect(

        host="localhost",

        port=3307,

        user="root",  # Your MySQL username

        password="root",  # Your MySQL password

        database="employee\_management"  # Specify the database here

    )

    return conn

# User authentication

def authenticate\_user(username, password):

    conn = db\_connect()

    cursor = conn.cursor()

    query = "SELECT role FROM users WHERE username = %s AND password = %s"

    cursor.execute(query, (username, password))

    result = cursor.fetchone()

    cursor.close()

    conn.close()

    return result[0] if result else None

# Admin functionalities

def admin\_menu():

    while True:

        print("\nAdmin Menu")

        print("1. Add Employee")

        print("2. Update Employee")

        print("3. Delete Employee")

        print("4. View Employee by ID")

        print("5. View All Employees")

        print("6. Logout")

        choice = input("Enter choice: ")

        if choice == '1':

            add\_employee()

        elif choice == '2':

            update\_employee()

        elif choice == '3':

            delete\_employee()

        elif choice == '4':

            view\_employee\_by\_id()

        elif choice == '5':

            view\_all\_employees()

        elif choice == '6':

            break

        else:

            print("Invalid choice! Please try again.")

def add\_employee():

    conn = db\_connect()

    cursor = conn.cursor()

    name = input("Enter name: ")

    age = int(input("Enter age: "))

    gender = input("Enter gender (Male/Female): ")

    department = input("Enter department: ")

    position = input("Enter position: ")

    salary = float(input("Enter salary: "))

    email = input("Enter email: ")

    phone = input("Enter phone number: ")

    address = input("Enter address: ")

    # Insert employee details into employees table

    query = '''INSERT INTO employees

               (name, age, gender, department, position, salary, email, phone, address)

               VALUES (%s, %s, %s, %s, %s, %s, %s, %s, %s)'''

    cursor.execute(query, (name, age, gender, department, position, salary, email, phone, address))

    emp\_id = cursor.lastrowid  # Get the newly added employee ID

    # Create a user account for the employee

    username = input("Set username for employee: ")

    password = getpass.getpass("Set password for employee: ")

    query = '''INSERT INTO users (username, password, role, emp\_id)

               VALUES (%s, %s, 'employee', %s)'''

    cursor.execute(query, (username, password, emp\_id))

    conn.commit()

    print("Employee and user account added successfully.")

    cursor.close()

    conn.close()

def update\_employee():

    conn = db\_connect()

    cursor = conn.cursor()

    emp\_id = int(input("Enter employee ID to update: "))

    print("Enter new details (leave blank to keep unchanged):")

    new\_name = input("New name: ")

    new\_age = input("New age: ")

    new\_gender = input("New gender: ")

    new\_department = input("New department: ")

    new\_position = input("New position: ")

    new\_salary = input("New salary: ")

    new\_email = input("New email: ")

    new\_phone = input("New phone: ")

    new\_address = input("New address: ")

    query = "UPDATE employees SET "

    fields = []

    values = []

    if new\_name:

        fields.append("name = %s")

        values.append(new\_name)

    if new\_age:

        fields.append("age = %s")

        values.append(new\_age)

    if new\_gender:

        fields.append("gender = %s")

        values.append(new\_gender)

    if new\_department:

        fields.append("department = %s")

        values.append(new\_department)

    if new\_position:

        fields.append("position = %s")

        values.append(new\_position)

    if new\_salary:

        fields.append("salary = %s")

        values.append(new\_salary)

    if new\_email:

        fields.append("email = %s")

        values.append(new\_email)

    if new\_phone:

        fields.append("phone = %s")

        values.append(new\_phone)

    if new\_address:

        fields.append("address = %s")

        values.append(new\_address)

    if fields:

        query += ', '.join(fields) + " WHERE id = %s"

        values.append(emp\_id)

        cursor.execute(query, values)

        conn.commit()

        print("Employee updated successfully.")

    else:

        print("No changes made.")

    cursor.close()

    conn.close()

def delete\_employee():

    conn = db\_connect()

    cursor = conn.cursor()

    emp\_id = int(input("Enter employee ID to delete: "))

    query = "DELETE FROM employees WHERE id = %s"

    cursor.execute(query, (emp\_id,))

    conn.commit()

    # Delete associated user account

    query = "DELETE FROM users WHERE emp\_id = %s"

    cursor.execute(query, (emp\_id,))

    conn.commit()

    print("Employee and user account deleted successfully.")

    cursor.close()

    conn.close()

def view\_employee\_by\_id():

    conn = db\_connect()

    cursor = conn.cursor()

    emp\_id = int(input("Enter employee ID to view: "))

    query = "SELECT \* FROM employees WHERE id = %s"

    cursor.execute(query, (emp\_id,))

    result = cursor.fetchone()

    if result:

        print("Employee details:", result)

    else:

        print("Employee not found.")

    cursor.close()

    conn.close()

def view\_all\_employees():

    conn = db\_connect()

    cursor = conn.cursor()

    query = "SELECT \* FROM employees"

    cursor.execute(query)

    results = cursor.fetchall()

    for row in results:

        print(row)

    cursor.close()

    conn.close()

# Employee functionalities

def employee\_menu(username):

    while True:

        print("\nEmployee Menu")

        print("1. View My Details")

        print("2. Edit My Details")

        print("3. Change My Password")

        print("4. Logout")

        choice = input("Enter choice: ")

        if choice == '1':

            view\_my\_details(username)

        elif choice == '2':

            edit\_my\_details(username)

        elif choice == '3':

            change\_my\_password(username)

        elif choice == '4':

            break

        else:

            print("Invalid choice! Please try again.")

def view\_my\_details(username):

    conn = db\_connect()

    cursor = conn.cursor()

    query = '''SELECT \* FROM employees WHERE id =

               (SELECT emp\_id FROM users WHERE username = %s)'''

    cursor.execute(query, (username,))

    result = cursor.fetchone()

    if result:

        print("Your details:", result)

    else:

        print("No details found.")

    cursor.close()

    conn.close()

def edit\_my\_details(username):

    conn = db\_connect()

    cursor = conn.cursor()

    query = '''SELECT id FROM employees WHERE id =

               (SELECT emp\_id FROM users WHERE username = %s)'''

    cursor.execute(query, (username,))

    emp\_id = cursor.fetchone()[0]

    print("Enter new details (leave blank to keep unchanged):")

    new\_email = input("New email: ")

    new\_phone = input("New phone: ")

    new\_address = input("New address: ")

    query = "UPDATE employees SET "

    fields = []

    values = []

    if new\_email:

        fields.append("email = %s")

        values.append(new\_email)

    if new\_phone:

        fields.append("phone = %s")

        values.append(new\_phone)

    if new\_address:

        fields.append("address = %s")

        values.append(new\_address)

    if fields:

        query += ', '.join(fields) + " WHERE id = %s"

        values.append(emp\_id)

        cursor.execute(query, values)

        conn.commit()

        print("Details updated successfully.")

    else:

        print("No changes made.")

    cursor.close()

    conn.close()

def change\_my\_password(username):

    conn = db\_connect()

    cursor = conn.cursor()

    current\_password = getpass.getpass("Enter current password: ")

    query = '''SELECT password FROM users WHERE username = %s'''

    cursor.execute(query, (username,))

    stored\_password = cursor.fetchone()[0]

    if current\_password == stored\_password:

        new\_password = getpass.getpass("Enter new password: ")

        confirm\_password = getpass.getpass("Confirm new password: ")

        if new\_password == confirm\_password:

            query = "UPDATE users SET password = %s WHERE username = %s"

            cursor.execute(query, (new\_password, username))

            conn.commit()

            print("Password updated successfully.")

        else:

            print("Passwords do not match.")

    else:

        print("Current password is incorrect.")

    cursor.close()

    conn.close()

# Main program execution

def main():

    while True:

        print("\nWelcome to Employee Management System")

        username = input("Enter username: ")

        password = getpass.getpass("Enter password: ")

        role = authenticate\_user(username, password)

        if role == "admin":

            admin\_menu()

        elif role == "employee":

            employee\_menu(username)

        else:

            print("Invalid credentials, please try again.")

if \_\_name\_\_ == "\_\_main\_\_":

    main()













