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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()

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        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: ")

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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()

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def delete_employee():

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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")

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        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:

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        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: ")

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    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()
```

Welcome to Employee Management System

Enter username: admin

Enter password:

Admin Menu

1. Add Employee
2. Update Employee
3. Delete Employee
4. View Employee by ID
5. View All Employees
6. Logout

Enter choice: █

Admin Menu

1. Add Employee  
2. Update Employee  
3. Delete Employee  
4. View Employee by ID  
5. View All Employees  
6. Logout  
Enter choice: 1  
Enter name: Rahul  
Enter age: 23  
Enter gender (Male/Female): Male  
Enter department: IT  
Enter position: Software Associate  
Enter salary: 1000000  
Enter email: rahul123@gmail.com  
Enter phone number: 123456789  
Enter address: 123 Ram Street  
Set username for employee: rahul  
Set password for employee:  
Employee and user account added successfully.



```
Admin Menu
1. Add Employee
2. Update Employee
3. Delete Employee
4. View Employee by ID
5. View All Employees
6. Logout
Enter choice: 2
Enter employee ID to update: 18
Enter new details (leave blank to keep unchanged):
New name:
New age: 24
New gender:
New department:
New position:
New salary: 1200000
New email:
New phone: 2345678910
New address: 123 Elm Street
Employee updated successfully.
```

```
Admin Menu
1. Add Employee
2. Update Employee
3. Delete Employee
4. View Employee by ID
5. View All Employees
6. Logout
Enter choice: 4
Enter employee ID to view: 18
Employee details: (18, 'Rahul', 24, 'Male', 'IT', 'Software Associate', Decimal('1200000.00'), 'rahul123@gmail.com', '2345678910', '123 Elm Street')
```

```
Admin Menu
1. Add Employee
2. Update Employee
3. Delete Employee
4. View Employee by ID
5. View All Employees
6. Logout
Enter choice: 3
Enter employee ID to delete: 18
Employee and user account deleted successfully.
```

Welcome to Employee Management System

Enter username: john

Enter password:

Employee Menu

1. View My Details

2. Edit My Details

3. Change My Password

4. Logout

Enter choice:

Employee Menu

1. View My Details

2. Edit My Details

3. Change My Password

4. Logout

Enter choice: 1

Your details: (1, 'John', 30, 'Male', 'IT', 'Developer', Decimal('700000.00'), 'john234@gmail.com', '1234567890', '123 Elm Street')