**Employee Management System**

**Code :**

import mysql.connector

import re

from os import system

from getpass import getpass  # For hidden password input

from datetime import date

import datetime

# making Connection

con = mysql.connector.connect(

    host="localhost", user="root", password="root", database="employee"

)

# Regular expressions for email and phone validation

regex = r'\b[A-Za-z0-9.\_%+-]+@[A-Za-z0-9.-]+\.[A-Z|a-z]{2,}\b'

Pattern = re.compile("(0|91)?[7-9][0-9]{9}")

def Add\_Employ():

    print("{:>60}".format("-->>Add Employee Record<<--"))

    Id = input("Enter Employee Id: ")

    # checking If Employee Id is Exit Or Not

    if (check\_employee(Id) == True):

        print("Employee ID Already Exists\nTry Again..")

        press = input("Press Any Key To Continue..")

        Add\_Employ()

    Name = input("Enter Employee Name: ")

    # checking If Employee Name is Exit Or Not

    if (check\_employee\_name(Name) == True):

        print("Employee Name Already Exists\nTry Again..")

        press = input("Press Any Key To Continue..")

        Add\_Employ

    Email\_Id = input("Enter Employee Email ID: ")

    if(re.fullmatch(regex, Email\_Id)):

        print("Valid Email")

    else:

        print("Invalid Email")

        press = input("Press Any Key To Continue..")

        Add\_Employ()

    Phone\_no = input("Enter Employee Phone No.: ")

    if(Pattern.match(Phone\_no)):

        print("Valid Phone Number")

    else:

        print("Invalid Phone Number")

        press = input("Press Any Key To Continue..")

        Add\_Employ()

    Address = input("Enter Employee Address: ")

    Post = input("Enter Employee Post: ")

    Salary = input("Enter Employee Salary: ")

    data = (Id, Name, Email\_Id, Phone\_no, Address, Post, Salary)

    # Instering Employee Details in

    # the Employee (empdata) Table

    sql = 'insert into empdata values(%s,%s,%s,%s,%s,%s,%s)'

    c = con.cursor()

    # Executing the sql Query

    c.execute(sql, data)

    # Commit() method to make changes in the table

    con.commit()

    print("Successfully Added Employee Record")

    press = input("Press Any Key To Continue..")

    menu()

# Function To Check if Employee With

# given Name Exist or not

def check\_employee\_name(employee\_name):

    # query to select all Rows from

    # employee(empdata) table

    sql = 'select \* from empdata where Name=%s'

    # making cursor buffered to make

    # rowcount method work properly

    c = con.cursor(buffered=True)

    data = (employee\_name,)

    # Execute the sql query

    c.execute(sql, data)

    # rowcount method to find number

    # of rowa with given values

    r = c.rowcount

    if r == 1:

        return True

    else:

        return False

# Function To Check if Employee With

# given Id Exist or not

def check\_employee(employee\_id):

    # query to select all Rows from

    # employee(empdata) table

    sql = 'select \* from empdata where Id=%s'

    # making cursor buffered to make

    # rowcount method work properly

    c = con.cursor(buffered=True)

    data = (employee\_id,)

    # Execute the sql query

    c.execute(sql, data)

    # rowcount method to find number

    # of rowa with given values

    r = c.rowcount

    if r == 1:

        return True

    else:

        return False

# Function to Display\_Employ

def Display\_Employ():

    print("{:>60}".format("-->> Display Employee Record <<--"))

    # query to select all rows from Employee (empdata) Table

    sql = 'select \* from empdata'

    c = con.cursor()

    # Executing the sql query

    c.execute(sql)

    # Fetching all details of all the Employees

    r = c.fetchall()

    for i in r:

        print("Employee Id: ", i[0])

        print("Employee Name: ", i[1])

        print("Employee Email Id: ", i[2])

        print("Employee Phone No.: ", i[3])

        print("Employee Address: ", i[4])

        print("Employee Post: ", i[5])

        print("Employee Salary: ", i[6])

        print("\n")

    press = input("Press Any key To Continue..")

    menu()

# Function to Update\_Employ

def Update\_Employ():

    print("{:>60}".format("-->> Update Employee Record <<--\n"))

    Id = input("Enter Employee Id: ")

    # checking If Employee Id is Exit Or Not

    if(check\_employee(Id) == False):

        print("Employee Record Not exists\nTry Again")

        press = input("Press Any Key To Continue..")

        menu()

    else:

        Email\_Id = input("Enter Employee Email ID: ")

        if(re.fullmatch(regex, Email\_Id)):

            print("Valid Email")

        else:

            print("Invalid Email")

            press = input("Press Any Key To Continue..")

            Update\_Employ()

        Phone\_no = input("Enter Employee Phone No.: ")

        if(Pattern.match(Phone\_no)):

            print("Valid Phone Number")

        else:

            print("Invalid Phone Number")

            press = input("Press Any Key To Continue..")

            Update\_Employ()

        Address = input("Enter Employee Address: ")

        # Updating Employee details in empdata Table

        sql = 'UPDATE empdata set Email\_Id = %s, Phone\_no = %s, Address = %s where Id = %s'

        data = (Email\_Id, Phone\_no, Address, Id)

        c = con.cursor()

        # Executing the sql query

        c.execute(sql, data)

        # commit() method to make changes in the table

        con.commit()

        print("Updated Employee Record")

        press = input("Press Any Key To Continue..")

        menu()

# Function to Promote\_Employ

def Promote\_Employ():

    print("{:>60}".format("-->> Promote Employee Record <<--\n"))

    Id = input("Enter Employee Id: ")

    # checking If Employee Id is Exit Or Not

    if(check\_employee(Id) == False):

        print("Employee Record Not exists\nTry Again")

        press = input("Press Any Key To Continue..")

        menu()

    else:

        Amount  = int(input("Enter Increase Salary: "))

        #query to fetch salary of Employee with given data

        sql = 'select Salary from empdata where Id=%s'

        data = (Id,)

        c = con.cursor()

        #executing the sql query

        c.execute(sql, data)

        #fetching salary of Employee with given Id

        r = c.fetchone()

        t = r[0]+Amount

        #query to update salary of Employee with given id

        sql = 'update empdata set Salary = %s where Id = %s'

        d = (t, Id)

        #executing the sql query

        c.execute(sql, d)

        #commit() method to make changes in the table

        con.commit()

        print("Employee Promoted")

        press = input("Press Any key To Continue..")

        menu()

# Function to Remove\_Employ

def Remove\_Employ():

    print("{:>60}".format("-->> Remove Employee Record <<--\n"))

    Id = input("Enter Employee Id: ")

    # checking If Employee Id is Exit Or Not

    if(check\_employee(Id) == False):

        print("Employee Record Not exists\nTry Again")

        press = input("Press Any Key To Continue..")

        menu()

    else:

        #query to delete Employee from empdata table

        sql = 'delete from empdata where Id = %s'

        data = (Id,)

        c = con.cursor()

        #executing the sql query

        c.execute(sql, data)

        #commit() method to make changes in the empdata table

        con.commit()

        print("Employee Removed")

        press = input("Press Any key To Continue..")

        menu()

# Function to Search\_Employ

def Search\_Employ():

    print("{:>60}".format("-->> Search Employee Record <<--\n"))

    Id = input("Enter Employee Id: ")

    # checking If Employee Id is Exit Or Not

    if(check\_employee(Id) == False):

        print("Employee Record Not exists\nTry Again")

        press = input("Press Any Key To Continue..")

        menu()

    else:

        #query to search Employee from empdata table

        sql = 'select \* from empdata where Id = %s'

        data = (Id,)

        c = con.cursor()

        #executing the sql query

        c.execute(sql, data)

        #fetching all details of all the employee

        r = c.fetchall()

        for i in r:

            print("Employee Id: ", i[0])

            print("Employee Name: ", i[1])

            print("Employee Email Id: ", i[2])

            print("Employee Phone No.: ", i[3])

            print("Employee Address: ", i[4])

            print("Employee Post: ", i[5])

            print("Employee Salary: ", i[6])

            print("\n")

        press = input("Press Any key To Continue..")

        menu()

# ---------------- Sign In and Register Section ----------------

# Function to register a new user

def register():

    print("{:>60}".format("-->> Register New User <<--"))

    username = input("Enter Username: ")

    password = getpass("Enter Password: ")  # Hidden input for security

    confirm\_password = getpass("Confirm Password: ")

    # Check if passwords match

    if password != confirm\_password:

        print("Passwords do not match! Try again.")

        register()

    # Check if the username already exists

    if check\_user(username):

        print("Username already exists! Try again.")

        register()

    # Insert new user into the users table

    sql = "INSERT INTO users (username, password) VALUES (%s, %s)"

    data = (username, password)

    c = con.cursor()

    c.execute(sql, data)

    con.commit()

    print("Registration successful! Please login.")

    press = input("Press any key to continue..")

    login()

# Function to check if a username exists

def check\_user(username):

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

    data = (username,)

    c = con.cursor(buffered=True)

    c.execute(sql, data)

    r = c.rowcount

    if r == 1:

        return True

    else:

        return False

# Function to login an existing user

def login():

    print("{:>60}".format("-->> User Login <<--"))

    username = input("Enter Username: ")

    password = getpass("Enter Password: ")

    # Check if the credentials are correct

    sql = "SELECT \* FROM users WHERE username=%s AND password=%s"

    data = (username, password)

    c = con.cursor(buffered=True)

    c.execute(sql, data)

    r = c.rowcount

    if r == 1:

        print("Login successful!")

        press = input("Press any key to continue..")

        menu()  # Call the menu function to continue with the main application

    else:

        print("Invalid credentials! Try again.")

        press = input("Press any key to continue..")

        login()

# ---------------- Employee Management Section ----------------

# (Your existing employee management functions remain the same)

# Add\_Employ, Display\_Employ, Update\_Employ, Promote\_Employ, Remove\_Employ, Search\_Employ

# ---------------- Main Menu Section ----------------

def main\_menu():

    system("cls")

    print("{:>60}".format("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"))

    print("{:>60}".format("-->> Employee Management System <<--"))

    print("{:>60}".format("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"))

    print("1. Register")

    print("2. Sign In")

    print("3. Exit")

    print("{:>60}".format("-->> Choice Options: [1/2/3] <<--"))

    choice = int(input("Enter your Choice: "))

    if choice == 1:

        system("cls")

        register()

    elif choice == 2:

        system("cls")

        login()

    elif choice == 3:

        system("cls")

        print("{:>60}".format("Have A Nice Day :)"))

        exit(0)

    else:

        print("Invalid Choice! Try again.")

        press = input("Press Any key To Continue..")

        main\_menu()

# ---------------- Employee Management Menu ----------------

def menu():

    system("cls")

    print("{:>60}".format("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"))

    print("{:>60}".format("-->> Employee Management System <<--"))

    print("{:>60}".format("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"))

    print("1. Add Employee")

    print("2. Display Employee Record")

    print("3. Update Employee Record")

    print("4. Promote Employee Record")

    print("5. Remove Employee Record")

    print("6. Search Employee Record")

    print("7. Mark Attendance")                 # New option to mark attendance

    print("8. View Employee Attendance")        # New option to view individual employee's attendance

    print("9. View Attendance By Date")         # New option to view all attendance by a specific date

    print("10. Logout")

    print("11. Exit\n")

    print("{:>60}".format("-->> Choice Options: [1/2/3/4/5/6/7/8/9/10/11] <<--"))

    ch = int(input("Enter your Choice: "))

    if ch == 1:

        system("cls")

        Add\_Employ()

    elif ch == 2:

        system("cls")

        Display\_Employ()

    elif ch == 3:

        system("cls")

        Update\_Employ()

    elif ch == 4:

        system("cls")

        Promote\_Employ()

    elif ch == 5:

        system("cls")

        Remove\_Employ()

    elif ch == 6:

        system("cls")

        Search\_Employ()

    elif ch == 7:

        system("cls")

        Mark\_Attendance()                # Call to mark attendance

    elif ch == 8:

        system("cls")

        View\_Attendance()                # Call to view an employee's attendance

    elif ch == 9:

        system("cls")

        View\_Attendance\_By\_Date()        # Call to view attendance by a specific date

    elif ch == 10:

        system("cls")

        main\_menu()                      # Log out and go back to the main menu

    elif ch == 11:

        system("cls")

        print("{:>60}".format("Have A Nice Day :)"))

        exit(0)

    else:

        print("Invalid Choice! Try again.")

        press = input("Press Any key To Continue..")

        menu()

def View\_Attendance\_By\_Date():

    print("{:>60}".format("-->> View Attendance By Date <<--"))

    date = input("Enter the Date (YYYY-MM-DD): ")

    # Query to fetch attendance records by a specific date

    sql = 'SELECT \* FROM attendance WHERE date = %s'

    data = (date,)

    c = con.cursor()

    # Executing the query

    c.execute(sql, data)

    records = c.fetchall()

    # Display the results

    if records:

        print("Employee ID | Date       | Status")

        print("-" \* 30)

        for record in records:

            print(f"{record[0]}        | {record[1]} | {record[2]}")

    else:

        print("No attendance records found for this date.")

    press = input("Press Any key To Continue..")

    menu()

def Mark\_Attendance():

    print("{:>60}".format("-->> Mark Employee Attendance <<--"))

    Id = input("Enter Employee Id: ")

    date = datetime.date.today()

    status = input("Enter Status (Present/Absent): ")

    # Adjust 'employee\_id' to the actual column name in your attendance table

    sql = 'INSERT INTO attendance (employee\_id, date, status) VALUES (%s, %s, %s)'

    data = (Id, date, status)

    c = con.cursor()

    # Executing the sql query

    c.execute(sql, data)

    # commit() method to make changes in the attendance table

    con.commit()

    print("Attendance Marked Successfully")

    press = input("Press Any key To Continue..")

    menu()

# Function to view attendance of a specific employee

def View\_Attendance():

    print("{:>60}".format("-->> View Employee Attendance <<--"))

    emp\_id = input("Enter Employee Id: ")

    # Check if employee exists

    if not check\_employee(emp\_id):

        print("Employee Record Not Exists\nTry Again")

        press = input("Press Any Key To Continue..")

        menu()

        return

    sql = "SELECT Date, Status FROM attendance WHERE Id = %s ORDER BY Date DESC"

    data = (emp\_id,)

    c = con.cursor()

    c.execute(sql, data)

    records = c.fetchall()

    if records:

        for record in records:

            print("Date:", record[0], " | Status:", record[1])

    else:

        print("No attendance records found for this employee.")

    press = input("Press Any Key To Continue..")

    menu()

# Function to view attendance by a specific date

def View\_Attendance():

    print("{:>60}".format("-->> View Employee Attendance <<--"))

    Id = input("Enter Employee Id: ")

    # Check if 'employee\_id' matches the actual column name in the attendance table

    sql = 'SELECT \* FROM attendance WHERE employee\_id = %s'  # Adjust 'employee\_id' to match your actual column name

    data = (Id,)

    c = con.cursor()

    # Executing the sql query

    c.execute(sql, data)

    # Fetching attendance records

    records = c.fetchall()

    if records:

        for record in records:

            print(f"Employee Id: {record[0]}")

            print(f"Date: {record[1]}")

            print(f"Status: {record[2]}")

            print("\n")

    else:

        print("No attendance records found for this employee.")

    press = input("Press Any key To Continue..")

    menu()

# Calling the main\_menu function to start the program

main\_menu()

# Function to mark attendance for an employee

**Mysql code:**

**create database employee**

**use employee**

**CREATE TABLE empdata ( Id INT PRIMARY KEY, Name VARCHAR(255), Email\_Id VARCHAR(255),**

**Phone\_no VARCHAR(15), Address VARCHAR(255), Post VARCHAR(255), Salary FLOAT );**

**select \* from empdata**

**CREATE TABLE users (**

**username VARCHAR(255) PRIMARY KEY,**

**password VARCHAR(255) NOT NULL**

**);**

**SELECT \* FROM users;**

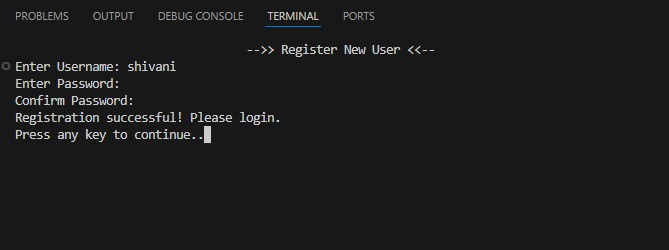
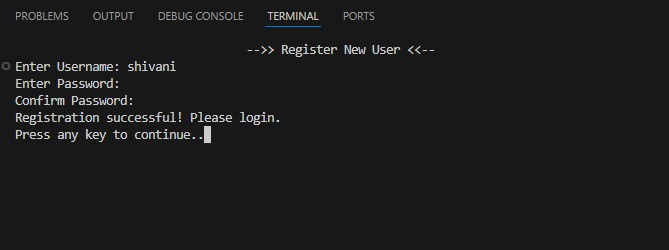
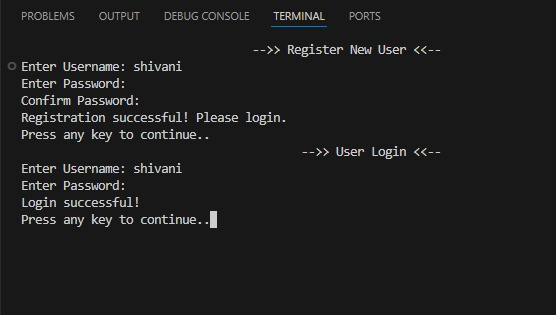
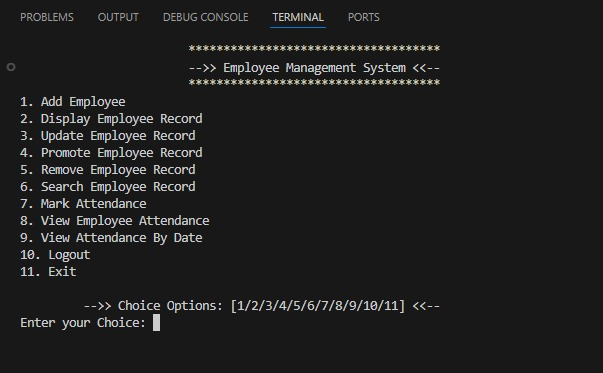
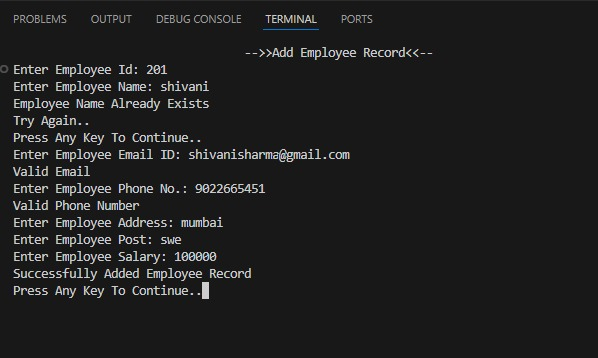
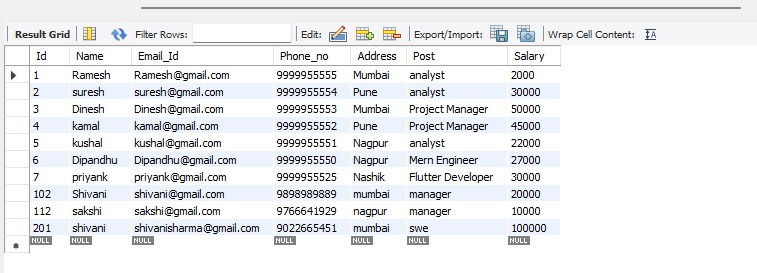
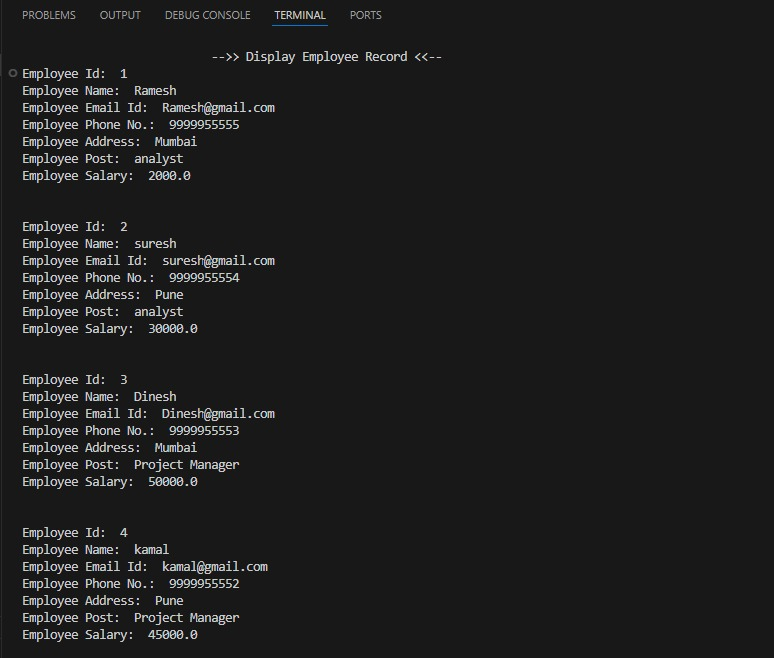
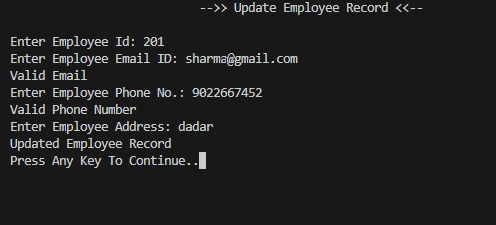
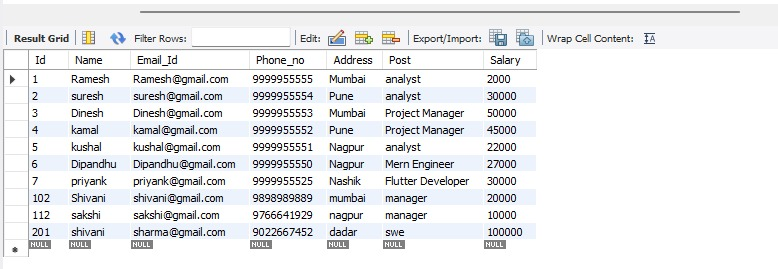
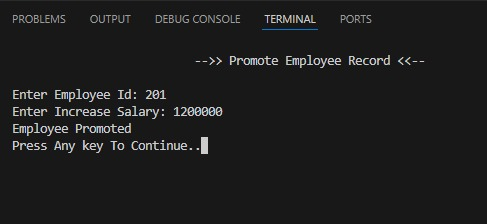
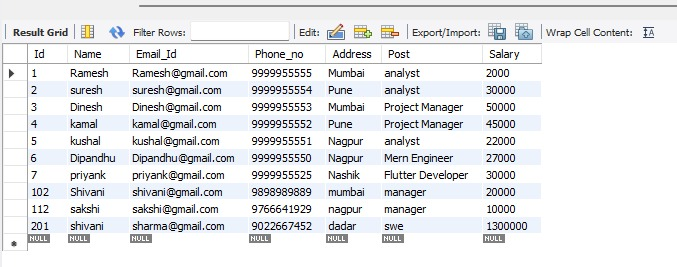
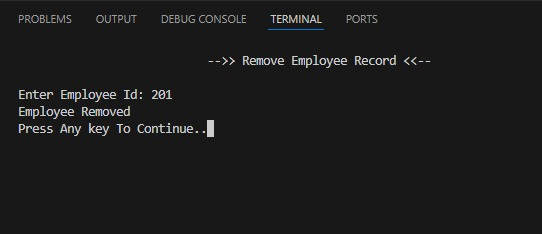
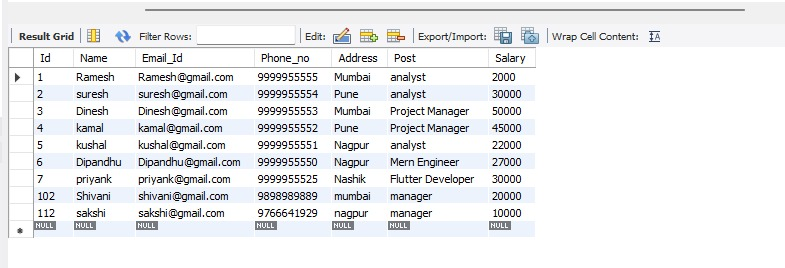
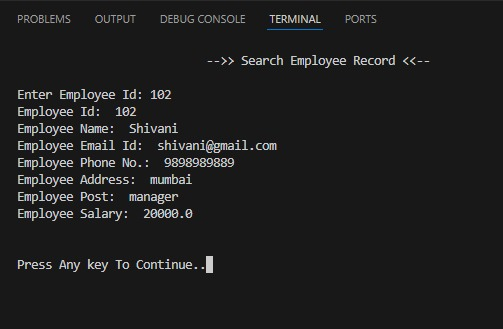
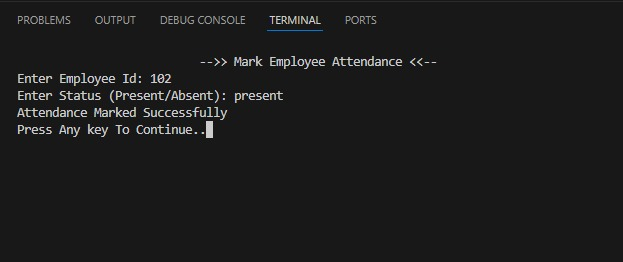
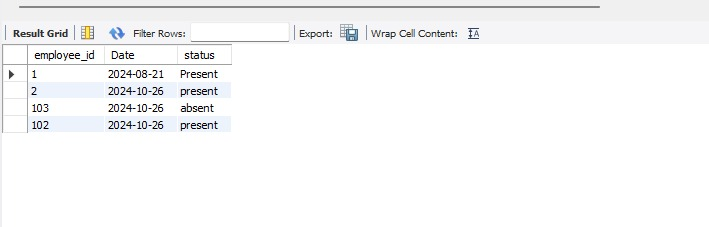
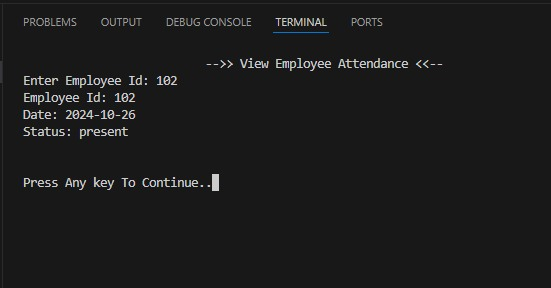
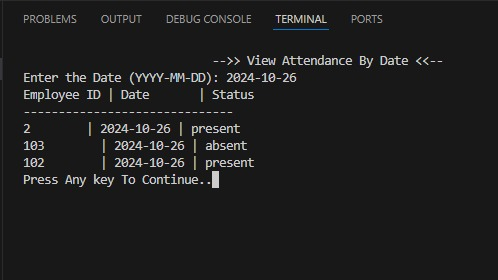
**SELECT COUNT(Id) FROM empdata ;**

**CREATE TABLE attendance (employee\_id INT, Date date, status VARCHAR(10));**

**INSERT INTO attendance (employee\_id, date, status) VALUES (1, '2024-08-21', 'Present');**

**select \* from attendance**

**Output:**

****