App Tech Foundational Course Assignment’s

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**#Assignment-1; Designing A Calculator with Back Space Using JavaScript**

<!DOCTYPE html>

<html lang="en">

<head>

<style>

\*{

padding: 0;

margin: 0;

font-family: 'poppins', sans-serif;

}

body{

background-color: #0b725c;

display: grid;

height: 100vh;

place-items: center;

}

.main{

width: 400px;

height: 450px;

background-color: white;

position: absolute;

border: 5px solid black;

border-radius: 6px;

}

.main input[type='text'] {

width: 88%;

position: relative;

height: 80px;

top: 5px;

text-align: right;

padding: 3px 6px;

outline: none;

font-size: 40px;

border: 5px solid rgb(0, 0, 0);

display: flex;

margin: auto;

border-radius: 6px;

color: black;

}

.btn input[type='button']{

width:90px;

padding: 2px;

margin: 2px 0px;

position: relative;

left: 13px;

top: 20px;

height: 60px;

cursor: pointer;

font-size: 18px;

transition: 0.5s;

background-color: #495250;

border-radius: 6px;

color: white;

}

.btn input[type='button']:hover{

background-color: black;

color: white;

}

</style>

<script>

function Solve(val) {

var v = document.getElementById('res');

v.value += val;

}

function Result() {

var num1 = document.getElementById('res').value;

var num2 = eval(num1);

document.getElementById('res').value = num2;

}

function Clear() {

var inp = document.getElementById('res');

inp.value = '';

}

function Back() {

var ev = document.getElementById('res');

ev.value = ev.value.slice(0,-1);

}

</script>

<title>My Calulator</title>

</head>

<body>

<div class="main">

<input type="text" id = 'res'>

<div class="btn">

<input type="button" value = 'C' onclick = "Clear()">

<input type="button" value = '%' onclick = "Solve('%')">

<input type="button" value = '←' onclick ="Back('←')">

<input type="button" value = '/' onclick = "Solve('/')">

<br>

<input type="button" value = '7' onclick = "Solve('7')">

<input type="button" value = '8' onclick = "Solve('8')">

<input type="button" value = '9' onclick = "Solve('9')">

<input type="button" value = 'x' onclick = "Solve('\*')">

<br>

<input type="button" value = '4' onclick = "Solve('4')">

<input type="button" value = '5' onclick = "Solve('5')">

<input type="button" value = '6' onclick = "Solve('6')">

<input type="button" value = '-' onclick = "Solve('-')">

<br>

<input type="button" value = '1' onclick = "Solve('1')">

<input type="button" value = '2' onclick = "Solve('2')">

<input type="button" value = '3' onclick = "Solve('3')">

<input type="button" value = '+' onclick = "Solve('+')">

<br>

<input type="button" value = '00'onclick = "Solve('00')">

<input type="button" value = '0' onclick = "Solve('0')">

<input type="button" value = '.' onclick = "Solve('.')">

<input type="button" value = '=' onclick = "Result()">

</div>

</div>

<script src = 'Calc.js' ></script>

</body>

</html>

**#Assignment-2**; **Employee Management System in Java**

This is the Main file used to implement the Employee Management System using the given classes in the Question.

**//Main Application**

public class MainApplication {

public static void main(String[] args) {

// Create instances of your classes

Permission permission = new Permission();

Role role = new Role();

User user = new User();

Leave leave = new Leave();

Attendance attendance = new Attendance();

Salary salary = new Salary();

Employee employee = new Employee();

Holiday holiday = new Holiday();

// Call methods for each class

permission.addPermission();

role.addRole();

user.addUser();

leave.addLeave();

attendance.addAttendance();

salary.addSalary();

employee.addEmployee();

holiday.addHoliday();

// Call edit, delete, and search methods for different classes

role.editRole();

user.editUser();

leave.editLeave();

attendance.editAttendance();

salary.editSalary();

employee.editEmployee();

holiday.editHoliday();

role.deleteRole();

user.deleteUser();

leave.deleteLeave();

attendance.deleteAttendance();

salary.deleteSalary();

employee.deleteEmployee();

holiday.deleteHoliday();

role.searchRole();

user.searchUser();

leave.searchLeave();

attendance.searchAttendance();

salary.searchSalary();

employee.searchEmployee();

holiday.searchHoliday();

// Assignments and interactions

user.assignUserPermission();

}

}

**//Permission class**

import java.util.Scanner;

public class Permission {

private int permissionId;

private int permissionRoleId;

private String permissionTitle;

private String permissionModule;

private String permissionDescription;

private Scanner scanner = new Scanner(System.in);

public void addPermission() {

System.out.println("Enter permission ID:");

permissionId = scanner.nextInt();

System.out.println("Enter permission role ID:");

permissionRoleId = scanner.nextInt();

System.out.println("Enter permission title:");

permissionTitle = scanner.next();

System.out.println("Enter permission module:");

permissionModule = scanner.next();

System.out.println("Enter permission description:");

permissionDescription = scanner.next();

System.out.println("Permission added successfully!");

}

public void editPermission() {

System.out.println("Enter permission ID to edit:");

int idToEdit = scanner.nextInt();

if (idToEdit == permissionId) {

System.out.println("Enter new permission role ID:");

permissionRoleId = scanner.nextInt();

System.out.println("Enter new permission title:");

permissionTitle = scanner.next();

System.out.println("Enter new permission module:");

permissionModule = scanner.next();

System.out.println("Enter new permission description:");

permissionDescription = scanner.next();

System.out.println("Permission updated successfully!");

} else {

System.out.println("Permission with ID " + idToEdit + " not found.");

}

}

public void deletePermission() {

System.out.println("Enter permission ID to delete:");

int idToDelete = scanner.nextInt();

if (idToDelete == permissionId) {

// Implementation to delete the permission

System.out.println("Permission deleted successfully!");

} else {

System.out.println("Permission with ID " + idToDelete + " not found.");

}

}

public void searchPermission() {

System.out.println("Enter permission ID to search:");

int idToSearch = scanner.nextInt();

if (idToSearch == permissionId) {

System.out.println("Permission details:");

System.out.println("Role ID: " + permissionRoleId);

System.out.println("Title: " + permissionTitle);

System.out.println("Module: " + permissionModule);

System.out.println("Description: " + permissionDescription);

} else {

System.out.println("Permission with ID " + idToSearch + " not found.");

}

}

public int getPermissionId() {

return permissionId;

}

public void setPermissionId(int permissionId) {

this.permissionId = permissionId;

}

}

**//Role class**

import java.util.Scanner;

public class Role {

private int roleId;

private String roleTitle;

private String roleDescription;

private Scanner scanner = new Scanner(System.in);

public void addRole() {

System.out.println("Enter role ID:");

roleId = scanner.nextInt();

System.out.println("Enter role title:");

roleTitle = scanner.next();

System.out.println("Enter role description:");

roleDescription = scanner.next();

System.out.println("Role added successfully!");

}

public void editRole() {

System.out.println("Enter role ID to edit:");

int idToEdit = scanner.nextInt();

if (idToEdit == roleId) {

System.out.println("Enter new role title:");

roleTitle = scanner.next();

System.out.println("Enter new role description:");

roleDescription = scanner.next();

System.out.println("Role updated successfully!");

} else {

System.out.println("Role with ID " + idToEdit + " not found.");

}

}

public void deleteRole() {

System.out.println("Enter role ID to delete:");

int idToDelete = scanner.nextInt();

if (idToDelete == roleId) {

// Perform deletion logic

roleId = 0;

roleTitle = null;

roleDescription = null;

System.out.println("Role deleted successfully!");

} else {

System.out.println("Role with ID " + idToDelete + " not found.");

}

}

public void searchRole() {

System.out.println("Enter role ID to search:");

int idToSearch = scanner.nextInt();

if (idToSearch == roleId) {

System.out.println("Role details:");

System.out.println("Title: " + roleTitle);

System.out.println("Description: " + roleDescription);

} else {

System.out.println("Role with ID " + idToSearch + " not found.");

}

}

public void assignRole() {

System.out.println("Enter user ID to assign role:");

int userId = scanner.nextInt();

System.out.println("Role assigned to user " + userId + " successfully!");

}

}

**// Salary class**

import java.util.Scanner;

public class Salary {

private int salaryId;

private String salaryDescription;

private String salaryType;

private String salaryAmount;

private String salaryTotal;

private int salaryEmployeeId;

private Permission relatedPermission; // Aggregation relationship

private Scanner scanner = new Scanner(System.in);

public void addSalary() {

System.out.println("Enter salary ID:");

salaryId = scanner.nextInt();

System.out.println("Enter salary description:");

salaryDescription = scanner.next();

System.out.println("Enter salary type:");

salaryType = scanner.next();

System.out.println("Enter salary amount:");

salaryAmount = scanner.next();

System.out.println("Enter salary total:");

salaryTotal = scanner.next();

System.out.println("Enter employee ID:");

salaryEmployeeId = scanner.nextInt();

// Created an instance of Permission and set relatedPermission

relatedPermission = new Permission();

relatedPermission.setPermissionId(salaryId);

System.out.println("Salary added successfully!");

}

public void editSalary() {

System.out.println("Enter salary ID to edit:");

int idToEdit = scanner.nextInt();

if (idToEdit == salaryId) {

System.out.println("Enter new salary description:");

salaryDescription = scanner.next();

System.out.println("Enter new salary type:");

salaryType = scanner.next();

System.out.println("Enter new salary amount:");

salaryAmount = scanner.next();

System.out.println("Enter new salary total:");

salaryTotal = scanner.next();

System.out.println("Enter new employee ID:");

salaryEmployeeId = scanner.nextInt();

if (relatedPermission != null) {

relatedPermission.setPermissionId(salaryId);

}

System.out.println("Salary updated successfully!");

} else {

System.out.println("Salary with ID " + idToEdit + " not found.");

}

}

public void deleteSalary() {

System.out.println("Enter salary ID to delete:");

int idToDelete = scanner.nextInt();

if (idToDelete == salaryId) {

// Perform deletion logic

salaryId = 0;

salaryDescription = null;

salaryType = null;

salaryAmount = null;

salaryTotal = null;

salaryEmployeeId = 0;

if (relatedPermission != null) {

relatedPermission.setPermissionId(0);

}

System.out.println("Salary deleted successfully!");

} else {

System.out.println("Salary with ID " + idToDelete + " not found.");

}

}

public void searchSalary() {

System.out.println("Enter salary ID to search:");

int idToSearch = scanner.nextInt();

if (idToSearch == salaryId) {

System.out.println("Salary details:");

System.out.println("Description: " + salaryDescription);

System.out.println("Type: " + salaryType);

System.out.println("Amount: " + salaryAmount);

System.out.println("Total: " + salaryTotal);

System.out.println("Employee ID: " + salaryEmployeeId);

} else {

System.out.println("Salary with ID " + idToSearch + " not found.");

}

}

public void assignPermission(Permission permission) {

relatedPermission = permission;

System.out.println("Permission assigned to salary successfully!");

}

}

**//User class**

import java.util.Scanner;

public class User extends Permission {

private int userId;

private int userRoleId;

private String userName;

private String userEmail;

private String userAddress;

private Scanner scanner = new Scanner(System.in);

public void addUser() {

System.out.println("Enter user ID:");

userId = scanner.nextInt();

System.out.println("Enter user role ID:");

userRoleId = scanner.nextInt();

System.out.println("Enter user name:");

userName = scanner.next();

System.out.println("Enter user email:");

userEmail = scanner.next();

System.out.println("Enter user address:");

userAddress = scanner.next();

System.out.println("User added successfully!");

}

public void editUser() {

System.out.println("Enter user ID to edit:");

int idToEdit = scanner.nextInt();

if (idToEdit == userId) {

System.out.println("Enter new user role ID:");

userRoleId = scanner.nextInt();

System.out.println("Enter new user name:");

userName = scanner.next();

System.out.println("Enter new user email:");

userEmail = scanner.next();

System.out.println("Enter new user address:");

userAddress = scanner.next();

System.out.println("User updated successfully!");

} else {

System.out.println("User with ID " + idToEdit + " not found.");

}

}

public void deleteUser() {

System.out.println("Enter user ID to delete:");

int idToDelete = scanner.nextInt();

if (idToDelete == userId) {

// Delete logic (not implemented in this example)

System.out.println("User deleted successfully!");

} else {

System.out.println("User with ID " + idToDelete + " not found.");

}

}

public void searchUser() {

System.out.println("Enter user ID to search:");

int idToSearch = scanner.nextInt();

if (idToSearch == userId) {

System.out.println("User details:");

System.out.println("Role ID: " + userRoleId);

System.out.println("Name: " + userName);

System.out.println("Email: " + userEmail);

System.out.println("Address: " + userAddress);

} else {

System.out.println("User with ID " + idToSearch + " not found.");

}

}

public void assignUserPermission() {

System.out.println("Enter permission ID to assign to user:");

int permissionId = scanner.nextInt();

// Assignment logic (not implemented in this example)

System.out.println("Permission assigned to user successfully!");

}

}

**// Attendance class**

import java.util.Scanner;

public class Attendance {

private int attendanceId;

private int attendanceEmployeeId;

private String attendanceType;

private String attendanceDescription;

private Permission relatedPermission; // Aggregation relationship

private Scanner scanner = new Scanner(System.in);

public void addAttendance() {

System.out.println("Enter attendance ID:");

attendanceId = scanner.nextInt();

System.out.println("Enter employee ID:");

attendanceEmployeeId = scanner.nextInt();

System.out.println("Enter attendance type:");

attendanceType = scanner.next();

System.out.println("Enter attendance description:");

attendanceDescription = scanner.next();

// Create an instance of Permission and set relatedPermission

relatedPermission = new Permission();

relatedPermission.setPermissionId(attendanceId);

System.out.println("Attendance added successfully!");

}

public void editAttendance() {

System.out.println("Enter attendance ID to edit:");

int idToEdit = scanner.nextInt();

if (idToEdit == attendanceId) {

System.out.println("Enter new employee ID:");

attendanceEmployeeId = scanner.nextInt();

System.out.println("Enter new attendance type:");

attendanceType = scanner.next();

System.out.println("Enter new attendance description:");

attendanceDescription = scanner.next();

System.out.println("Attendance updated successfully!");

} else {

System.out.println("Attendance with ID " + idToEdit + " not found.");

}

}

public void deleteAttendance() {

System.out.println("Enter attendance ID to delete:");

int idToDelete = scanner.nextInt();

if (idToDelete == attendanceId) {

// Perform deletion logic

attendanceId = 0;

attendanceEmployeeId = 0;

attendanceType = null;

attendanceDescription = null;

System.out.println("Attendance deleted successfully!");

} else {

System.out.println("Attendance with ID " + idToDelete + " not found.");

}

}

public void searchAttendance() {

System.out.println("Enter attendance ID to search:");

int idToSearch = scanner.nextInt();

if (idToSearch == attendanceId) {

System.out.println("Attendance details:");

System.out.println("Employee ID: " + attendanceEmployeeId);

System.out.println("Type: " + attendanceType);

System.out.println("Description: " + attendanceDescription);

} else {

System.out.println("Attendance with ID " + idToSearch + " not found.");

}

}

}

**// Employee class**

import java.util.Scanner;

public class Employee {

private int employeeId;

private String employeeName;

private String employeeMobile;

private String employeeEmail;

private String employeeAddress;

private String employeeUsername;

private String employeePassword;

private Permission relatedPermission; // Aggregation relationship

private Scanner scanner = new Scanner(System.in);

public void addEmployee() {

System.out.println("Enter employee ID:");

employeeId = scanner.nextInt();

System.out.println("Enter employee name:");

employeeName = scanner.next();

System.out.println("Enter employee mobile:");

employeeMobile = scanner.next();

System.out.println("Enter employee email:");

employeeEmail = scanner.next();

System.out.println("Enter employee address:");

employeeAddress = scanner.next();

System.out.println("Enter employee username:");

employeeUsername = scanner.next();

System.out.println("Enter employee password:");

employeePassword = scanner.next();

// Create an instance of Permission and set relatedPermission

relatedPermission = new Permission();

relatedPermission.setPermissionId(employeeId);

System.out.println("Employee added successfully!");

}

public void editEmployee() {

System.out.println("Enter employee ID to edit:");

int idToEdit = scanner.nextInt();

// Check if the entered ID matches the current employee's ID

if (idToEdit == employeeId) {

// Prompt the user to update employee details

System.out.println("Enter new employee name:");

employeeName = scanner.next();

System.out.println("Enter new employee mobile:");

employeeMobile = scanner.next();

System.out.println("Enter new employee email:");

employeeEmail = scanner.next();

System.out.println("Enter new employee address:");

employeeAddress = scanner.next();

System.out.println("Enter new employee username:");

employeeUsername = scanner.next();

System.out.println("Enter new employee password:");

employeePassword = scanner.next();

System.out.println("Employee updated successfully!");

} else {

System.out.println("Employee with ID " + idToEdit + " not found.");

}

}

public void deleteEmployee() {

System.out.println("Enter employee ID to delete:");

int idToDelete = scanner.nextInt();

// Check if the entered ID matches the current employee's ID

if (idToDelete == employeeId) {

// Delete logic (not implemented in this example)

System.out.println("Employee deleted successfully!");

} else {

System.out.println("Employee with ID " + idToDelete + " not found.");

}

}

public void searchEmployee() {

System.out.println("Enter employee ID to search:");

int idToSearch = scanner.nextInt();

// Check if the entered ID matches the current employee's ID

if (idToSearch == employeeId) {

// Display employee details

System.out.println("Employee details:");

System.out.println("Name: " + employeeName);

System.out.println("Mobile: " + employeeMobile);

System.out.println("Email: " + employeeEmail);

System.out.println("Address: " + employeeAddress);

System.out.println("Username: " + employeeUsername);

System.out.println("Password: " + employeePassword);

} else {

System.out.println("Employee with ID " + idToSearch + " not found.");

}

}

}

**// Holiday class**

import java.util.Scanner;

public class Holiday {

private int holidayId;

private int holidayEmployeeId;

private String holidayDuration;

private String holidayDescription;

private String holidayDate;

private Permission relatedPermission; // Aggregation relationship

private Scanner scanner = new Scanner(System.in);

public void addHoliday() {

System.out.println("Enter holiday ID:");

holidayId = scanner.nextInt();

System.out.println("Enter employee ID:");

holidayEmployeeId = scanner.nextInt();

System.out.println("Enter holiday duration:");

holidayDuration = scanner.next();

System.out.println("Enter holiday description:");

holidayDescription = scanner.next();

System.out.println("Enter holiday date:");

holidayDate = scanner.next();

// Create an instance of Permission and set relatedPermission

relatedPermission = new Permission();

relatedPermission.setPermissionId(holidayId);

System.out.println("Holiday added successfully!");

}

public void editHoliday() {

System.out.println("Enter holiday ID to edit:");

int idToEdit = scanner.nextInt();

if (idToEdit == holidayId) {

System.out.println("Enter new employee ID:");

holidayEmployeeId = scanner.nextInt();

System.out.println("Enter new holiday duration:");

holidayDuration = scanner.next();

System.out.println("Enter new holiday description:");

holidayDescription = scanner.next();

System.out.println("Enter new holiday date:");

holidayDate = scanner.next();

System.out.println("Holiday updated successfully!");

} else {

System.out.println("Holiday with ID " + idToEdit + " not found.");

}

}

public void deleteHoliday() {

System.out.println("Enter holiday ID to delete:");

int idToDelete = scanner.nextInt();

if (idToDelete == holidayId) {

System.out.println("Enter new employee ID:");

holidayEmployeeId = scanner.nextInt();

System.out.println("Enter new holiday duration:");

holidayDuration = scanner.next();

System.out.println("Enter new holiday description:");

holidayDescription = scanner.next();

System.out.println("Enter new holiday date:");

holidayDate = scanner.next();

System.out.println("Holiday updated successfully!");

System.out.println("Holiday deleted successfully!");

} else {

System.out.println("Holiday with ID " + idToDelete + " not found.");

}

}

public void searchHoliday() {

System.out.println("Enter holiday ID to search:");

int idToSearch = scanner.nextInt();

if (idToSearch == holidayId) {

System.out.println("Holiday details:");

System.out.println("Employee ID: " + holidayEmployeeId);

System.out.println("Duration: " + holidayDuration);

System.out.println("Description: " + holidayDescription);

System.out.println("Date: " + holidayDate);

} else {

System.out.println("Holiday with ID " + idToSearch + " not found.");

}

}

}

**// Leave class**

import java.util.Scanner;

public class Leave {

private int leaveId;

private String leaveType;

private String leaveDescription;

private String leaveStatus;

private String leaveTo;

private String leaveFrom;

private String leaveEmployee;

private Permission relatedPermission; // Aggregation relationship

private Scanner scanner = new Scanner(System.in);

public void addLeave() {

System.out.println("Enter leave ID:");

leaveId = scanner.nextInt();

System.out.println("Enter leave type:");

leaveType = scanner.next();

System.out.println("Enter leave description:");

leaveDescription = scanner.next();

System.out.println("Enter leave status:");

leaveStatus = scanner.next();

System.out.println("Enter leave to date:");

leaveTo = scanner.next();

System.out.println("Enter leave from date:");

leaveFrom = scanner.next();

System.out.println("Enter employee ID:");

leaveEmployee = scanner.next();

// Create an instance of Permission and set relatedPermission

relatedPermission = new Permission();

relatedPermission.setPermissionId(leaveId);

System.out.println("Leave added successfully!");

}

public void editLeave() {

System.out.println("Enter leave ID to edit:");

int idToEdit = scanner.nextInt();

if (idToEdit == leaveId) {

System.out.println("Enter new leave type:");

leaveType = scanner.next();

System.out.println("Enter new leave description:");

leaveDescription = scanner.next();

System.out.println("Enter new leave status:");

leaveStatus = scanner.next();

System.out.println("Enter new leave to date:");

leaveTo = scanner.next();

System.out.println("Enter new leave from date:");

leaveFrom = scanner.next();

System.out.println("Enter new employee ID:");

leaveEmployee = scanner.next();

if (relatedPermission != null) {

relatedPermission.setPermissionId(leaveId);

}

System.out.println("Leave updated successfully!");

} else {

System.out.println("Leave with ID " + idToEdit + " not found.");

}

}

public void deleteLeave() {

System.out.println("Enter leave ID to delete:");

int idToDelete = scanner.nextInt();

if (idToDelete == leaveId) {

// Perform deletion logic

leaveId = 0;

leaveType = null;

leaveDescription = null;

leaveStatus = null;

leaveTo = null;

leaveFrom = null;

leaveEmployee = null;

System.out.println("Leave deleted successfully!");

} else {

System.out.println("Leave with ID " + idToDelete + " not found.");

}

}

public void searchLeave() {

System.out.println("Enter leave ID to search:");

int idToSearch = scanner.nextInt();

if (idToSearch == leaveId) {

System.out.println("Leave details:");

System.out.println("Type: " + leaveType);

System.out.println("Description: " + leaveDescription);

System.out.println("Status: " + leaveStatus);

System.out.println("To Date: " + leaveTo);

System.out.println("From Date: " + leaveFrom);

System.out.println("Employee ID: " + leaveEmployee);

} else {

System.out.println("Leave with ID " + idToSearch + " not found.");

}

}

}