import java.util.Scanner;

import java.util.Stack;

import java.util.InputMismatchException;

class Employee {

private int id;

private String name;

private double salary;

public Employee(int id, String name, double salary) {

this.id = id;

this.name = name;

this.salary = salary;

}

public int getId() {

return id;

}

public String getName() {

return name;

}

public double getSalary() {

return salary;

}

public String toString() {

return "ID: " + id + ", Name: " + name + ", Salary: " + salary;

}

}

class PayrollSystem {

private Stack<String> history = new Stack<>();

private Employee[] employees = new Employee[10];

private int count = 0;

public void addEmployee(int id, String name, double salary) {

if (id <= 0 || name.trim().isEmpty() || salary < 0) {

System.out.println("Invalid data. Employee not added.");

return;

}

if (count < employees.length) {

employees[count++] = new Employee(id, name, salary);

history.push("Added: " + name);

System.out.println("Employee " + name + " added.");

} else {

System.out.println("System is full.");

}

}

public void displayEmployees() {

if (count == 0) {

System.out.println("No employees to display.");

return;

}

System.out.println("Current Employees:");

for (int i = 0; i < count; i++) {

System.out.println(employees[i]);

}

history.push("Displayed employees.");

}

public void calculatePayroll() {

if (count == 0) {

System.out.println("No employees to process.");

return;

}

System.out.println("Calculating Payroll:");

for (int i = 0; i < count; i++) {

double netSalary = employees[i].getSalary() \* 0.9;

System.out.println(employees[i].getName() + ": " + netSalary);

}

history.push("Calculated payroll.");

}

public void undoLast() {

if (history.isEmpty()) {

System.out.println("No operations to undo.");

return;

}

System.out.println("Undoing: " + history.pop());

}

public void showHistory() {

if (history.isEmpty()) {

System.out.println("History is empty.");

return;

}

System.out.println("Operation History:");

for (String op : history) {

System.out.println("- " + op);

}

}

}

public class Emp{

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

PayrollSystem p = new PayrollSystem();

while (true) {

System.out.println("\nPayroll System Menu:");

System.out.println("1. Add Employee");

System.out.println("2. Display Employees");

System.out.println("3. Calculate Payroll");

System.out.println("4. Undo Last Operation");

System.out.println("5. Show History");

System.out.println("6. Exit");

System.out.print("Enter your choice: ");

try {

int choice = s.nextInt();

s.nextLine();

switch (choice) {

case 1:

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

int id = s.nextInt();

s.nextLine();

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

String name = s.nextLine();

System.out.print("Enter employee salary: ");

double salary = s.nextDouble();

s.nextLine();

p.addEmployee(id, name, salary);

break;

case 2:

p.displayEmployees();

break;

case 3:

p.calculatePayroll();

break;

case 4:

p.undoLast();

break;

case 5:

p.showHistory();

break;

case 6:

System.out.println("Exiting. Goodbye!");

s.close();

return;

default:

System.out.println("Invalid choice. Please try again.");

}

} catch (InputMismatchException e) {

System.out.println("Invalid input. Please enter a number for your choice.");

s.nextLine();

}

}

}

}



