

JAVA PROJECTS3

3. Employee Payroll System

Description: Build an employee payroll system to manage employee information, salary calculation, tax deductions, and generate pay slips.

1. Employee class

```
public class Employee {  
    private int id;  
    private String name;  
    private double baseSalary;  
    private double taxRate;  
  
    public Employee(int id, String name, double baseSalary, double taxRate) {  
        this.id = id;  
        this.name = name;  
        this.baseSalary = baseSalary;  
        this.taxRate = taxRate;  
    }  
  
    public int getId() {  
        return id;  
    }  
  
    public String getName() {  
        return name;  
    }  
  
    public double getBaseSalary() {  
        return baseSalary;  
    }  
}
```

```
public double getTaxRate() {  
    return taxRate;  
}
```

```
public double calculateNetSalary() {  
    return baseSalary - (baseSalary * taxRate);  
}
```

```
@Override
```

```
public String toString() {  
    return "Employee ID: " + id + ", Name: " + name + ", Base Salary: $" + baseSalary;  
}  
}
```

2. Payroll class

```
import java.util.ArrayList;  
import java.util.List;
```

```
public class Payroll {  
    private List<Employee> employees;  
  
    public Payroll() {  
        employees = new ArrayList<>();  
    }  
  
    public void addEmployee(Employee employee) {  
        employees.add(employee);  
    }  
  
    public Employee findEmployeeById(int id) {
```

```

for (Employee employee : employees) {
    if (employee.getId() == id) {
        return employee;
    }
}
return null;
}

```

```

public void generatePaySlip(int id) {
    Employee employee = findEmployeeById(id);
    if (employee != null) {
        System.out.println("Pay Slip for " + employee.getName());
        System.out.println("Base Salary: $" + employee.getBaseSalary());
        System.out.println("Tax Rate: " + (employee.getTaxRate() * 100) + "%");
        System.out.println("Net Salary: $" + employee.calculateNetSalary());
    } else {
        System.out.println("Employee not found.");
    }
}
}

```

```

public void listEmployees() {
    for (Employee employee : employees) {
        System.out.println(employee);
    }
}
}

```

3.Main class

```

public class Main {
    public static void main(String[] args) {

```

```
// Create payroll system
Payroll payroll = new Payroll();

// Add employees to payroll
Employee emp1 = new Employee(1, "John", 5000.00, 0.20);
Employee emp2 = new Employee(2, "Janny", 6000.00, 0.22);
payroll.addEmployee(emp1);
payroll.addEmployee(emp2);

// List employees
System.out.println("Employees in payroll system:");
payroll.listEmployees();

// Generate pay slip for an employee
System.out.println("\nGenerating pay slip for employee ID 1:");
payroll.generatePaySlip(1);

System.out.println("\nGenerating pay slip for employee ID 2:");
payroll.generatePaySlip(2);
}
}
```

OUTPUT:

Employees in payroll system:

Employee ID: 1, Name: John, Base Salary: \$5000.0

Employee ID: 2, Name: Janny, Base Salary: \$6000.0

Generating pay slip for employee ID 1:

Pay Slip for John

Base Salary: \$5000.0

Tax Rate: 20.0%

Net Salary: \$4000.0

Generating pay slip for employee ID 2:

Pay Slip for Janny

Base Salary: \$6000.0

Tax Rate: 22.0%

Net Salary: \$4680.0