

Practical Past Paper

Question - Salary Calculator

You need to Implement a "Salary Calculator" for an IT company to calculate their salaries based on their allowances, deductions, taxes etc. As a software developer. You are supposed to apply the

Decorator pattern.

They used to apply following formula to calculate net salary.

Net Salary = Basic Salary + Allowance + Transport Allowance - Income Tax - Employee Provident Fund(EPF)

The following rules are applied for the net salary calculation.

- Basic Salary: This is applied to all employees based on their position.
- Allowance: is allocated according to performance and seniority and calculated by an employee-specific rate. (Allowance = Basic Salary * Allowance Rate)
- Transport allowance: will be credited to those do not use staff transport service. It is 10,000 rupees per month.
- EPF: It calculated as 5% of the basic salary. It us not applying for the temporary staff (Interns are considered as temporary staff)
- Income Tax: is applied for employees who can more than 10,000 rupees per month Net Salary). It is calculated as 10% of the basic salary.

Name	Position	Basic Salary	Allowance Rate	Transport Used
Srimal Hettiarachchi	Tech Lead	400000	0.75	false
Disney Rajapakshe	Intern	50000	0	false
Lahiru Bandara	Project Manager	300000	0.4	true
Anuradha Perera	Senior Software Developer	200000	0.7	true
Miyuru Athapaththu	Associate Tech Lead	320000	0.65	false

1. Define an **Employee** class, define relevant variables and methods appropriately, and define an Employee list as "**Employee_List**" to store their data. Employee List contains five employee data, as shown in the above table. (Table 1) (i.e., one element of the employee in the list represents one employee object)
2. Follow the instructions given below to create three (3) Windows forms called "Home Form", "Add Employee Form", and "View Salary Form" in the calculator.
 - **Home Form (Figure 1)** contains two buttons "Enter Data" which navigates to "Add Employee Form" and "View Salary" navigates to "View Salary Form".

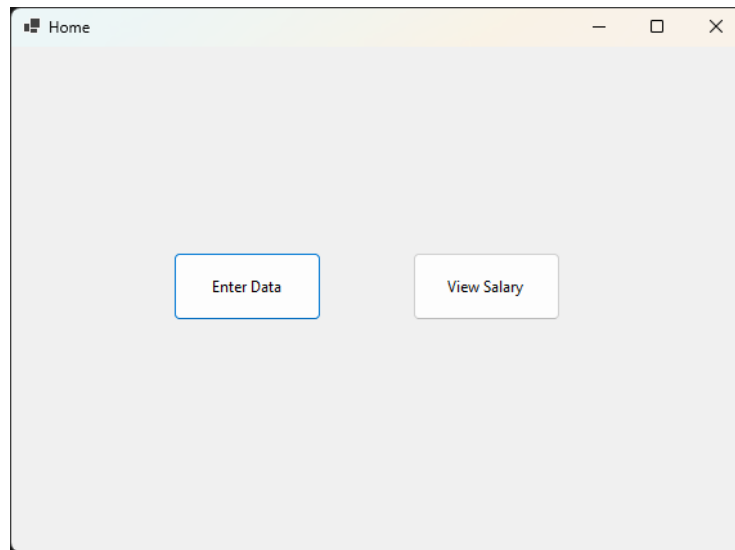
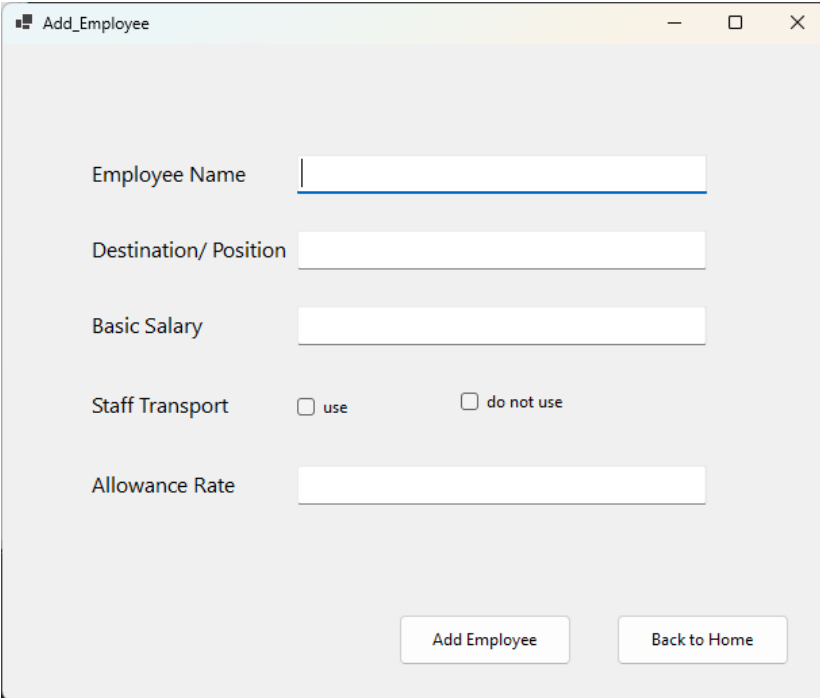


Figure 1: Home Form

- **Add Employee Form (Figure 2)** is to enter employee data.



The image shows a software window titled "Add_Employee". It contains a form with the following fields and controls:

- Employee Name**: A text input field.
- Destination/ Position**: A text input field.
- Basic Salary**: A text input field.
- Staff Transport**: Two radio buttons labeled "use" and "do not use".
- Allowance Rate**: A text input field.
- Buttons**: Two buttons at the bottom right, "Add Employee" and "Back to Home".

Figure 2: Add Employee Form

- "View Salary Form" appears when you click the "**View Salary**" button and it displays all (given in Table 1) the employees' names along with their Net Salaries in a data grid.