

Project Report

Employee Payroll System in C Programming:

A systematic approach towards a structured file which stores employee's Details and with custom functions such as adding or deleting employee's

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ABSTRACT

This project is based on employee payroll system written in c language it designed to manage employee salary records efficiently its stores

employees detail and calculate gross and net salaries using allowances and tax deductions and supports operation like adding deleting searching and sorting employees the system automatically applies income tax slabs for accurate salary computation it also generates a pay slip message that also has a file for record keeping with a simple menu driven interface the project demonstrates practical use of structures functions and file handling making it an effective running model for basic payroll automation

PROBLEM DEFINITION

An organization needs a simple and efficient way to manage employee salary records manual salary processing is time consuming and prone to errors especially when calculating allowances deductions and income tax the problem is to design computerized payroll system that can store employee details compute gross and net accurately

an applied tax labs automatically the system should also allow adding deleting searching and sorting employee records while generating payslips for documentation the solution must ensure accuracy reduce manual effort and provide easy access to employee payroll information

System Design

OVERVIEW

The Employee Payroll System is designed to manage essential employee information and automate salary-related calculations. The main goal of the project is to store employee details such as ID, name, and basic salary, and then process them to compute gross and net salaries using predefined allowances and tax rules. The system incorporates key payroll functions, including automatic calculation of HRA, DA, gross salary, and income tax based on standard tax slabs. It further determines the employee's net payable salary after deducting applicable taxes.

In addition to salary computation, the system provides core management features such as adding new employees, deleting existing records, displaying all employee details, and searching employees either by ID or

name. For better organization, it allows sorting employee records alphabetically by name. A notable feature is the ability to generate a detailed payslip for any employee, which is saved into a text file for record-keeping purposes.

The solution is structured using arrays of structures, making the program efficient and easy to manage. It uses modular programming, with each operation implemented as a separate function. Overall, the system provides a simple, menu-driven interface and fulfills all major requirements of a basic payroll management application in C.

ALGORITHM

1. Start the program.
2. Initialize employee array and set count = 0.
3. Display menu repeatedly until the user chooses Exit.
4. Read user choice.

If choice = Add Employee

5. Read ID, name, salary and store in e[count].
6. Increment count.

If choice = Delete Employee

7. Read ID, search in array, and delete by shifting elements.

If choice = Show All

8. Display details of all employees.

If choice = Search Employee

9. Ask search type (ID/Name), search and display details.

If choice = Sort by Name

10. Sort names alphabetically using string comparison.

If choice = Generate Payslip

11. Read ID, find employee.

12. Calculate HRA, DA, Gross Salary.

13. Calculate tax using income slabs.

14. Compute Net Salary and write payslip to a file.

If choice = Exit

15. End the program.

These algorithms prioritize clarity and efficiency, ensuring the system feels responsive and caring in its interactions.

Implementation Details

- Using standard libraries like <stdio.h> for input/output.
- Structures define data models.
- The main loop handles user choices via a switch statement.

Testing and Results

```
--- EMPLOYEE PAYROLL SYSTEM ---
1. Add Employee
2. Delete Employee
3. Show All Employees
4. Search Employee
5. Sort by Name
6. Generate Payslip
7. Exit
Enter choice: 1
Enter ID: 1
Enter Name: Vasvi
Enter Basic Salary: 2500000
Employee added.
```

```
--- EMPLOYEE PAYROLL SYSTEM ---
1. Add Employee
2. Delete Employee
3. Show All Employees
4. Search Employee
5. Sort by Name
6. Generate Payslip
7. Exit
Enter choice: 1
Enter ID: 2
Enter Name: Ishi
Enter Basic Salary: 2700000
Employee added.
```

```
--- EMPLOYEE PAYROLL SYSTEM ---
1. Add Employee
2. Delete Employee
3. Show All Employees
4. Search Employee
5. Sort by Name
6. Generate Payslip
7. Exit
Enter choice: 2
Enter ID to delete: 2
Employee deleted.
```

--- EMPLOYEE PAYROLL SYSTEM ---

- 1. Add Employee
- 2. Delete Employee
- 3. Show All Employees
- 4. Search Employee
- 5. Sort by Name
- 6. Generate Payslip
- 7. Exit

Enter choice: 3

1 Vasvi 2500000.00

```
--- EMPLOYEE PAYROLL SYSTEM ---
```

1. Add Employee
2. Delete Employee
3. Show All Employees
4. Search Employee
5. Sort by Name
6. Generate Payslip
7. Exit

```
Enter choice: 4
```

```
Search by: 1-ID 2-Name :
```

```
1
```

```
Enter ID: 1
```

```
Found: 1 Vasvi 2500000.00
```

```
--- EMPLOYEE PAYROLL SYSTEM ---
```

1. Add Employee
2. Delete Employee
3. Show All Employees
4. Search Employee
5. Sort by Name
6. Generate Payslip
7. Exit

```
Enter choice: 5
```

```
Employees sorted by name.
```

```
--- EMPLOYEE PAYROLL SYSTEM ---
```

1. Add Employee
2. Delete Employee
3. Show All Employees
4. Search Employee
5. Sort by Name
6. Generate Payslip
7. Exit

```
Enter choice: 6
```

```
Enter ID for payslip: 1
```

```
Payslip saved in 'payslip.txt'.
```

```
--- EMPLOYEE PAYROLL SYSTEM ---
```

- 1. Add Employee
- 2. Delete Employee
- 3. Show All Employees
- 4. Search Employee
- 5. Sort by Name
- 6. Generate Payslip
- 7. Exit

```
Enter choice: 7
```

Conclusion

The Employee Payroll System provides an effective and user-friendly solution for managing employee salary records. By using structures, arrays, and modular functions, the program organizes employee information and ensures accurate salary processing. Features such as adding, deleting, searching, and sorting employees make data handling efficient. The system also automates gross and net salary calculations using predefined allowances and tax slabs, reducing manual effort and ensuring correctness. The payslip generation module enhances record-keeping by storing detailed salary reports in a file.

Overall, this project demonstrates practical implementation of core C programming concepts while delivering a reliable and functional payroll management tool.

Future work

Looking ahead, we're excited to make this even better.

Following points can be added:

- **Add login and authentication** for admin and HR users.
- **Use file storage or databases** (like MySQL) to permanently save employee records.
- **Include advanced allowances and deductions**, such as PF, insurance, and overtime.
- **Provide monthly and yearly reports** with summary charts.
- **Include employee attendance tracking** to automate salary based on working days.
- **Implement data backup and recovery** to protect payroll records.
- **Enable export options**, such as PDF or Excel payslips.

References

Online resources:

GeeksforGeeks,

Let us C:

Yashavant Kanetkar