**Project Report**

**Payroll Management System**

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**Executive Summary:**

In the program, a department is managing information of each employee to calculate salary. In this context, the department is maintaining the following information in the file named: **EmployeesManagementSystem.txt**

* Employee ID
* Employee Name
* Designation
* Basic Salary
* Month
* Leaves
* Allowed Leaves
* Per Leave Deduction Rate
* Salary

**Preface:**

The user is given the following menu:

* Enter 1 to enter the information of employees to manage the salary of a specific month
* Enter 2 to Print Salary Slip
* Enter 3 to enter the information of a new employee
* Enter 4 to Quit

**Methodology:**

* If the user enters 1, the user will be asked to enter the information of employees and populate the following fields: Employee ID, Employee Name, Designation, Basic Salary, Month, Leaves, Allowed Leaves, Per Leave Deduction Rate. The system will calculate the salary using the formula discussed above. The system will store this information in **EmployeesManagementSystem.txt.** The system will get information of all employees in the loop and will exit the loop when the user enters -1.
* If the user enters 2, System will ask the user to enter the Month against which each employee’s salary slip will be printed. For example, the user enters “January”. The system will process **EmployeesManagementSystem.txt** file and generate salary slips of each employee individually. These salary slips will be saved on disk having file naming convention as <Employee ID>\_<EmployeeName>\_<Month>\_SalarySlip.txt. The information in each slip is saved in a defined format as discussed in the table below. Please note that text of <Employee ID>\_<EmployeeName>\_<Month> will be extracted from **EmployeesManagementSystem.txt** against each employee. For Example in the main menu, the user enters 2.
* If the user Enter 3, the system will ask for information of the employee including Employee ID, Employee Name, Designation, Basic Salary, Month, Leaves, Allowed Leaves and Per Leave Deduction Rate, and will populate in **EmployeesManagementSystem.txt**.
* If the user enters 4, the program terminates.

**How the Program Works:**

Program On Execution Gives A Console-Based Menu With 4

Options

1 .The First Option Enable User To Enter Data Of Employees Till The User Enter 'n' To Exit.

This Option Calls The Function Input With Argument Of Character 'y' (Yes) Which Means Program Will Run Till The User Enter 'n' to terminate. In Input Function A User Defined Data Type Variable Is Initialized Which Takes All The Inputs From The User Using Getline Function. Input Validation Is Implemented On Every Input. After Processing The Inputs All Data Strings Are Capitalized Using Capitalize Function And Employee's Data Is Saved In The Main Text File In A Proper Way.

2. Second Option Allows User To Print The Salary Slips Of A Specific Month.

This Option Calls The Function printSlips Which First Takes The Input Of Month From The User Then The Month Validation Function Checks If The Month Is Valid Or Not .After Validation The Program Starts Reading The File Employee by Employee And The Program Will Check Read Each Employee's Month And Compare It With The Input Month . If True Then The Salary Slip Will Be Generated.

3. Third Option Let User To Enter Data Of Only One Employee.

In This Option Again The Function Input Is Called But This Time With An Argument Of Character 'n' (No) Which State That The The Function Will Take Input Only Once.

4. This Option Exits The Program.

INPUT VALIDATION

* For String Inputs Like Name And Designation Which Can Only Contain Alphabets The Function Only Aphabet Is Used . This Method Checks Each Character Of String And Check If It Contains Digits Or Symbols Using Ascii Characters. If The String Contains It Return False. Then The Input Is Taken Again Up Until The Input Is Valid.
* Only Integer Function Is Used When We Only Require An Integer. It Also Check Each Character Of Input And Return True Or False Based On The Input.
* Month Validation Function Validate Only Month's Input And Make Sure That The Input Is A Valid Month Or Not.

Capitalizing First Letter Of Input

* This Function Takes A String Input And First Makes It's First Character Uppercase Using ToUpper Function(Built-in) . It Also Works For More Than One Word. And Finally It Assemble All The Other Characters To Lowercase Using ToLower Function(Built-in).