A Python Project for Academic Year 2025 - 2026

Employee management System

Subject Name: mini project

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Introduction

- The Employee Payroll System is a Python-based application developed to manage employee data and attendance records.

- It uses CSV files for data storage, allowing easy manipulation without the need for external databases.

- The system is entirely command-line based and offers a user-friendly menu interface.

Technical information

Technologies used:

- Programming language: python 3.x

- Data storage: csv files

- Libraries: csv, os

Development tools:

- ide: vs code / pycharm / any python-supported editor

- Execution environment: cli / terminal

System requirements

Software:

- Python 3.x

- Any text editor or ide

- Cli for execution

Hardware:

- Any system running python

- Minimum 512mb ram
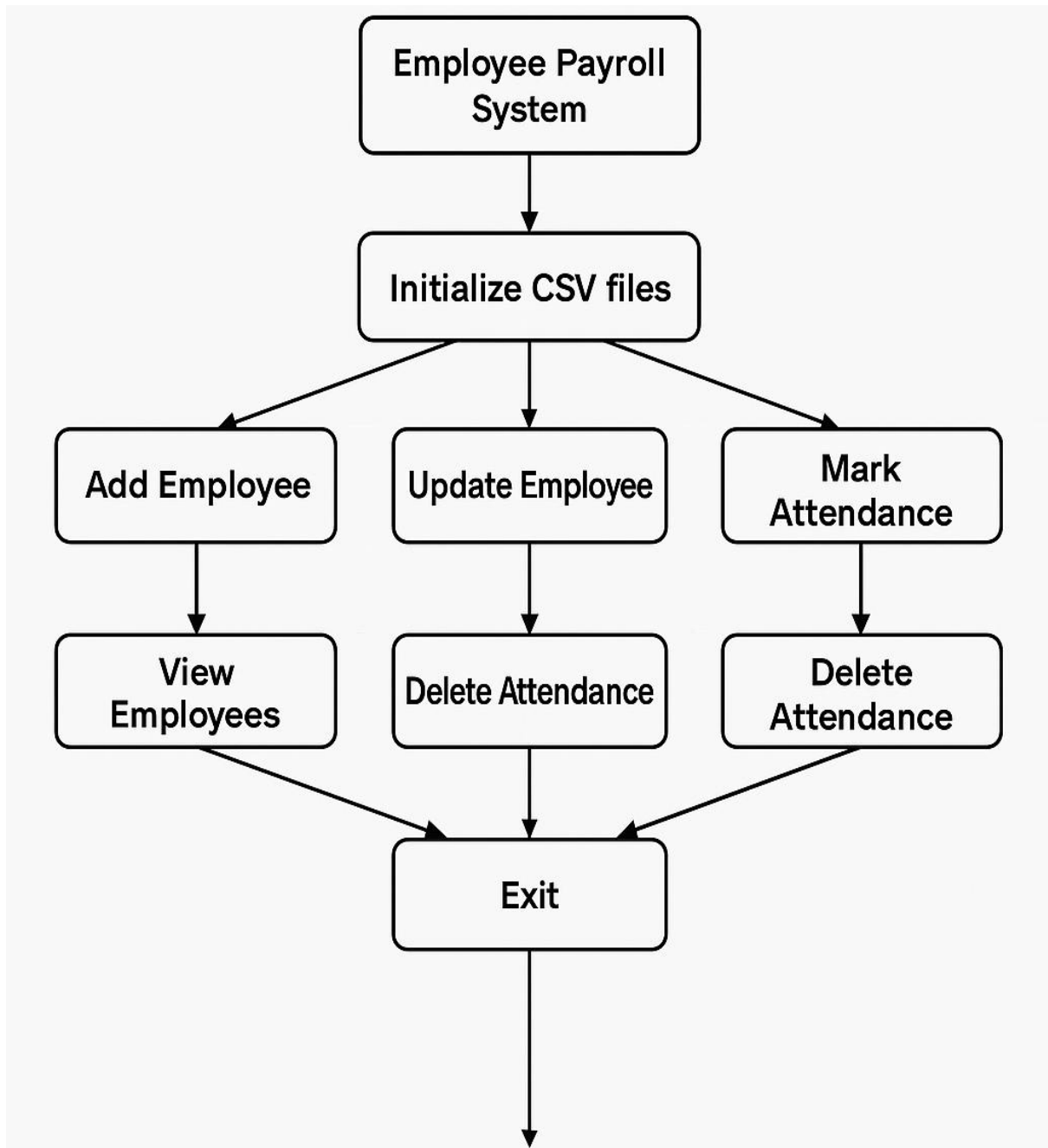
- Minimal disk space for csv storage

Project structure

Main script:

- Employee_payroll.py (contains all logic)

Csv files:

- Employee_payroll.csv (stores employee data)
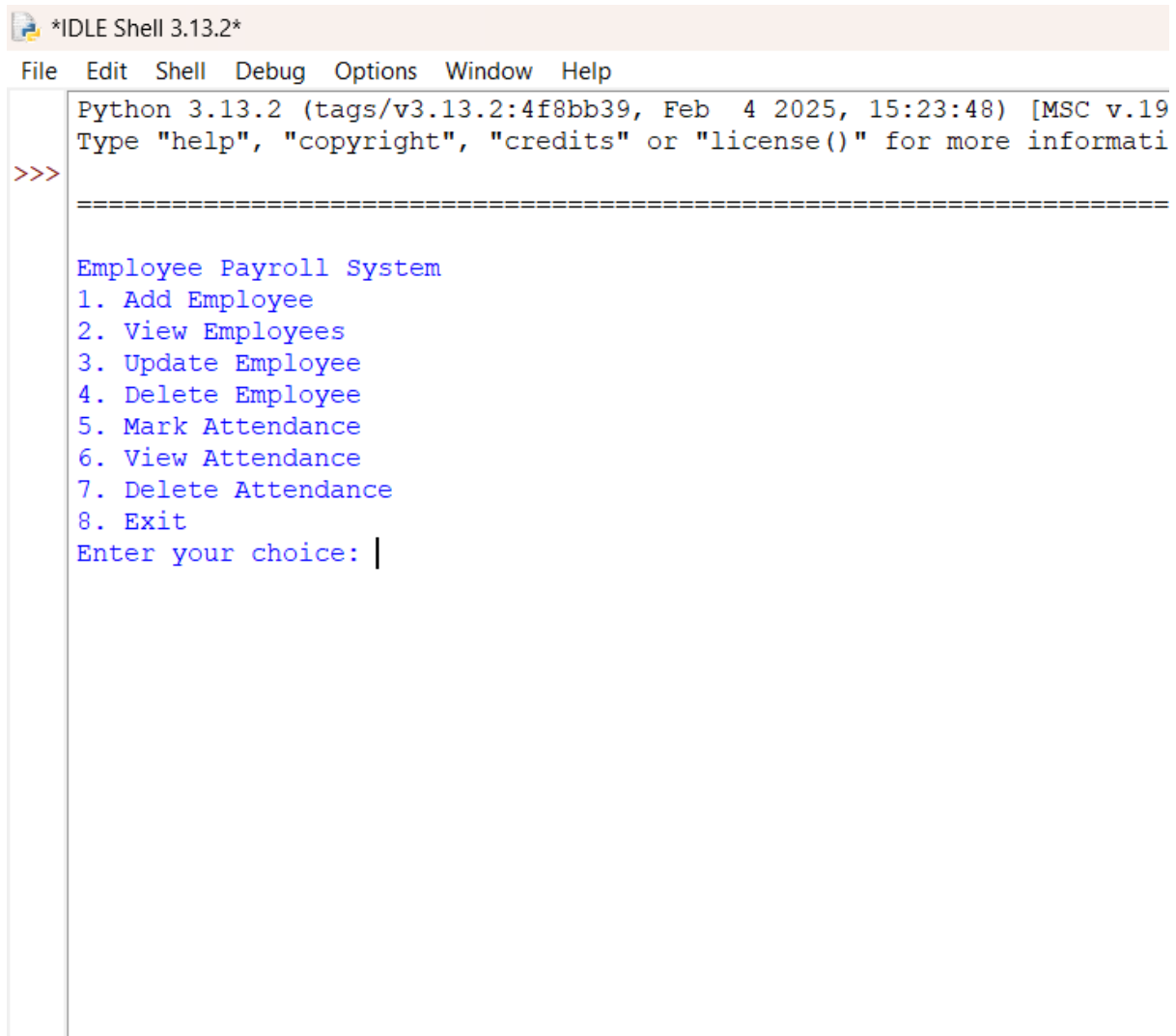- Employee_attendance.csv (stores attendance records)

DIGRAM

Features

- Add, view, update, delete employees

- Mark, view, delete attendance

- Input validation for phone, age, gender

- Csv file auto-creation

- Simple menu-driven interface

Output Screenshots

MAIN MENU

Adding a employee

```
Employee Payroll System
1. Add Employee
2. View Employees
3. Update Employee
4. Delete Employee
5. Mark Attendance
6. View Attendance
7. Delete Attendance
8. Exit
Enter your choice: 1
Enter Employee ID: 45
Enter Employee Gender (Male/Female/Other): male
Enter Employee Name: jaymin
Enter Employee Age: 22
Enter Village: mankuva
Enter City: bhuj
Enter Employee Phone Number (10 digits): 9988776655
Enter Employee Position: manger
Enter Employee Salary: 60000
Employee added successfully.
```

View All employee

```
Enter your choice: 2
Employee ID    Gender    Name             Age    Village    City    Phone Number    Position    Salary
1              Male      Hemik Hirani     23     mankuva    bhuj    1234567890      hr          70000
12             Male      hemik            10     mks        bhuj    9876543210      cto         10000
123            male      hjfw             45     sfj        ksg     1234567890      hjs         123456
45             Male      jaymin           22     mankuva    bhuj    9988776655      manger      60000
```

Update employee Details

```
Enter your choice: 3
Enter Employee ID to update: 123
Updating details for Employee ID: 123
Enter Employee Gender (Male/Female/Other): male
Enter new Employee Name: kalpesh
Enter Employee Age: 21
Enter new Village: mankuva
Enter new City: bhuj
Enter Employee Phone Number (10 digits): 1122336655
Enter new Employee Position:  engineering
Enter new Employee Salary: 65000
Employee updated successfully.
```

Delete employee

```
Enter your choice: 4
Enter Employee ID to delete: 123
Employee found: kalpesh (ID: 123)
Are you sure you want to delete this employee? (yes/no): yes
Employee deleted successfully.
```

MARK ATTENDANCE

```
Employee Payroll System
1. Add Employee
2. View Employees
3. Update Employee
4. Delete Employee
5. Mark Attendance
6. View Attendance
7. Delete Attendance
8. Exit
Enter your choice: 5
Enter Employee ID to mark attendance: 1
Enter attendance status (Present/Absent): present
Enter the date (YYYY-MM-DD): 2025-04-09
New attendance record added.
```

View Attendance

```
Employee Payroll System
1. Add Employee
2. View Employees
3. Update Employee
4. Delete Employee
5. Mark Attendance
6. View Attendance
7. Delete Attendance
8. Exit
Enter your choice: 6
Employee ID: 1, Date: 2025-04-09, Status: Present
Employee ID: 12, Date: 2025-04-09, Status: Present
```

Delete Attendance

```
Employee Payroll System
1. Add Employee
2. View Employees
3. Update Employee
4. Delete Employee
5. Mark Attendance
6. View Attendance
7. Delete Attendance
8. Exit
Enter your choice: 7
Enter Employee ID to delete attendance: 1
Enter the date (YYYY-MM-DD) of the attendance record to delete: 2025-04-09
Attendance record deleted successfully.
```

Learning Objectives

- Python file handling with csv

- DATA VALIDATION AND USER INPUT

- Crud operations

- ATTENDANCE TRACKING

- Modular programming structure

Conclusion

- This project provided hands-on experience in building a functional cli-based system using core python features.

- It helped in understanding file operations, data validation, and user-friendly program design.

- Future improvements may include gui integration and database support.

THE END