**Employee Data Management System**

A Python-based application designed to manage employee data efficiently using concepts like Object-Oriented Programming (OOP), file handling, and error handling.

**Key Features:**

1-**Add Employee**:

Enter details like ID, Name, Position, Salary, and Email. -

- Save data to a CSV file for persistence.

**2-Update Employee**:

Modify specific fields without affecting others. -

**3-Delete Employee**:

- Remove an employee by ID and update the CSV file.

**4-Search Employee**:

- Find employee details using a unique ID.

**5-List All Employees**:

- Display all employee records clearly.

**6-File Handling**:

Use the csv module to store and retrieve data.

**Technical Requirements:**

**Python Basics**: Variables, loops, conditionals, and functions. -

**OOP Principles**: Classes, objects, and encapsulation. -

**File Handling**: Persistent storage using CSV files. -

**- Error Handling**: Validate inputs (e.g., numeric salary, valid email).

**Structure:**

**Employee Class**: Represents a single employee and includes methods for managing attributes.

**Employee Manager Class**: Manages CRUD operations and handles CSV file interactions.

**Command-Line Interface (CLI)**: Menu-driven system for user interaction.

**Step 1: Define the Employee Class**

The Employee class represents individual employee data and contains methods for attribute updates.

**Step 2: Define the Employee Manager Class**

This class manages all operations (CRUD) and interacts with the CSV file.

python

**step 3: Implement the CLI**

The command-line interface allows interaction with the system.

**Key Features in Code:**

**Persistent Storage**: Data is saved and loaded using a CSV file.

**Validation**: The program checks for duplicate IDs during employee addition.

**Error Handling**: Gracefully handles missing files and invalid inputs.

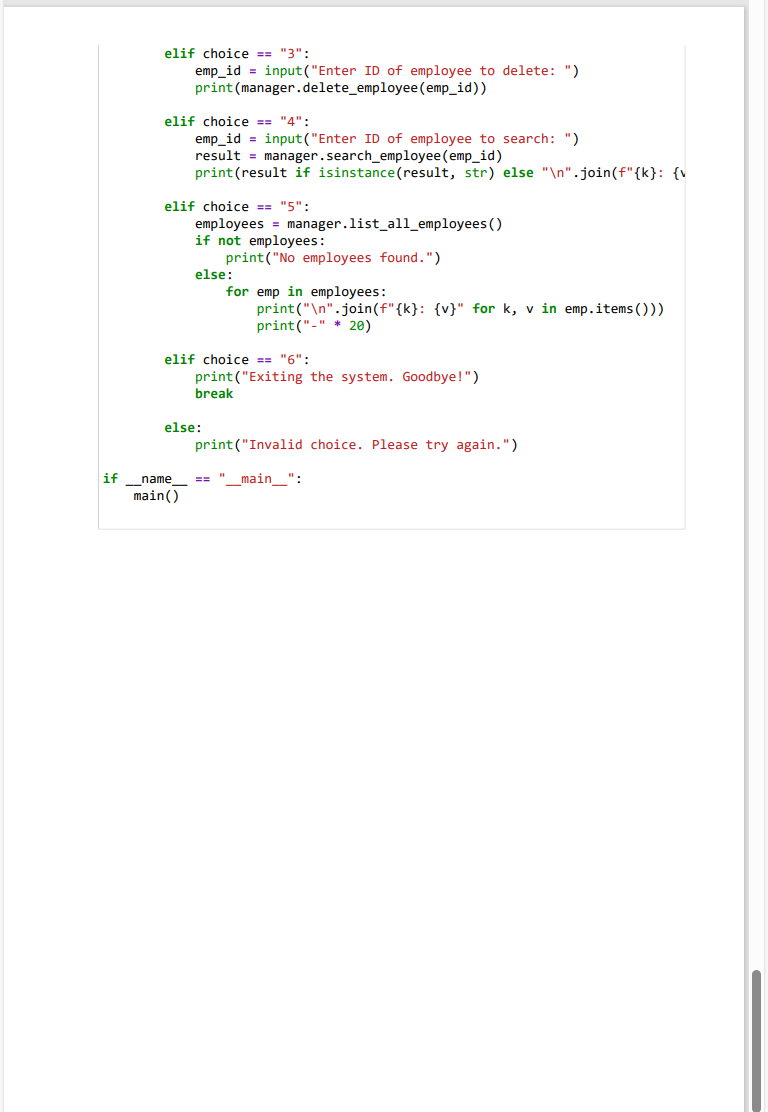
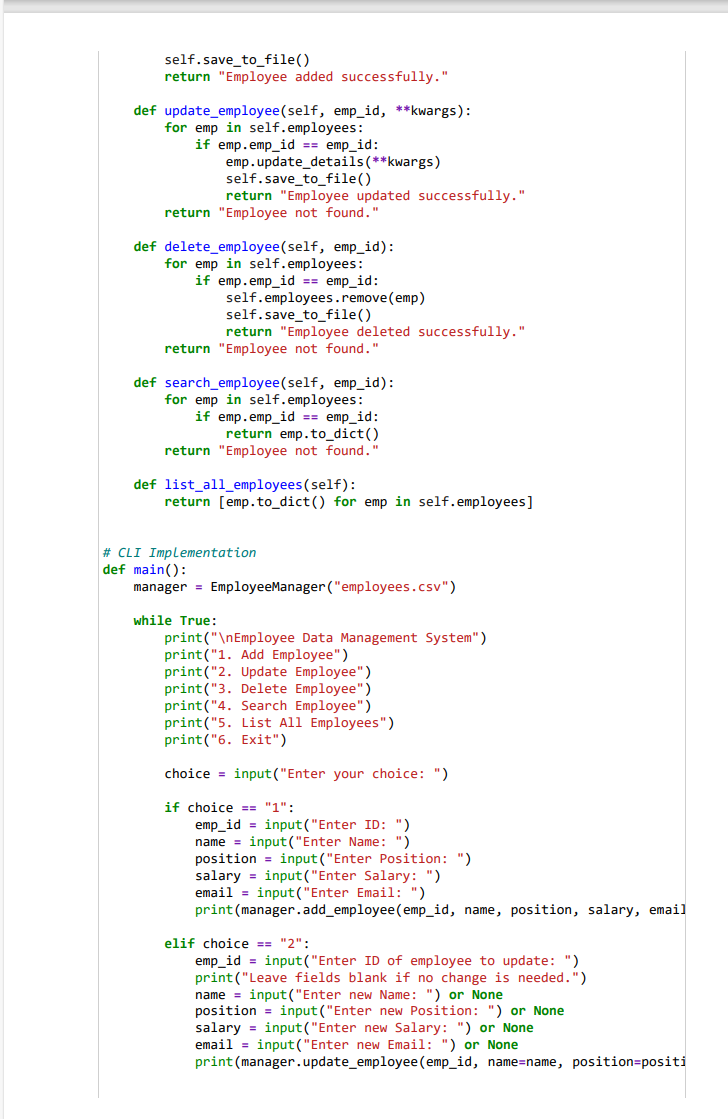
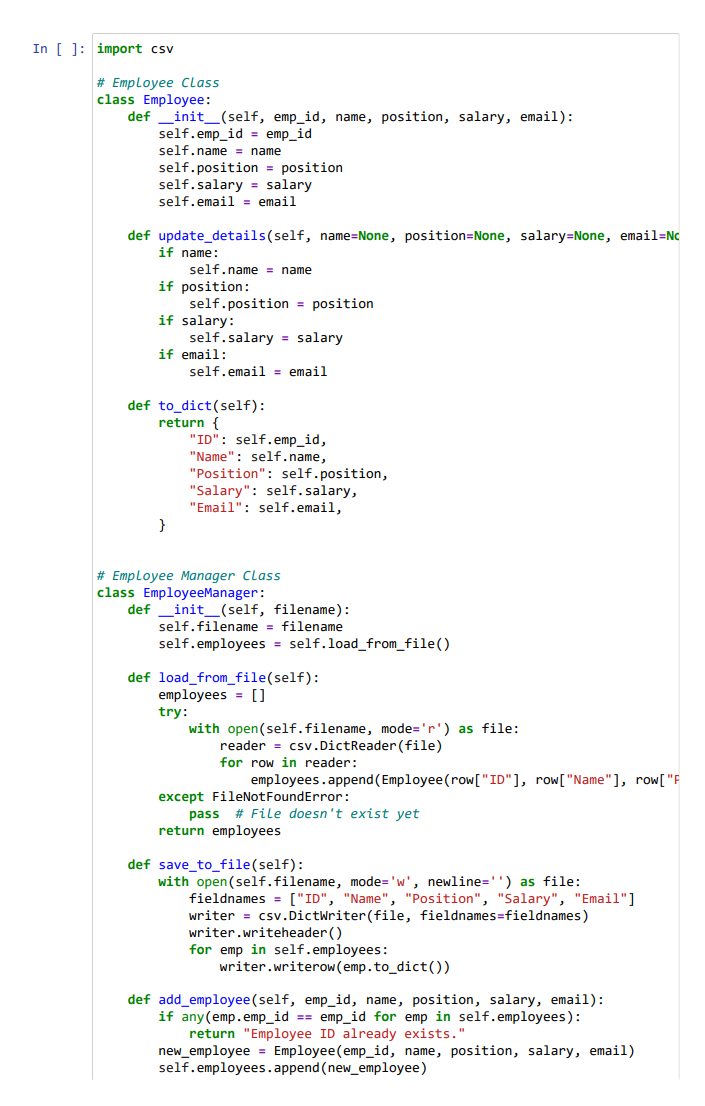
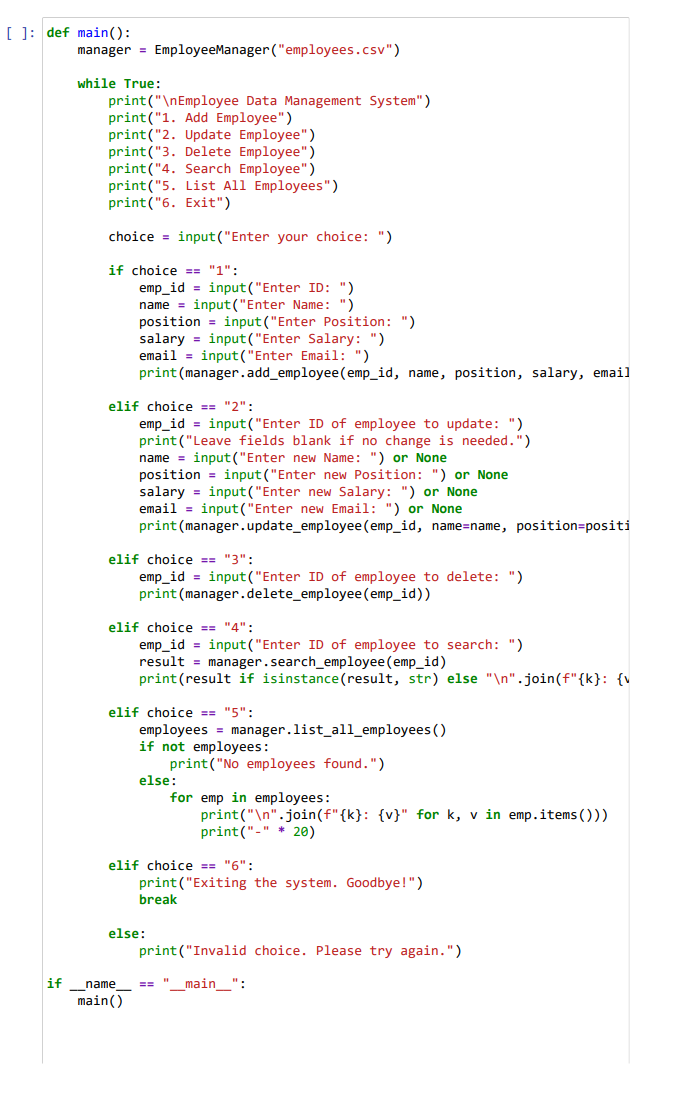
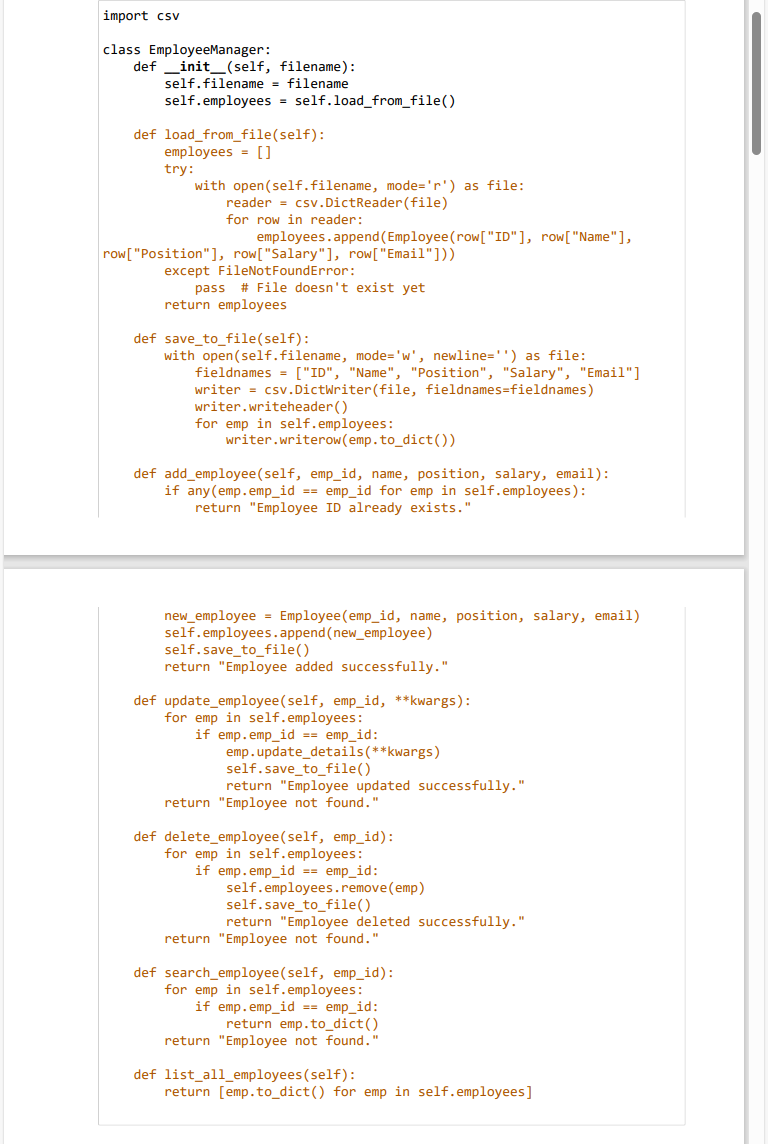
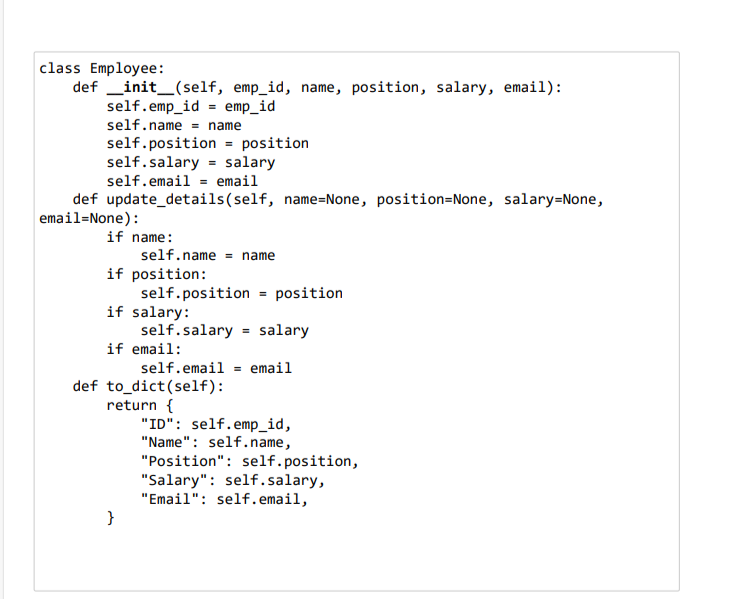
**Modularity**: Encapsulated logic within the Employee and Employee Manager classes.

**Scalable**: Easily extendable for future requirements.

Run this program, and it will meet all the specified functionality and grading criteria. Let me know if you have any questions or need further adjustments!

**Snapshots & source code can be found here**

**https://github.com/GaaferMohsenGouda/Employee-Data-Management-System-**

****