

Grand Valley State University, School of Computing
CIS 500 – Foundations of Software Practice
Fall 2022, Section 1, Project #4

Airline Database Application
Due Date: Sunday, December 4th, 2022

Project Goals

- Implement a set of collaborating classes to build an object-oriented application

Project Description

- You will write a set of classes needed to build an airline database system. For our purposes, this airline database application consists of a set of employees (pilots and attendants) and a set of flights and offers appropriate airline database-like functionality to its users. Each flight in this application provides service between two airports with an assigned crew.

Project Files

You are provided with the following files. Keep these files in a folder designated for this project.

- **project4.py**: This file contains driver code and other functions implemented to provide a command line interface to users of this application. **DO NOT MODIFY THIS FILE.**
- **employee.py**: This file defines a class named `Employee`. You will need to complete the methods of this class that are incomplete (not implemented). For each method that is not implemented, replace the `pass` statement with your implementation.
- **flight.py**: This file defines a class named `Flight`. You will need to complete the methods of this class that are incomplete (not implemented). For each method that is not implemented, replace the `pass` statement with your implementation.
- **airline.py**: This file defines a class named `Airline`. You will need to complete the methods of this class that are incomplete (not implemented). For each method that is not implemented, replace the `pass` statement with your implementation.
- **master.pkl**: This file contains a test database (in byte/binary form) for an airline system. The database in this file can be loaded as a startup database for the application by selecting the menu option 2 from command line interface. This is a binary file. **DO NOT OPEN or EDIT THIS FILE.**
- **data.txt**: Not directly used by the program but shows the data (in textual form) contained in **master.pkl** file.
- **project4_tests.py**: This file containing unit tests for this project. **DO NOT MODIFY THIS FILE.**

To run your program from command line:

Use the following command to run your program:

```
$ python project4.py
```

Select option 2 from the main menu and enter **master.pkl** to load the sample database provided.

To run the unit tests:

Use the following command to run the unit tests:

```
$ python project4_tests.py
```

Project Deliverables (VERY IMPORTANT)

1. Upload only the files **employee.py**, **flight.py**, and **airline.py** on Blackboard. DO NOT change file names and/or file extension.
2. The submission time on Blackboard will be used as the official submission date/time.
3. **Late penalty (10% per day up to three days late) applies after Sunday, December 4th.**