

Assignment Sheet 2: Airline Reservation and Ticketing System

Objective

- This assignment will test your understanding of:
 - Python basics (variables, operators, loops, conditionals)
 - Data structures (lists, dictionaries, sets)
 - Functions and recursion
 - File handling (reading/writing student data)
 - Exception handling (handling errors gracefully)

Assignment Description

You are required to develop an Airline Reservation and Ticketing System that allows passengers to book and cancel tickets. The system should read flight details from a file, process bookings, and maintain booking history.

File Format

Input file: flights.txt

Each line contains: FlightNo,Origin,Destination,SeatsAvailable

Example:

F101,Colombo,Chennai,5

F102,Colombo,Delhi,3

Program Requirements

Your program must:

Read Data

- Load flights from flights.txt.
- Store them in a suitable structure.
- Handle missing or corrupted files gracefully.

Booking Tickets

- Allow users to book a ticket.
- Update available seats.
- Save booking in bookings.txt.

Cancel Tickets

- Allow users to cancel a booking.
- Update seats accordingly.
- Save cancellation in cancellations.txt.

Generate daily report

- Write a summary of all bookings and cancellations to report.txt.

Search functionality

- Recursive function to find all flights to a given destination.

Error Handling

- Handle invalid flight numbers.
- Handle full flights (no seats).
- Handle empty files.

Write all the relevant functions needed for your work.

Upload all your files (Python file and relevant text files) to GitHub and share the GitHub link to the assignment link provided on Aki.

The deadline won't be extended for any reason.

Plagiarism results in Zero marks.