CCC102 Programming Project

I. ASSESSMENT LEARNING OUTCOMES
1. Ability to write a program using structured and event-driven programming approaches.
2. Ability to design graphical user interfaces for programs utilizing AWT and Swing components.
3. Ability to apply the proper control structure, manipulate strings, create arrays, and debug issues.
4. Ability to construct methods for retrieving and storing records from and to a text file.

II. INTRODUCTION OF THE SOFTWARE
A new airline has been opened in your city and the manager wants to have a system that manages the flight booking of the airline passengers. The owner taps you to develop this system for them. You were advised to create a program that has four basic functions the Create, Read, Update and Delete (CRUD) to manage the booking transactions. As a developer, you are also entitled to add additional features in the system.

III. PROGRAM MODULES
Create the program using Java programming language via Netbeans IDE that applies the concepts of Sequence, Selection, Iteration, GUI using Swing, Error Handling and File Handling.

CREATE	
Add New Flight	The system enables the user to add new flight into the database. It will be stored in a text file named as "flights.txt". The information is as follows: **Flight ID** – the id number must be a 4-digit format value. It starts with 1000 and continues to increase as the number of flights stored increases. **Airplane Code** – the code must be a 6 character-digit format value. The first 2 characters are letters. Ex. DG6716 **Departure Date** – the date of departure. **Departure Time** – the time of departure. **Destination** – the destination place of the flight. Cebu, Davao, Cagayan de Oro, Manila only **Vacant Seats** – the number of available seats. **Seat Type** – the seat type. VIP or Regular **Status** – the status of the flight. Either "OK" or "Cancelled". Set the default to "OK". **Remarks** – the remarks once the flight is cancelled. Set the default as blank. Ex. The flight is cancelled due to a tropical storm.
Book Flight	The system enables the user to book a one-way flight. The user will search for the destination (Cebu, Davao, Cagayan de Oro, Manila only). The system then will record this booking transaction in the "bookings.txt". The information that will be recorded is as follows:

	Book Number – the book number. It starts with 0001 and continues to increase as the number of bookings stored increases.
	Flight ID – the id number of the flight.
	Airplane Code – the code of the airplane of this flight.
	Departure Date – the date of departure.
	Departure Time – the time of departure.
	Destination – the destination place of the flight.
	No. of Seats to Reserve – the number of seats to book.
	Seat type – the seat type to book.
	      If the flight is bound for Cebu,
	          VIP – P2,000
	           Regular – P1,500
	      If the flight is bound for Davao,
	          VIP – P1,700
	           Regular – P1,300
	      If the flight is bound for Cagayan de Oro,
	          VIP – P2,300
	           Regular – P1,800
	      If the flight is bound for Manila,
	          VIP – P3,000
	           Regular – P2,600
	Name of the Passenger – the passenger's full name.
	E-mail of the Passenger – the passenger's e-mail.
	Extra Baggage – the passenger may add an extra baggage of 30 kgs. This is either "Yes" or "No". Extra baggage costs P400.00.
	Contact Number of the Passenger – the passenger's 11-digit contact number.
	Bill – the amount to pay by the passenger.
	$$Bill = (Seat\ type * No.of\ passengers) + Extra\ baggage\ if\ "Yes"$$
	
	The vacant seats available of a particular flight in "flightst.txt" is then updated.
	Note that you cannot book a flight that is full or cancelled.

READ	
View List of All Cancelled Flights	The system can display the list of all cancelled flights. All information is displayed.
View List of Bookings of a Particular Flight	The system can display the bookings of a particular flight. The user may use the flight id for searching. All relevant information is displayed
UPDATE	
Cancel the Flight	The system enables the user to cancel a particular flight. A remark is also written once the flight is cancelled. The status is updated.
Update Booking Information	The system enables the user to update the passenger's current booking using the book number for the searching. The user can change the no. of seats to reserve, seat type, name of the passenger, e-mail add, extra baggage or contact number. The bill is also updated.

DELETE	
Cancel the Booking	The system allows a passenger's booking to be removed from the "bookings.txt" using its booking number. The No. of availabe seats for that flight in "flights.txt" is also updated.

To summarize the functionalities of the system the modules hierarchy has been provided as given below:

1. Create
    a. Add New Flight
    b. Book Flight
2. Read (*You may use a JTable for display*)
    a. View List of All Cancelled Flights
    b. View List of Bookings of a Particular Flight
3. Update
    a. Cancel the Flight
    b. Update Booking Information
4. Delete
    a. Cancel the Booking

As a developer you are required to create proper notifications and proper display of error/system user warnings. Furthermore, the system must be bug-free.

IV. PROJECT REQUIREMENTS

1. An at most 10-minute video presentation of your program. Present what your system can do and discuss also your code (what you did).
   Upload your presentation in Youtube, set the video as "Unlisted" and then share the link with me in Google Classroom.
2. Copy of the Netbeans Java Project named "System<u>LastName</u>".
   Ex. SystemGulfan
   The project file will be compressed/zipped. The compressed/zipped file will be named
   "Project_LastName.zip" or "Project_LastName.rar"
   Ex. Project_Gulfan.zip or Project_Gulfan.rar
   The compressed/zipped file will be uploaded in the Google Classroom.

V. ASSESSMENT CRITERIA

Criteria	Score
Program Design	20
Program Execution	20
Specifications Satisfaction	20
Coding Style	20
Comments	10
Creativity	10
Total Score	**100**