CMPG221: Practical Assignment 4 Part 1 & Part 2 **[20 + 20]**

Write a simple JAVA airline ticket reservation program that will use the provided MyLinkedList Class. Assume that tickets are reserved for only one flight.

The program should display a menu with the following options:

1. reserve a ticket
2. cancel a reservation
3. check whether a ticket is reserved for a particular person
4. display the passengers
5. **check double-bookings**
6. EXIT.

- Write a class called Passenger with name, ID number and contact number as fields.
- Write a class called Flight with flightnumber and a linked list of passengers as instance fields.

The following methods should be implemented in the Flight class:

- **"reserveTicket()"** to add passenger information to linked list. (5 marks)
  - Tickets are reserved using name, ID number and contact number.

- **"cancelTicket()"** to cancel a ticket reservation for a particular passenger. (5 marks)
  - Tickets are cancelled using name, ID number and contact number.

- **"checkTicket()"** function to check ticket reservation for a particular passenger (5 marks)
  - Design and write a method **contains()** for the MyLinkedList class to determine if a parameter object is present in the linked list.
  - Use the contains() method to check the ticket reservation using name, ID number and contact number.

- **"displayPassengers()"** method to display details of all passengers present in the linked list. (5 marks)

Part 2 **[20]**

One of the flight administrators processed some reservations more than once causing some double-bookings.

- Use the **3-step algorithm design method** and write a java method called **checkDouble()** for the MyLinkedList class. The method returns the list of passengers but without any double bookings.
  - For the 3-step method you must do your drawings and type the steps in a Word document and submit it along with your .java files.

Challenge!(Optional) In an extended version, place no limit on the number of flights. Create a linked list of flights with each node including a pointer to a linked list of passengers.