LAB211 Assignment

Type:	Short Assignment
Code:	J1.S.P107
LOC:	50

Title

Manage room reservations and pick up guests at the airport.

Background

Understanding encapsulation in object-oriented programming.

Program Specifications

- Write a program to create a class named "Reservation" with the properties booking ID, customer name, phone number and date. Create class "FlightInformation" to add specific attributes such as flight number, seat numbers, airport pick up time.
- Class FlightInformation:
  - o Attributes: flightNumber, seatNumber, timePickUp
  - o Methods:
    - ▪ FlightInformation(flightNumber, seatNumber, timePickUp): Set its attributes value according to passed parameters.
    - ▪ FlightInformation(): Set value off all attributes, number is 0 and string is "" and datetime is current.
- Class Reservation
  - o Attributes: bookingID, customerName, phoneNumber, roomNumber, dateTime, flightInformation
  - o Methods:
    - ▪ Reservation(bookingID, customerName, phoneNumber, roomNumber, bookingDate, flightInformation): Set its attributes value according to passed parameters.
    - ▪ Reservation(): Set value off all attributes, number is 0 and string is "".
    - ▪ set get method for each attribute.

Function details:

1. Enter n reservation. If data input is invalid, the program show error message.
   - ○ ID is a 6 digits and unique
   - ○ customerName is alphabet and blanks
   - ○ phoneNumber is 12 digits
   - ○ roomNumber is 4 digits
   - ○ bookingDate must be after present
   - ○ timePickUp must be after present and before bookingDate
2. Search and update reservation information. If data input is invalid, the program show error message.
   - ○ customerName is alphabet and blanks
   - ○ phoneNumber is 12 digits
   - ○ roomNumber is 4 digits
   - ○ bookingDate must be after present
   - ○ timePickUp must be after present and before bookingDate
3. Search and delete reservation information
4. Print reservation entered in order entered
5. Print reservation need pick up in order timePickUp and flight information

Examples: (the blue text is data input)

```
*** Reservation Management ***
1. Create new reservation
2. Update reservation
3. Delete reservation
4. Print Flight Information
5. Print all
6. Exit
You choose: 1
*** Create new reservation ***
ID: 1
Data input is  invalid
ID: 000001
Name: Nguyen@
Data input is  invalid
Name: Nguyen Thanh An
Phone: 0983123456
Data input is  invalid
Phone: 098312345678
RoomNumbers: 2
BookingDate: 21/12/2023
Data input is  invalid
BookingDate: 21/12/2024
Need airport pick up? (Y/N): Yeh
Data input is  invalid
Need airport pick up? (Y/N): Y
Flight: NY0123
Seat: A123
TimePickUp: 22/12/2024 10:00AM
Data input is  invalid
TimePickUp: 21/12/2024 10:00AM
Information saved successfully.

*** Reservation Management ***
1. Create new reservation
2. Update reservation
3. Delete reservation
4. Print Flight Information
5. Print all
6. Exit
You choose: 2
*** Update reservation ***
bookingID: 1
ID: 1
No information found
You want to find again? (Y/N): Y
ID: 000001
ID - Name - Phone - RoomNumbers - BookingDate - Flight - Seat - TimePickUp
000001 - Nguyen Thanh An - 098312345678 - 2 - 21/12/2024 - NY0123 - A123 -
22/12/2024 10:00AM
If you do not want to change the information, just press enter to skip.
Name:
Phone: 098312345688
```

```
RoomNumbers: 10
BookingDate:
Need airport pick up? (Y/N):
ID - Name - Phone - RoomNumbers - BookingDate - Flight - Seat - TimePickUp
000001 - Nguyen Thanh An - 098312345688 - 10 - 21/12/2024 - NY0123 - A123 -
22/12/2024 10:00AM
Information saved successfully.

*** Reservation Management ***
1. Create new reservation
2. Update reservation
3. Delete reservation
4. Print Flight Information
5. Print all
6. Exit
You choose: 3
*** Delete reservation ***
bookingID: 1
ID: 1
No information found
You want to find again? (Y/N): Y
You want to find again? (Y/N): Y
ID: 000001
ID - Name - Phone - RoomNumbers - BookingDate - Flight - Seat - TimePickUp
000001 - Nguyen Thanh An - 098312345688 - 10 - 21/12/2024 - NY0123 - A123 -
22/12/2024 10:00AM
Are you sure you want to delete this information? (Y/N): N

*** Reservation Management ***
1. Create new reservation
2. Update reservation
3. Delete reservation
4. Print Flight Information
5. Print all
6. Exit
You choose: 4
*** Flight Information ***
ID - Name - Phone - Flight - Seat - TimePickUp
000001 - Nguyen Thanh An - 098312345688 - NY0123 - A123 - 22/12/2024 10:00AM

*** Reservation Management ***
1. Create new reservation
2. Update reservation
3. Delete reservation
4. Print Flight Information
5. Print all
6. Exit
You choose: 5
*** Reservation Information ***
ID - Name - Phone - RoomNumbers - BookingDate - Flight - Seat - TimePickUp
000001 - Nguyen Thanh An - 098312345688 - 10 - 21/12/2024 - NY0123 - A123 -
22/12/2024 10:00AM

*** Reservation Management ***
1. Create new reservation
2. Update reservation
```

```
3. Delete reservation
4. Print Flight Information
5. Print all
6. Exit
You choose: 3
*** Delete reservation ***
ID: 000001
ID - Name - Phone - RoomNumbers - BookingDate - Flight - Seat - TimePickUp
000001 - Nguyen Thanh An - 098312345688 - 10 - 21/12/2024 - NY0123 - A123 -
22/12/2024 10:00AM
Are you sure you want to delete this information? (Y/N): Y
Information deleted successfully.

*** Reservation Management ***
1. Create new reservation
2. Update reservation
3. Delete reservation
4. Print Flight Information
5. Print all
6. Exit
You choose: 5
No information to view

*** Reservation Management ***
1. Create new reservation
2. Update reservation
3. Delete reservation
4. Print Flight Information
5. Print all
6. Exit
You choose: 6
BYE AND SEE YOU NEXT TIME
```

Expectation of User interface:

   No specific UI required. The program should run in the console.

Guidelines

   (None)

Suggestion:

   Use simple and clear code.