CSE212: SOFTWARE DEVELOPMENT METHODOLOGIES

YEDITEPE UNIVERSITY

SPRING 2023

ASSIGNMENT 5 – DUE DATE APRIL 3RD, 2023

Below, you can find the description of your fifth assignment, which also includes its output in the *Application Walkthrough* section.

In this assignment, you are expected to improve your existing <u>Hotel Reservation System</u> by incorporating *List* type data structures from the package *Collections*. Furthermore, you are required to make use of the *remove()* method to delete items from a list or in this case a fixed sized array.

```
1. Create new Reservation
2. Create new Reservation with Room Type
3. Display all Reservations
4. Display the total number of reservations
5. List the reservations for a specific city
6. Remove reservations in a specific city
7. Exit
```

As part of this assignment, you need to add two new menu items to your existing reservation system. Namely; item 5 "List the reservation for a specific city" and item 6 "Remove reservations in a specific city". However, in order for this new approach to work are asked to input all hotel names with its location city – e.g. "*Hilton Istanbul*", "*DoubleTree By Hilton Istanbul*", "*Ramada Bursa*" etc. Also, you should set the size of your *Reservation* array to <u>3</u> and always fill all of them with data – the size of the array should be *3* and you should always enter at least *3* reservations.

Accordingly, when the user selects the 1st option, s/he should be prompted to enter the relevant information (values corresponding to instance variables) for a new *Room*. The default room type will be a *Single*.

When the user selects the 2nd option, the system will expect the user to input the generic information about the reservation and lastly the type of the room. The *roomType* provided by the user then should be compared using *equals()* method and a relevant type of subclass instance should be created. Then, the created object, which will be a subclass of *Room*, should be added to the

Reservation object via its constructor. Then fully constructed *Reservation* objects should be stored in an array for later use.

When the user selects the 3rd option, the information about all reservations should be printed with the help of the existing *displayInfo()* method.

When the user selects the 4th option, the total number of reservations should be printed by calling the static class variable *totalNumOfReservations*.

When the user selects the 5th option, the system should ask the user to input the name of the city that the user would like to list the reservations of. Next, even though it is possible to parse the *Reservation* array using *do/while* loop, the application should convert the *Reservation* array into a *List* and traverse in it using *List Iterator's hasNext()* method. If the *Iterator's* pointer indicates to a reservation hotel which has the city name provided initially, it should print those hotel names on the screen.

When the user selects the 6th option, the application initially should request the user to input a city name. As soon as the city name is provided, it should convert the existing *Reservation* array into a *List* and parse the hotel names to check whether any of the reservations are made for that specific city. If any found, it should remove that reservation from the list using *List's* remove() method. Then the existing *Reservation* array should be set to *null* and the resulting *List* should then be inserted to the *Reservation* array.

When the user selects the 7th option, the application should be terminated.

Application Walkthrough

```
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7. Exit
1


Hotel Name: Hilton Istanbul
Reservation Month: April
Reservation Start: 20
Reservation End: 27


Reservation created!
```

```
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6. Remove reservations in a specific city
7. Exit
2

ROOM INFOS:

Room Type: Single, Daily Cost: 100, Room Size: 15, Has Bath: false
Room Type: Double, Daily Cost: 180, Room Size: 30, Has Bath: false
Room Type: Club, Daily Cost: 250, Room Size: 45, Has Bath: true
Room Type: Family, Daily Cost: 400, Room Size: 50, Has Bath: false
Room Type: Family With View, Daily Cost: 450, Room Size: 50, Has Bath: true
Room Type: Suite, Daily Cost: 650, Room Size: 80, Has Bath: true

Hotel Name: Ramada Bursa
Room Type: Club
Reservation Month: June
Reservation Start: 15
Reservation End: 18

Reservation created!

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7. Exit
2

ROOM INFOS:

Room Type: Single, Daily Cost: 100, Room Size: 15, Has Bath: false
Room Type: Double, Daily Cost: 180, Room Size: 30, Has Bath: false
Room Type: Club, Daily Cost: 250, Room Size: 45, Has Bath: true
Room Type: Family, Daily Cost: 400, Room Size: 50, Has Bath: false
Room Type: Family With View, Daily Cost: 450, Room Size: 50, Has Bath: true
Room Type: Suite, Daily Cost: 650, Room Size: 80, Has Bath: true

Hotel Name: Ramada Istanbul
Room Type: Suite
Reservation Month: May
```

```
Reservation Start: 10
Reservation End: 16

Reservation created!

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7. Exit
3

Reservation for a Single room in Hilton Istanbul starts on April 20 and ends
on April 27. Reservation has a total cost of $700.

Reservation for a Club room in Ramada Bursa starts on June 15 and ends on
June 18. Reservation has a total cost of $1500.

Reservation for a Suite room in Ramada Istanbul starts on May 10 and ends on
May 16. Reservation has a total cost of $3900.


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4

3 reservations created so far.

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6. Remove reservations in a specific city
7. Exit
5

Type a city name for a reservation search: Istanbul
Hilton Istanbul
Ramada Istanbul
```

```
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6. Remove reservations in a specific city
7. Exit
6

Type a city name for a reservation search: Bursa

1. Create new Reservation
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6. Remove reservations in a specific city
7. Exit
3

Reservation for a Single room in Hilton Istanbul starts on April 20 and ends
on April 27. Reservation has a total cost of $700.

Reservation for a Suite room in Ramada Istanbul starts on May 10 and ends on
May 16. Reservation has a total cost of $3900.


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7
```