



Software Development II 4COSC010C.2

Individual Course Work Report

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INTRODUCTION

This program about hotel program which contains array version and class version. A standard program was laid out for an inn with eight rooms. I think it was important to make this app as simple and detailed as possible so it will be user-friendly. It started out easy and developed into something far more complicated. It will first show the client the most menu options, and then it will show the client the least menu options.

It will guide the client to the menu choices that are most appealing to them based on their preferences.

Test cases

	Student Name: Kaveesh Fernando			
ID:w1	809865			
		TEST PLAN for array	version	
	•	n with your code solution	T	T
Test	Test Input	Expected Result	Actual Result	Pass / Fail
No.			(or state 'not	('Actual Result' matches 'Expected
			attempted')	Result')
1	press A and room	Displays	room 0 occupied by	Pass
	number: 0, room	room 0 occupied by	kaveesh	
	name: kaveesh,	kaveesh	kaveesh	
	first name:	kaveesh	fernando	
	kaveesh, surname:	fernando	1234	
	fernando,	1234	2	
	credict card	2		
	number: 1234,			
	number of guest: 2			
	Add room number	room 1 occupied by	room 1 occupied by	
	1, room name:	anupa	anupa	
	anupa, first name:	anupa	anupa	
	anupa, surname:	rathnayaka	rathnayaka	
	rathnayaka,	4567	4567	
	Credict card	3	3	
	number:4567			
	Nuber of guests:3			
	Add room number:	room 2 occupied by	room 2 occupied by	
	2,	akila	akila	
	Romm name: akila,	akila	akila	
	first name: akila,	srikantha	srikantha	
	surname:srikantha,	5678	5678	
	Credict card	4	4	
	number: 5678,			
	number of guests:			
	4			
	After adding press			
	v			

2	After adding press	Display	Display	Pass
		room 3 is empty	room 3 is empty	
		room 4 is empty	room 4 is empty	
		room 5 is empty	room 5 is empty	
		room 6 is empty	room 6 is empty	
		room 7 is empty	room 7 is empty	
3	Then press D and enter the room number 1 for	Display Room Deleted	Diplay Room Deleted	Pass
	delete			
4	Press F and enter the name kaveesh	Displays	Display	Pass
	for find	Name matched with the	Name matched with	
		customer	the customer	
5	Press V	room 0 occupied by	room 0 occupied by	Pass
		kaveesh	kaveesh	
		kaveesh	kaveesh	
		fernando	fernando	
		1234	1234	
		2	2	
İ		room 2 occupied by	room 2 occupied by	
		akila	akila	
		akila	akila	
		srikantha	srikantha	
		5678 4	5678 4	
6	press S for store	Name and Room	Name and Room	Pass
	data and press L to	number is: kaveesh at: 0	number is: kaveesh	
	load files.	First name is: kaveesh	at: 0	
		Surname is: fernando	First name is:	
		Credit card number is:	kaveesh	
		1234	Surname is:	
		Number of guests is: 2	fernando	
			Credit card number	
			is: 1234	
			Number of guests is:	
			2	
		Name and Room	Name and Room	
		number is: akila at: 2	number is: akila at:	
		First name is: akila	2	
		Surname is: srikantha	First name is: akila	
		Credit card number is:	Surname is:	
		5678	srikantha	
		Number of guests is: 4	Credit card number is: 5678	

			Number of guests is:	
7	Then press q to get alphabetic order	kaveesh akila	kaveesh akila	Pass

		Fernando		Student
D:W1	1809865	TEST PLAN for cla	ss version	
Subn	nit completed test pla	n with your code solution		
Test	Test Input	Expected Result	Actual Result	Pass / Fail
No.	restimput	Expedica Result	(or state 'not attempted')	('Actual Result' matches 'Expected Result')
1	press A and room number: 0, room name: kaveesh, first name: kaveesh, surname: fernando, credict card number: 1234, number of guest: 2	Displays room 0 occupied by kaveesh kaveesh fernando 1234	room 0 occupied by kaveesh kaveesh fernando 1234	Pass
	Add room number 1, room name: anupa, first name: anupa, surname: rathnayaka, Credict card number:4567 Nuber of guests:3	room 1 occupied by anupa anupa rathnayaka 4567	room 1 occupied by anupa anupa rathnayaka 4567	
	Add room number: 2, Romm name: akila, first name: akila, surname:srikantha, Credict card number: 5678, number of guests: 4 After adding press	room 2 occupied by akila akila srikantha 5678	room 2 occupied by akila akila srikantha 5678	
2	v After adding press	Display	Display	Pass
	E	room 3 is empty	room 3 is empty	

		room C is smart.	unam Finament	
		room 5 is empty	room 5 is empty	
		room 6 is empty	room 6 is empty	
		room 7 is empty	room 7 is empty	
3	Then press D and enter the room	Display	Diplay	Pass
	number 1 for delete	Room Deleted	Room Deleted	
4	Press F and enter the name kaveesh	Displays	Display	Pass
	for find	Name matched with the	Name matched with	
		customer	the customer	
5	Press V	room 0 occupied by	room 0 occupied by	Pass
		kaveesh	kaveesh	
		kaveesh	kaveesh	
		fernando	fernando	
		1234	1234	
		2	2	
		room 2 occupied by	room 2 occupied by	
		akila	akila	
		akila	akila	
		srikantha	srikantha	
		5678	5678	
		4	4	
6	press S for store	Name and Room	Name and Room	Pass
	data and press L to	number is: kaveesh at: 0	number is: kaveesh	
	load files.	First name is: kaveesh	at: 0	
		Surname is: fernando	First name is:	
		Credit card number is:	kaveesh	
		1234	Surname is:	
		Number of guests is: 2	fernando	
			Credit card number	
			is: 1234	
			Number of guests is:	
			2	
		Name and Room	Name and Room	
		number is: akila at: 2	number is: akila at:	
		First name is: akila	2	
		Surname is: srikantha	First name is: akila	
		Credit card number is:	Surname is:	
		5678	srikantha	
		Number of guests is: 4	Credit card number	
			is: 5678	
			Number of guests is:	
7	Then press q to get	kaveesh	kaveesh	Pass
-	I HEH DIESS O 10 SEI			
	alphabetic order	akila	akila	1 433

1.Array version

```
ava.io.*;
import java.util.Scanner;
public class Main {
  static int roomNum: // declare variables for methods.
  static String roomName;
  public static void main(String[] args) {
       String[] hotel = new String[8]; // creating arrays
       String[] firstName = new String[8];
       String[] surName = new String[8];
       int[] creditNum = new int[8];
       int[] guestNum =new int[8];
       initialise(hotel,firstName,surName,creditNum,guestNum); //initialise
methods
       while (true) {
         System.out.println("------Menu-----");
         System.out.println("A: Add customer rooms.");
         System.out.println("V: View all Rooms.");
```

```
System.out.println("E: Display Empty Rooms.");
         System.out.println("D: Delete customer from room.");
         System.out.println("F: Find room from customer name.");
         System.out.println("S: Store program data in to file.");
         System.out.println("L: Load program data from file.");
         System.out.println("Q: View guests Ordered alphabetically by
name.");
         System.out.println("-----");
         System.out.println();
         Scanner scn = new Scanner(System.in);
         System.out.println("Enter the suggestion from menu: ");
         String menu = scn.nextLine();
         menu = menu.toUpperCase(); // changing letters to uppercase
         switch (menu) {
           case "A":
              add(hotel,firstName,surName,creditNum,guestNum); //using
switch for menu
              break;
           case "V":
              view(hotel,firstName,surName,creditNum,guestNum);
              break;
           case "E":
              emptyroom(hotel);
```

```
break;
            case "D":
delete_customer(hotel,firstName,surName,creditNum,guestNum);
              break;
            case "F":
              find_customer(hotel);
              break;
           case "S":
              storedata(hotel,firstName,surName,creditNum,guestNum);
              break;
            case "L":
              loaddata();
              break;
           case "Q":
              guests_alpha(hotel);
              break;
            default:
              System.out.println("Invalid Suggestion");
         }
```

}

```
private static void initialise(String[] surName, String[] hotel, String[] firstName, int[] creditNum, int[] guestNum){ // getting the empty array
```

```
for (int i = 0; i < 8; i++)
         hotel[i] = "empty";
         firstName[i]="empty";
         surName[i]="empty";
         creditNum[i]=0;
         guestNum[i]=0;
       }
     }
    private static void add(String[] hotel, String[] firstName, String[] surName,
int[] creditNum, int[] guestNum) { // adding customer rooms
       Scanner scn = new Scanner(System.in);
       System.out.println("Enter room number (0-7) or 8 to stop:");
       roomNum = scn.nextInt();
       System.out.println("Enter name for room " + roomNum + " :");
       String roomName = scn.next();
       hotel[roomNum]=roomName;
       System.out.println("Enter the first name: ");
       String fName = scn.next();
```

```
firstName[roomNum]=fName;
       System.out.println("Enter the surname: ");
       String sName = scn.next();
       surName[roomNum]=sName;
       System.out.println("Enter the credit card number: ");
       int cNum=scn.nextInt();
       creditNum[roomNum]=cNum;
       System.out.println("Enter the number of guest: ");
       int gNum=scn.nextInt();
       guestNum[roomNum]=gNum;
    }
    private static void view(String[] hotel, String[] firstName, String[]
surName, int[] creditNum, int[] guestNum) { // viewing the data
       for (int i = 0; i < 8; i++) {
         System.out.println("room " + i + " occupied by " + hotel[i]);
         System.out.println(firstName[i]);
         System.out.println(surName[i]);
         System.out.println(creditNum[i]);
         System.out.println(guestNum[i]);
```

```
private static void emptyroom(String[] hotel) { //getting the empty array
       for (int i = 0; i < 8; i++)
       {
         if (hotel[i] == "empty") {
           System.out.println("room" + i + " is empty");
         }
       }
     }
    private static void delete_customer(String[] hotel, String[] firstName,
String[] surName, int[] creditNum, int[] guestNum) { // deleting the data from
the array
       Scanner scn = new Scanner(System.in);
       System.out.println("Enter room number to delete(1-8):");
       roomNum = scn.nextInt();
       hotel[roomNum]= "empty";
       firstName[roomNum]="empty";
       surName[roomNum]="empty";
       creditNum[roomNum]=0;
       guestNum[roomNum]=0;
       System.out.println("Room Deleted");
     }
    private static void find_customer(String[] hotel) { // finding the matching
customer name
       Scanner scn= new Scanner(System.in);
```

```
System.out.println("Enter the name: ");
       roomName= scn.nextLine();
       boolean finding= false;
       for (int i=0; i<8;i++) {
          if (roomName.equals(hotel[i])) {
            System.out.println("Name matched with the customer");
            finding = true;
          }
       if(finding==false) {
          System.out.println("there's no room book with that name");
       }
     }
     private static void storedata(String[] hotel, String[] firstName, String[]
surName, int[] creditNum, int[] guestNum) { //storing data
       try (PrintWriter get = new PrintWriter(new
FileWriter("E:\\CW\\sd2\\task_3(array)\\store.txt"))) { //path for store data
          for (int i = 0; i < 8; i++) {
            get.println("Name and Room number is: " + hotel[i] + " at: " + i);
            get.println("First name is: " + firstName[i]);
            get.println(" Surname is: " + surName[i] );
            get.println(" Credit card number is: " + creditNum[i]);
            get.println("Number of guests is: " + guestNum[i]);
          }
       } catch (IOException e) {
          e.printStackTrace();
```

```
}
       System.out.println("All data updated.");
     }
     private static void loaddata() { //loading data
       try {
          File myObj = new File("E:\\CW\\sd2\\task_3(array)\\store.txt");
//path for load data
          Scanner scn = new Scanner(myObj);
          while (scn.hasNextLine()) {
            String load = scn.nextLine();
            System.out.println(load);
          scn.close();
        }
       catch (FileNotFoundException e) {
          System.out.println(" Error .");
          e.printStackTrace();
       }
     private static void guests_alpha(String[] hotel) { //finding the alphabetical
oder of names
       String[] guest = new String[hotel.length];
       for (int a=0;a< hotel.length;a++){
          guest[a]=hotel[a];
        }
```

```
for (int i = 0; i < 8; i++) {
  for (int j = i + 1; j < 8; j++) { // using two for loops for checking
     if \ (guest[i].compareTo(guest[j]) > 0) \ \{\\
        String get = guest[i];
        guest[i] = guest[j];
        guest[j] = get;
   }
}
System.out.println("guests names in alphabetical order: ");
for (int i = 0; i < 8; i++) {
  System.out.println(hotel[i]);
```

}

2.Class version

2.1 Hotel class

```
import java.io.*;
import java.util.Scanner;
public class Hotel {
  static int roomNum;
                        // declare variables for methods.
  static String roomName;
  public static void main(String[] args) {
    Room[] hotel = new Room[8]; // creating the array
                             //adding elements to array
    hotel[0] = new Room();
    hotel[1] = new Room();
    hotel[2] = new Room();
    hotel[3] = new Room();
    hotel[4] = new Room();
    hotel[5] = new Room();
    hotel[6] = new Room();
    hotel[7] = new Room();
    initialise(hotel);
    while (true) {
       System.out.println("------");
       System.out.println("A: Add customer rooms.");
       System.out.println("V: View all Rooms.");
```

```
System.out.println("E: Display Empty Rooms.");
System.out.println("D: Delete customer from room.");
System.out.println("F: Find room from customer name.");
System.out.println("S: Store program data in to file.");
System.out.println("L: Load program data from file.");
System.out.println("Q: View guests Ordered alphabetically by name.");
System.out.println("-----");
System.out.println();
Scanner scn = new Scanner(System.in);
System.out.println("Enter the suggestion from menu: ");
String menu = scn.nextLine();
menu = menu.toUpperCase(); // changing letters to uppercase
                 // using switch for menu
switch (menu) {
  case "A":
    add(hotel); // adding customer rooms
    break;
  case "V":
    view(hotel);
    break;
  case "E":
    emptyroom(hotel);
```

```
break;
  case "D":
    delete_customer(hotel);
    break;
  case "F":
    find_customer(hotel);
    break;
  case "S":
    storedata(hotel);
    break;
  case "L":
    loaddata();
    break;
  case "Q":
    guests_alpha(hotel);
    break;
  default:
    System.out.println("Invalid Suggestion");
}
```

```
private static void initialise(Room[] hotelRef){ // getting the empty array
  for (int i = 0; i < 8; i++){
    hotelRef[i].setName("empty");
    hotelRef[i].setFirst_name("empty");
    hotelRef[i].setSurName("empty");\\
    hotelRef[i].setCredit_num(0);
    hotelRef[i].setNum_of_guests(0);
  }
private static void add(Room[] hotelref) { // adding customer rooms
  Scanner scn = new Scanner(System.in);
  System.out.println("Enter room number (0-7) or 8 to stop:");
  roomNum = scn.nextInt();
  System.out.println("Enter name for room " + roomNum + " :");
  String roomName = scn.next();
  hotelref[roomNum].setName(roomName);
  System.out.println("Enter the first name: ");
  String fName = scn.next();
  hotelref[roomNum].setFirst_name(fName);
  System.out.println("Enter the surname: ");
```

```
String sName = scn.next();
     hotelref[roomNum].setSurName(sName);
     System.out.println("Enter the credit card number: ");
     int cNum=scn.nextInt();
     hotelref[roomNum].setCredit_num(cNum);
     System.out.println("Enter the number of guest: ");
     int gNum=scn.nextInt();
     hotelref[roomNum].setNum_of_guests(gNum);
  }
  private static void view(Room[] hotelref) {  // viewing the data
     for (int i = 0; i < 8; i++) {
       System.out.println("room" + i + " occupied by " +
hotelref[i].getName());
       System.out.println(hotelref[i].getFirst_name());
       System.out.println(hotelref[i].getSurName());
       System.out.println(hotelref[i].getCredit_num());
       System.out.println(hotelref[i].getNum_of_guests());
     }
  }
  private static void emptyroom(Room[] hotelref) { //getting the empty array
     for (int i = 0; i < 8; i++)
     {
```

```
if (hotelref[i].getName().equals("empty")){
         System.out.println("room" + i + " is empty");}
     }
  }
  private static void delete_customer(Room[] hotelref) { // deleting the data
from the array
    Scanner scn = new Scanner(System.in);
    System.out.println("Enter room number to delete(1-8):");
    roomNum = scn.nextInt();
    hotelref[roomNum].setName("empty");
    hotelref[roomNum].setFirst_name("empty");
    hotelref[roomNum].setSurName("empty");
    hotelref[roomNum].setCredit_num(0);
    hotelref[roomNum].setNum_of_guests(0);
    System.out.println("Room Deleted");
  }
  private static void find_customer(Room[] hotelref) { // finding the matching
customer name
    Scanner scn= new Scanner(System.in);
    System.out.println("Enter the name: ");
    roomName= scn.nextLine();
    boolean finding= false;
    for (int i=0; i<8;i++) {
       if (roomName.equals(hotelref[i].getName())) {
         System.out.println("Name matched with the customer");
```

```
finding = true;
        }
     if(finding==false) {
       System.out.println("there's no room book with that name");
     }
   }
  private static void storedata(Room[] hotelref) {
                                                      //storing data
     try (PrintWriter get = new PrintWriter(new
FileWriter("E:\\CW\\sd2\\task_3\\store.txt"))) { //path for store
       for (int i = 0; i < 8; i++) {
          get.println("Name and Room number is: " + hotelref[i].getName() + "
at: " + i);
          get.println("First name is: " + hotelref[i].getFirst_name());
          get.println("Surname is: " + hotelref[i].getSurName());
          get.println("Credit card number is: " + hotelref[i].getCredit_num());
          get.println("Number of guests is: " + hotelref[i].getNum_of_guests());
        }
     } catch (IOException e) {
       e.printStackTrace();
     System.out.println("All data updated. ");
   }
  private static void loaddata() { //loading data
```

```
try {
       File myObj = new File("E:\CW\sd2\task_3\store.txt"); //path for
load data
       Scanner scn = new Scanner(myObj);
       while (scn.hasNextLine()) {
          String load = scn.nextLine();
          System.out.println(load);
       }
       scn.close();
     }
     catch (FileNotFoundException e) {
       System.out.println(" Error .");
       e.printStackTrace();
     }
  }
  private static void guests_alpha(Room[] hotelRef) { //finding the
alphabetical oder of names
     Room[] guest = new Room[8];
     for (int a=0;a< hotelRef.length;a++){
       guest[a]=hotelRef[a];
     for (int i = 0; i < 8; i++) { // using two for loops for checking
       for (int j = i + 1; j < 8; j++) {
         if (guest[i].getName().compareTo(guest[j].getName()) > 0) {
```

```
String get = guest[i].getName();
            guest[i].setName(guest[j].getName());
            guest[j].setName(get);
    System.out.println("guests names in alphabetical order: ");
    for (int i = 0; i < 8; i++) {
       System.out.println(hotelRef[i].getName());
}
2.2 Room
public class Room extends Person { //connect room and person rooms
  public String cusName; // declare variables for room class
  public void setName(String samName) { //
    cusName=samName;
  }
  public String getName() {
```

```
return cusName;
  }
}
2.3 Person class
public class Person {
private String first_name;
                            //declare variables for person room get sets
private int num_of_guests;
private String surName;
private int credit_num;
  public String getFirst_name() {
    return first_name;
    //get for first name
  public void setFirst_name(String first_name) { // set for first name
    this.first_name = first_name;
  }
  public int getNum_of_guests() { return num_of_guests; } //get for number
of guests
  public void setNum_of_guests(int num_of_guests) { this.num_of_guests =
num_of_guests; } // set for number of guests
```

```
public String getSurName() {
    return surName;
} //get for surname

public void setSurName(String surName) {
    this.surName = surName;
} //set for surname

public int getCredit_num() {
    return credit_num;
} //get for credit card number

public void setCredit_num(int credit_num) {
    this.credit_num = credit_num;
} //set for credit card number
```

}

3. Screen shots

Add customer for rooms.

```
-----Menu-----
A: Add customer rooms.
V: View all Rooms.
E: Display Empty Rooms.
D: Delete customer from room.
F: Find room from customer name.
S: Store program data in to file.
L: Load program data from file.
Q: View guests Ordered alphabetically by name.
Enter the suggestion from menu :
Enter room number (0-7) or 8 to stop:
Enter name for room 0:
Enter the first name:
Enter the surname:
Enter the credit card number:
Enter the number of guest:
```

```
-----Menu-----
A: Add customer rooms.
V: View all Rooms.
E: Display Empty Rooms.
D: Delete customer from room.
F: Find room from customer name.
S: Store program data in to file.
L: Load program data from file.
Q: View guests Ordered alphabetically by name.
Enter the suggestion from menu :
Enter room number (0-7) or 8 to stop:
Enter name for room 1:
Enter the first name:
Enter the surname:
Enter the credit card number:
Enter the number of guest:
```

```
-----Menu-----
A: Add customer rooms.
V: View all Rooms.
E: Display Empty Rooms.
D: Delete customer from room.
F: Find room from customer name.
S: Store program data in to file.
L: Load program data from file.
Q: View guests Ordered alphabetically by name.
Enter the suggestion from menu :
Enter room number (0-7) or 8 to stop:
Enter name for room 2:
Enter the first name:
Enter the surname:
Enter the credit card number:
Enter the number of guest:
```

View all rooms

```
Enter the suggestion from menu :
room 0 occupied by kaveesh
rathnayaka
room 2 occupied by akila
srikantha
room 3 occupied by empty
empty
empty
room 4 occupied by empty
empty
room 5 occupied by empty
empty
room 6 occupied by empty
empty
room 7 occupied by empty
empty
```

Display empty rooms

Delete customer from room

```
Enter the suggestion from menu :
room 0 occupied by kaveesh
kaveesh
fernando
1234
room 1 occupied by empty
empty
empty
room 2 occupied by akila
akila
srikantha
5678
room 3 occupied by empty
empty
empty
room 4 occupied by empty
empty
empty
room 5 occupied by empty
empty
empty
```

Find room from customer name

Store program data

```
Enter the suggestion from menu:

All data updated.
------Menu------

A: Add customer rooms.

V: View all Rooms.

E: Display Empty Rooms.

D: Delete customer from room.

F: Find room from customer name.

S: Store program data in to file.

L: Load program data from file.

Q: View guests Ordered alphabetically by name.
```

Load program data

```
Enter the suggestion from menu :
Name and Room number is: kaveesh at: 0
First name is: kaveesh
 Surname is: fernando
 Credit card number is: 1234
Number of guests is: 2
Name and Room number is: empty at: 1
First name is: empty
 Surname is: empty
 Credit card number is: 0
Number of guests is: 0
Name and Room number is: akila at: 2
First name is: akila
 Surname is: srikantha
 Credit card number is: 5678
Number of guests is: 4
Name and Room number is: empty at: 3
First name is: empty
 Surname is: empty
 Credit card number is: 0
Number of guests is: 0
```

View guest ordered alphabetically by name

```
-----Menu-----
A: Add customer rooms.
V: View all Rooms.
E: Display Empty Rooms.
D: Delete customer from room.
F: Find room from customer name.
S: Store program data in to file.
L: Load program data from file.
Q: View guests Ordered alphabetically by name.
Enter the suggestion from menu :
guests names in alphabetical order:
kaveesh
empty
akila
empty
empty
empty
empty
empty
```

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