

**Gebze Technical University  
Computer Engineering**

**CSE 222 - 2018 Spring**

**HOMEWORK 1 REPORT**

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# 1 INTRODUCTION

## 1.1 Problem Definition

This project is designed to create a hotel management system. The project is focused on two user types: Receptionist and guests. Guests are able to make reservations and cancellations about the hotel with this project either by themselves or through receptionists. Receptionists can also keep guests check-in and check-out records with this system. In this system, the rooms are divided into three groups: single rooms, double rooms and suites. This system is provided convenience for both types of users by registering the suitability of the rooms and their status.

## 1.2 System Requirements

**Step 1.** The system starts by offering guest and receptionist (G/R) login options to the user.

**Step 2.**

2.a If guest (G) entry is selected, the system asks the user to select one of the processes: book (B) and cancel (C).

2.b If receptionist (R) entry is selected, the system asks the user for receptionist password. Then the system asks the user to select one of the processes: book (B), cancel (C), check in (I) and check out.

**Step 3.**

3.a If cancel (C) or check out (O) operations are selected, the system asks the user respectively the guest's identification number (must be 11 digits), name, phone number (must be 10 digits) and the number of the room that the user has been previously processed.

3.b If book (B) operation is selected, the system asks the user respectively the identification number (must be 11 digits), name, phone number (must be 10 digits), age, check in date and check out date of the guest. Then the system asks the user for the type of the room (room type can be double, single and suite).

3.c If check in (I) operation is selected, Step 3.a will be repeated without looking for operation condition. Step 3.b will be repeated without looking for operation condition if there is no record for the person entered as input in the system in the entered room.

**Step 4.** The system gives two options to the user: Continue or not(Y/N).

**Step 5.**

5.a If the continue option is selected, Step 2.a or Step 2.b will be repeated according to user choice.

5.b If user chooses not to continue, the program ends.

## How to run the program

The program works by taking inputs from the command line but program can be run by taking inputs from file so it will be easier for people who will run the code. ( There was only problem :I took the error in the main because scanner when I received the inputs from the file. So I received inputs with a single function in the main class.)

**Step 1.** Click the Main button.

**Step 2.** Select the edit configuration.(Glance the Photo 1.)

**Step 3.** Choose the input files and enter the name of the input file (input1.txt, input2.txt, input3.txt, input4.txt) in the program argument.(Glance the Photo 2.)

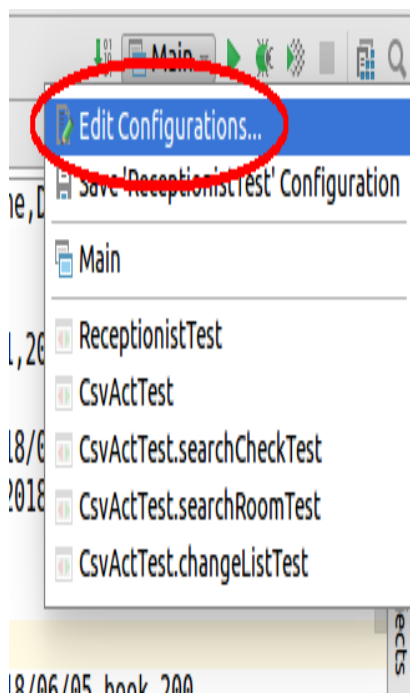


Photo1

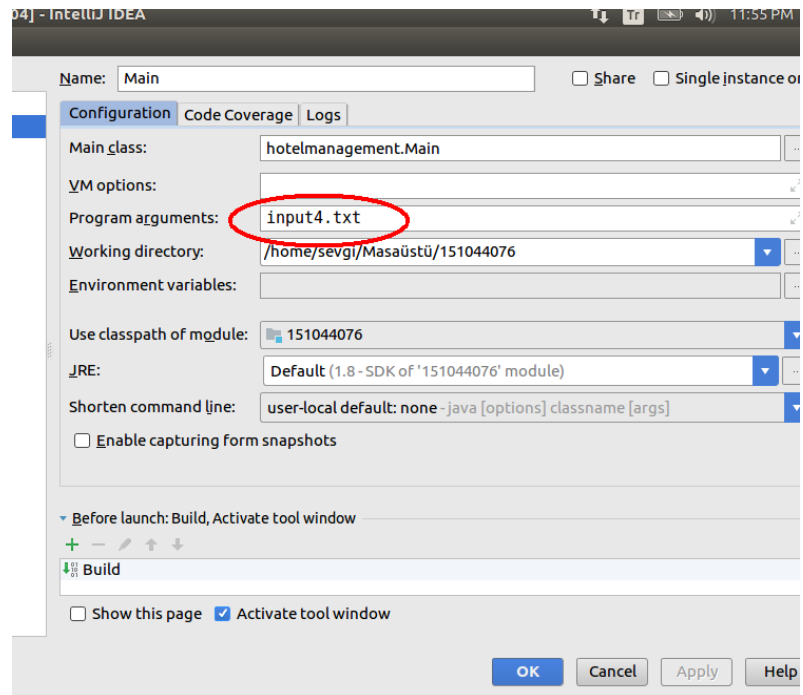
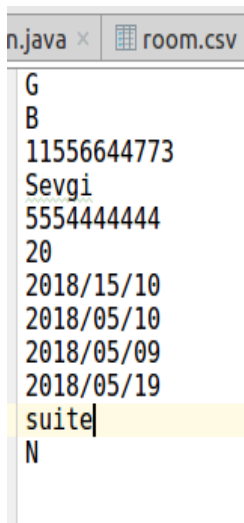


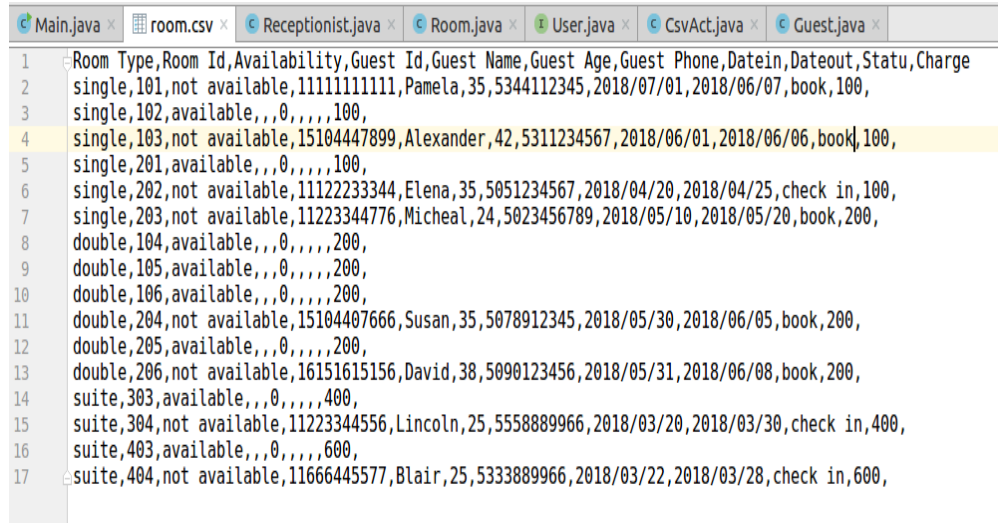
Photo 2

## Example



```
G
B
11556644773
Sevgi
5554444444
20
2018/15/10
2018/05/10
2018/05/09
2018/05/19
suite
N
```

Photo 3



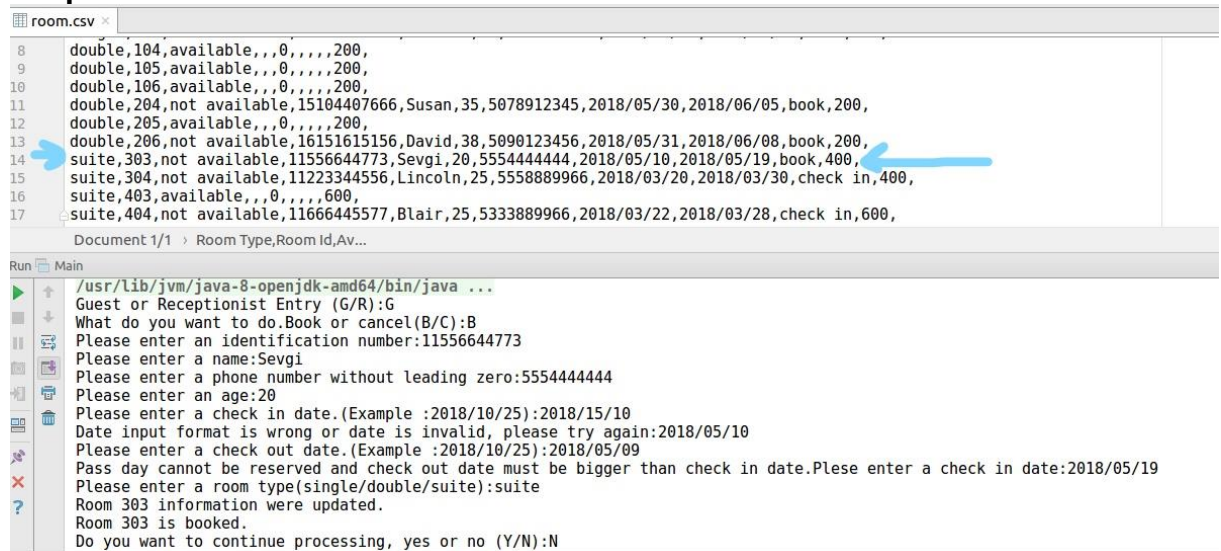
```
Main.java room.csv Receptionist.java Room.java User.java CsvAct.java Guest.java
1 Room Type,Room Id,Availability,Guest Id,Guest Name,Guest Age,Guest Phone,Datein,Dateout,Statu,Charge
2 single,101,not available,1111111111,Pamela,35,5344112345,2018/07/01,2018/06/07,book,100,
3 single,102,available,,,0,,,,,100,
4 single,103,not available,15104447899,Alexander,42,5311234567,2018/06/01,2018/06/06,book,100,
5 single,201,available,,,0,,,,,100,
6 single,202,not available,11122233344,Elena,35,5051234567,2018/04/20,2018/04/25,check in,100,
7 single,203,not available,11223344776,Micheal,24,5023456789,2018/05/10,2018/05/20,book,200,
8 double,104,available,,,0,,,,,200,
9 double,105,available,,,0,,,,,200,
10 double,106,available,,,0,,,,,200,
11 double,204,not available,15104407666,Susan,35,5078912345,2018/05/30,2018/06/05,book,200,
12 double,205,available,,,0,,,,,200,
13 double,206,not available,16151615156,David,38,5090123456,2018/05/31,2018/06/08,book,200,
14 suite,303,available,,,0,,,,,400,
15 suite,304,not available,11223344556,Lincoln,25,5558889966,2018/03/20,2018/03/30,check in,400,
16 suite,403,available,,,0,,,,,600,
17 suite,404,not available,11666445577,Blair,25,5333889966,2018/03/22,2018/03/28,check in,600,
```

Photo 4

Photo 3 is a screenshot of input1.txt and Photo 4 is a sceenshot of room.csv(it keeps records of room and guests.)

- Input for step 1 in System Requirement is entered as G.
- Input for step 2.a is entered as B.
- Input fors step 3.b are entered in this order:  
11556644773,Sevgi,,5554444444,20,2018/15/10,2018/05/10,2018/05/09,2018/05/19 ,süite
- Input for step 4 is entered as N.

## Output



```
room.csv
8 double,104,available,,,0,,,,,200,
9 double,105,available,,,0,,,,,200,
10 double,106,available,,,0,,,,,200,
11 double,204,not available,15104407666,Susan,35,5078912345,2018/05/30,2018/06/05,book,200,
12 double,205,available,,,0,,,,,200,
13 double,206,not available,16151615156,David,38,5090123456,2018/05/31,2018/06/08,book,200,
14 suite,303,not available,11556644773,Sevgi,20,5554444444,2018/05/10,2018/05/19,book,400,
15 suite,304,not available,11223344556,Lincoln,25,5558889966,2018/03/20,2018/03/30,check in,400,
16 suite,403,available,,,0,,,,,600,
17 suite,404,not available,11666445577,Blair,25,5333889966,2018/03/22,2018/03/28,check in,600,

Document 1/1 Room Type,Room Id,Av...

Run Main
/usr/lib/jvm/java-8-openjdk-amd64/bin/java ...
Guest or Receptionist Entry (G/R):G
What do you want to do.Book or cancel(B/C):B
Please enter an identification number:11556644773
Please enter a name:Sevgi
Please enter a phone number without leading zero:5554444444
Please enter an age:20
Please enter a check in date.(Example :2018/10/25):2018/15/10
Date input format is wrong or date is invalid, please try again:2018/05/10
Please enter a check out date.(Example :2018/10/25):2018/05/09
Pass day cannot be reserved and check out date must be bigger than check in date.Plese enter a check in date:2018/05/19
Please enter a room type(single/double/suite):suite
Room 303 information were updated.
Room 303 is booked.
Do you want to continue processing, yes or no (Y/N):N
```

Photo 5

Program is given the output in the Photo 5.

## 2 METHOD

### 2.1 Class Diagrams

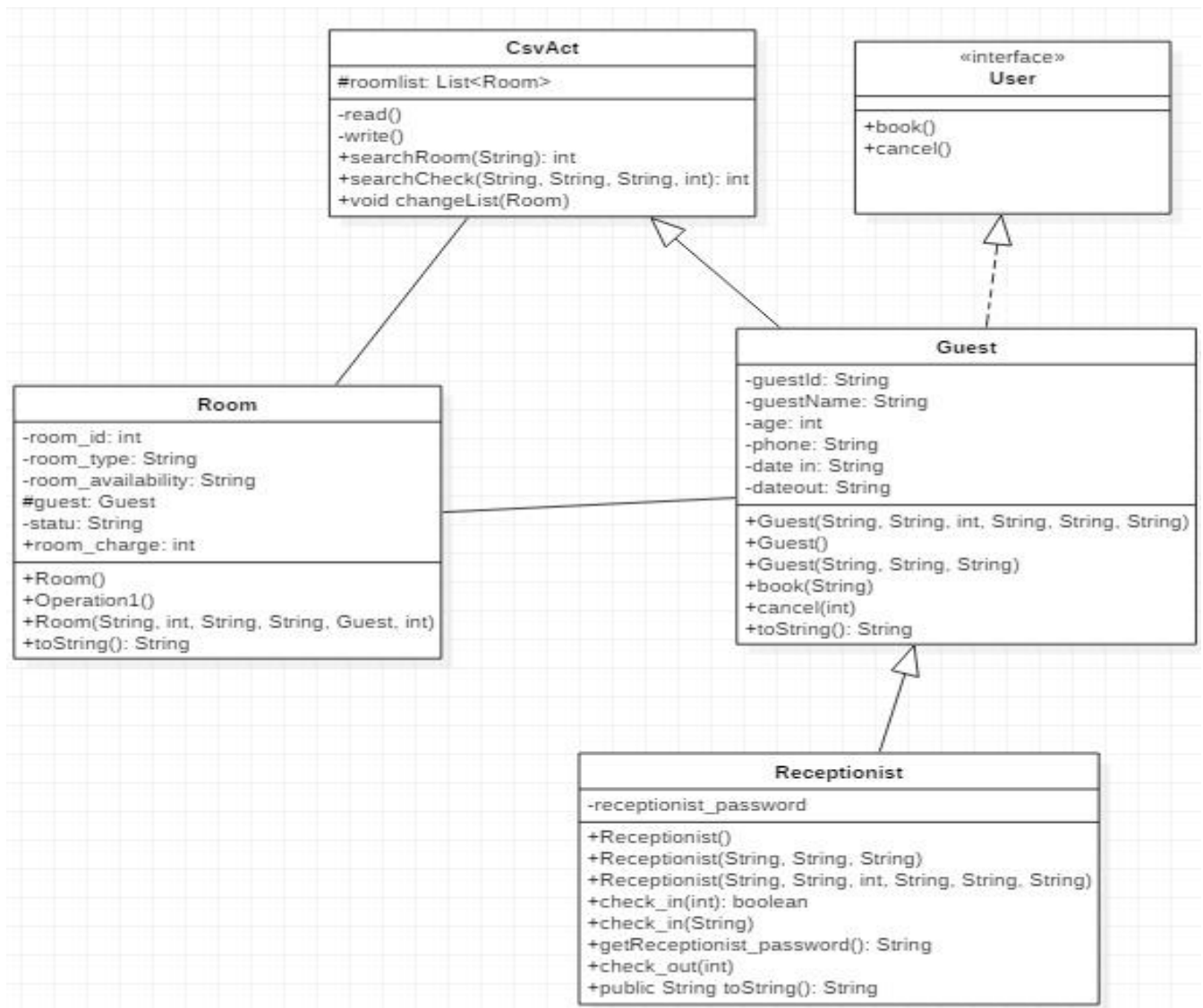


Photo 6

Class diagram shows the subclass ,superclass and interface.

- User is an interface and has book and cancel operations.
- Guest implements User and is an subclass of CsvAct. User keeps guest's records and have the implementation of function book and cancel.
- CsvAct allows to manipulate and read files. Such as the read function reads file. The write function writes to the file. The searchRoom function calls the read function, gets the room data and compare it with the parameter then returns index which the appropriate room is located. The searchCheck function checks the records. The changeList function rewrites the csv file by using write function.
- Receptionist is subclass of Guest. Receptionist has member variable and member functions check in and check out.
- Room holds records of the guest and room. Room is associated with CsvAct, CsvAct uses Room's member methods and has member variable which type is Room. Room associated

with Guest because it keeps records of the guest in Guest object.

## 2.2 Use Case Diagrams

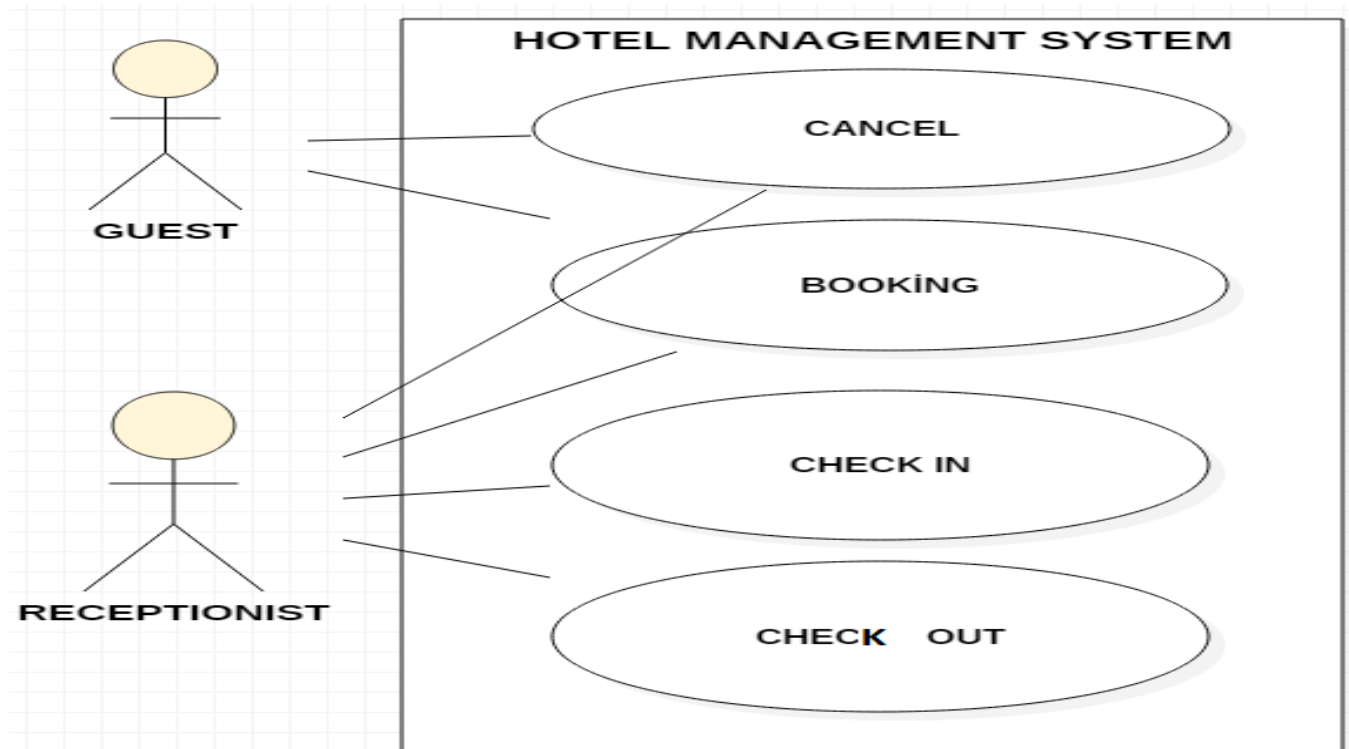


Photo 7

- Guest can these operations: Cancel and book.
- Receptionist can these operations: Cancel, book, check in and check out.

## 2.3 Problem Solution Approach

While I solving the problem, I researched on the management system of the hotels and turned them into algorithms. I have showed my problem solving and algorithms in JavaDoc.

## 3 RESULT

### 3.1 Test Cases

```
• BOOK
@Test
public void bookTest() {
    Guest guest=new Guest( guestId: "11114444441", guestName: "YENI", age: 30,
        phone: "5553335555", in: "10/05/2018", out: "15/05/2018");
    guest.book( room_type: "double");
}
```

Photo 8

The function in Photo 8 sends to the parameter to the book function. The book function calls searchRoom function and if searchRoom returns true, changes updated and writes into the csv file with using changeList function. (changeList calls write function after making changes.)

- CANCEL

```
/**
 * This function is created to test for the function cancel.
 * The function creates new guest object and calls the function cancel.
 */
@Test
public void cancelTest() {
    Guest guest=new Guest( guestId: "11223344776", guestName: "Micheal", phone: "5023456789");
    guest.cancel( room_no: 203);
}
```

Photo 9

The function in Photo 9 sends to the parameter to the cancel function. The cancel function calls searchCheck function and if searchCheck returns true ,changes updated and writes into the csv file with using changeList function.

- CHECK IN

```
@Test
public void check_in() {
    Receptionist rec=new Receptionist( id: "15104447899", name: "Alexander", phone: "5311234567");
    rec.check_in( room_no: 103);
}
```

Photo 10

This function is called checkin for someone who has a reserve. Works like cancel function.

```
@Test
public void check_in1() {
    Receptionist rec=new Receptionist( guestId: "15555511111", guestName: "YENI", age: 30,
    phone: "5663335555", in: "10/06/2018", out: "15/06/2018");
    rec.check_in( type: "single");
}
```

Photo 11

This function is called checkin for someone who has not a reserve. Works like book function

- CHECK OUT

```
@Test
public void check_out() {
    Receptionist rec=new Receptionist( id: "11223344556", name: "Lincoln", phone: "5558889966");
    rec.check_out( room_no: 304);
}
```

Photo 12

This function is called checkout for someone who has a reserve. Works like cancel function.

## 3.2 Running Results

- Test Results For Book and Cancel

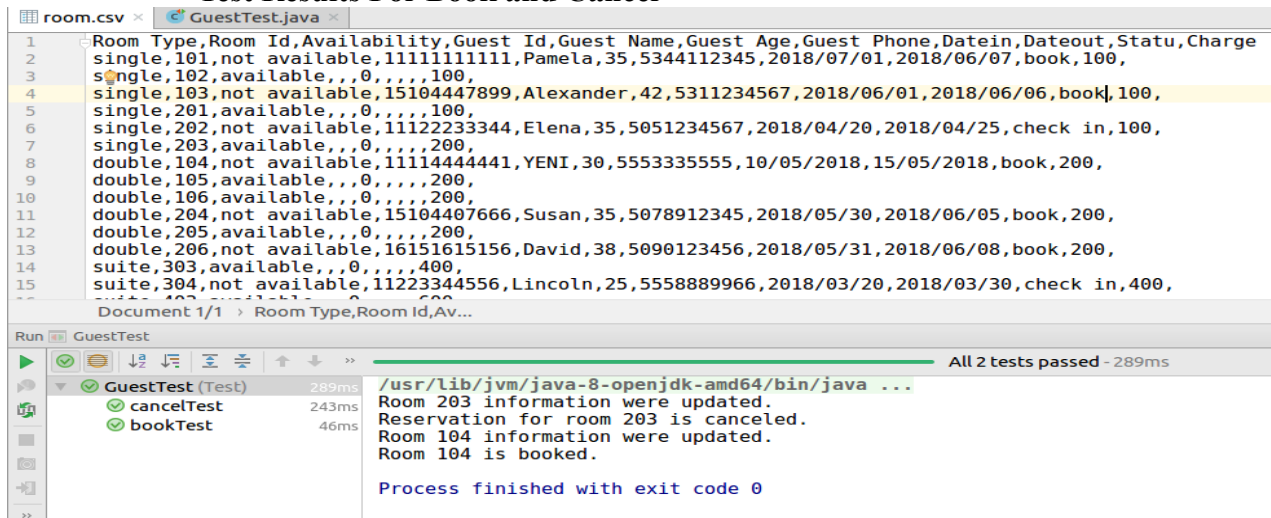
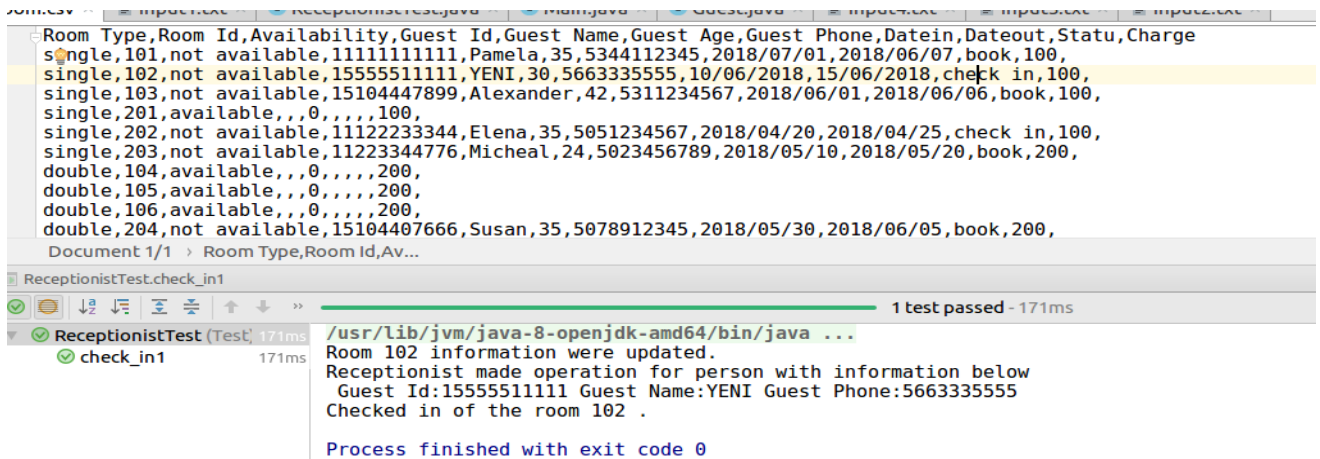


Photo 13

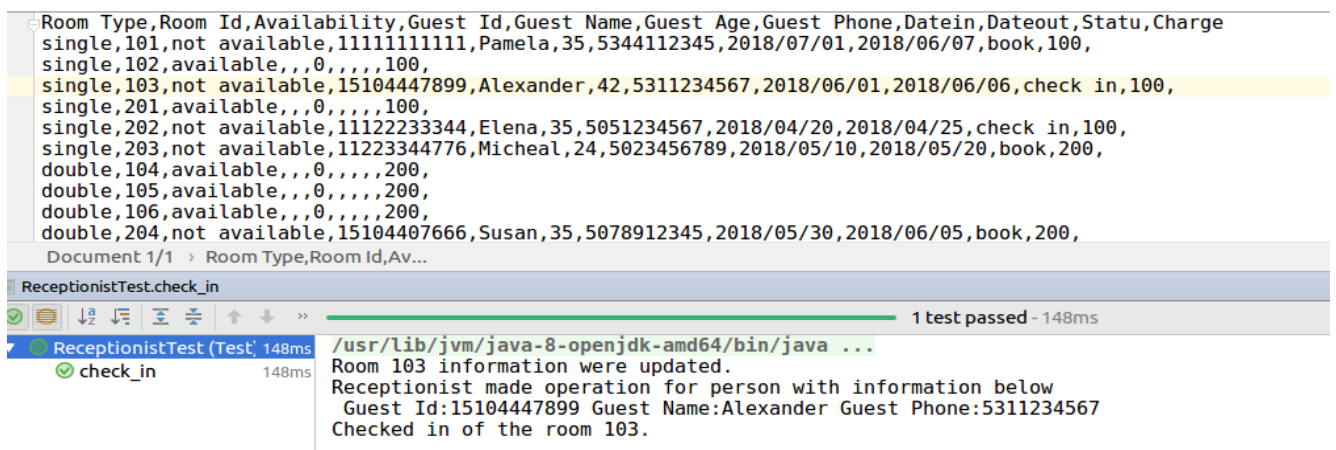
can compare with Photo 4.

- Test Results For Check In

Result for Photo 10 , can compare with Photo 4



Result for Photo 11 , can compare with Photo 4





- **Test Results For Check Out**

Result for Photo 12 , can compare with Photo 4

```
double,106,available,,,0,,,,,200,
double,204,not available,15104407666,Susan,35,5078912345,2018/05/30,2018/06/05,book,200,
double,205,available,,,0,,,,,200,
double,206,not available,16151615156,David,38,5090123456,2018/05/31,2018/06/08,book,200,
suite,303,available,,,0,,,,,400,
suite,304,available,,,0,,,,,400,
suite,403,available,,,0,,,,,600,
suite,404,not available,11666445577,Blair,25,5333889966,2018/03/22,2018/03/28,check in,600,
```

Document 1/1 > Room Type,Room Id,Av...

ReceptionistTest.check\_out

1 test passed - 221ms

ReceptionistTest (Test) 221ms /usr/lib/jvm/java-8-openjdk-amd64/bin/java ...  
check\_out 221ms Room 304 information were updated.  
Receptionist made operation for person with information below  
Guest Id:11223344556 Guest Name:Lincoln Guest Phone:5558889966  
Checked out of the room 304. Dear customer, your bill is 4000 dollars.  
Process finished with exit code 0