

Даалгавар 5

Hotel

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1.Код ажиллаж байгаа хэсэг

```
<terminated> Simulation [Java Application] C:\Program Files\Java\jdk-15.0.2\l
Uildel: reserve
Name: Nominkhuu
Nominkhuu reserved room 1
Bolomjtoi uildluud :
print - buh zahialgiig haruulah
reserve - zochid buudald zahialga uguh
reserveN - todorhoi uruu zahialah
cancel - zahialgaa tsutslah
build - zochid buudal uruuguu sullah
Uildel: reserveN
Name: Dorj
Room number: 3
Dorj reserved room 3
Uildel: print
Nominkhuu 1
2 is not reserved
Dorj 3
4 is not reserved
5 is not reserved
Uildel: cancel
Name: Dorj
Dorj now has no reservations.
Uildel: print
Nominkhuu 1
2 is not reserved
3 is not reserved
4 is not reserved
5 is not reserved
Uildel: built
Bolomjtoi uildluud :
print - buh zahialgiig haruulah
reserve - zochid buudald zahialga uguh
reserveN - todorhoi uruu zahialah
cancel - zahialgaa tsutslah
build - zochid buudal uruuguu sullah
Uildel: quit
Good bye
```

2.Код 3 хэсэгтэй

Хэсэг 1

```
package lab5;
/*
Uruu zahialj bolno zahialgaa tsutsalj bolno uruu nemj bolno ali uruund hun baigaa
haradagdah
*/
```

```

import java.util.ArrayList;

public class Hotel{
//odoogiin zahialgiig hynan
private ArrayList<Reservation> rooms;
private int rnum = 1;
//ali unuunuus ehlehiig zaaj ugnu
//anh 5 uruutei bn
Reservation reserveObj;

/**
 *Baiguulagch.
 */
public Hotel() {
    rooms = new ArrayList<Reservation>();
    rooms.ensureCapacity(5);
    for (int i = 0; i < 5; i++) {
        rooms.add(null);
    }
}

/**
 *Baiguulagch.
 */
public Hotel(int numRooms) {
    rooms = new ArrayList<Reservation>();
    rooms.ensureCapacity(numRooms);
    for (int i = 0; i < numRooms; i++) {
        rooms.add(null);
    }
}

//zochid buudalmaa iluu olon uruu nemj amjiltand hurne
/**
 *uruu zahialah arga.
 */
public boolean buildRooms(int num) {
    //parametr huchintei esehiig shalgah
    if (num <= 0) {
        return false;
    }
    //vectoriin huchin chadliig nemegduulah
    rooms.ensureCapacity(rooms.size() + num);
    for (int i = 0; i < num; i++) {
        rooms.add(null);
    }
    //tailan amjilttai bna
    return true;
}

//bolomjtoi uruuguu nuutsluudbutsaaj gargana
//zahialga duuren bval -1 butsaana
/**
 *method for reserve room.
 */

```

```

public int reserveRoom(String person) {
    for (int i = 0; i < rooms.size(); i++) {
        if (rooms.get(i) == null) {
            reserveObj = new Reservation(person);
            reserveObj.setRoom(rnum);
            rooms.set(i, reserveObj);
            rnum++;
            return rnum - 1;
        }
    }
    return -1;
}

//reserves a particular room for this person
//returns false on failure (eg. room is already reserved)
/**
 *hun uruunii dugaar zahialga heseg.
 */
public boolean reserveRoom(String person, int roomNum) {
    try {
        if (rooms.get(roomNum - 1) == null) {
            reserveObj = new Reservation(person, roomNum);
            rooms.set(roomNum - 1, reserveObj);
            rnum++;
            return true;
        }
    } catch (Exception vb) {
        return false;
    }
    return false;
}

//cancels all reservations by this person
/**
 *Uruunii zahialga tsutslagdana.
 */
public void cancelReservations(String person) {
    for (int i = 0; i < rooms.size(); i++) {
        if (rooms.get(i) != null) {
            if (rooms.get(i).getName().equals(person)) {
                rooms.set(i, null);
            }
        }
    }
}

//odoo baigaa zahialguudaa delgets ruu hewlene
//mun niit zahialga sul uruug haruulna
/**
 *Zahialgaa hewleh.
 */
public void printReservations() {
    for (int i = 0; i < rooms.size(); i++) {
        if (rooms.get(i) != null) {
            System.out.println(rooms.get(i));
        } else {

```

```

        System.out.println((i + 1) + " is not reserved");
    }
}
}
}

```

Хэсэг 2

```

package lab5;

/*
Zahialah hun zochid buudal uruunii dugaariig hadgaldag funkts
*/

public class Reservation{
    //instance variables
    private String name;
    private int roomNumber;

    //neree hadgalj uguud songoltoor uruuguu songono
    public Reservation(String person) {
        name = person;
    }

    public Reservation(String person, int room) {
        name = person;
        roomNumber = room;
    }

    //uruunii dugaar eswel neriig tohiruulna
    public void setRoom(int newroom) {
        roomNumber = newroom;
    }

    public void setName(String newname) {
        name = newname;
    }

    public String toString() {
        return (name + " " + roomNumber);
    }

    //newterch uruunii dugaar болон neriig butsaan haruulna
    public int getRoom() {
        return roomNumber;
    }

    public String getName() {
        return name;
    }
}

```

Хэсэг 3

```

package lab5;

```

```

/*
Zochid buudliin baiguulagch funkts
*/
import java.io.BufferedReader;
import java.io.InputStreamReader;

public class Simulation {
private static String readLine() {
    BufferedReader stdin = new BufferedReader(new InputStreamReader(System.in));
    try {
        return stdin.readLine();
    } catch (Exception e) {
        System.out.println("Invalid Input");
    }
    return null;
}
}
/**
 *gol funts.
 */
public static void main(String[] args) {
    //zochid buudlaa baiguulah
    Hotel hotelObj = new Hotel();
    //tur hugatsaanii huwsagch ashiglasan
    String name;
    String num;
    int roomnum;
    //undsen duren
    while (true) {
        //delgetsruu garah heseg
        System.out.print("Uildel: ");
        System.out.flush();
        //ugugdluu oruulna
        String command = readLine();
        //hereglegchiig delgets ruu gargana
        if ((command == null) || command.equalsIgnoreCase("quit")) {
            System.out.println("Good bye");
            break;
        }
        //uruuguu hadgalah
        if (command.equalsIgnoreCase("reserve")) {
            //ner hadgalah
            System.out.print("Name: ");
            System.out.flush();
            name = readLine();
            roomnum = -1;
            //urdchilan zahialga ugsun bol uruuguu shuud avna
            if (!(name == null) || (name.equals("")))) {
                roomnum = hotelObj.reserveRoom(name);
            }
            //sanal huselt ugnu
            if (roomnum == -1) {
                System.out.println("No reservation for you!");
            } else {
                System.out.println(name + " reserved room " + roomnum);
            }
        }
    }
}

```

```

    }
}
//todorhoi uruu zahialna
if (command.equalsIgnoreCase("reserveN")) {
    //ner uruunii dugaar asuuna
    System.out.print("Name: ");
    System.out.flush();
    name = readLine();
    System.out.print("Room number: ");
    System.out.flush();
    num = readLine();
    //if we got a bad input, report failure
    if ((name == null) || (name.equals("")) || (num == null)) {
        roomnum = -1;
    } else {
        //String turluu int bolgon uurchluh aldaa gaarah magadlaltai
        try {
            roomnum = Integer.parseInt(num);
        } catch (Exception e) {
            roomnum = -1;
        }
    }
    //sanal huseltee uguh
    if (!hotelObj.reserveRoom(name, roomnum)) {
        System.out.println("No reservation for you!");
    } else {
        System.out.println(name + " reserved room " + roomnum);
    }
} else if (command.equalsIgnoreCase("cancel")) {
    //ner asuuh
    System.out.print("Name: ");
    System.out.flush();
    name = readLine();
    //urdochilan zahialga baihgui bol tsutslagdana
    if (!(name == null) || (name.equals("")))) {
        hotelObj.cancelReservations(name);
        System.out.println(name + " now has no reservations.");
    } else {
        System.out.println("Who?");
    }
} else if (command.equalsIgnoreCase("print")) {
    hotelObj.printReservations();
} else if (command.equalsIgnoreCase("build")) {
    //dugaar asuuna
    System.out.print("How many: ");
    System.out.flush();
    num = readLine();
    //int ruu hurwuulne
    roomnum = -1;
    if (num != null) {
        try {
            roomnum = Integer.parseInt(num);
        } catch (Exception e) {
            roomnum = -1;
        }
    }
}

```

```
    }  
    //uruund nemne  
    if (hotelObj.buildRooms(roomnum)) {  
        System.out.println("Added " + roomnum + " more rooms");  
    } else {  
        System.out.println("No more rooms for you");  
    }  
} else {  
    System.out.println("Bоломјтои uildluud :");  
    System.out.println("print - buh zahialgiig haruulah");  
    System.out.println("reserve - zochid buudald zahialga uguh");  
    System.out.println("reserveN - todorhoi uruu zahialah");  
    System.out.println("cancel - zahialgaa tsutslah");  
    System.out.println("build - zochid buudal uruuguu sullah");  
}  
}  
}
```