

Object Oriented Programming

Assignment

CIT has long required a Hotel to allow students and **overworked** lecturers a place to stay late at night. You are required to create a menu driven hotel system to allow management to rent rooms out to clients. Each guest can either a student or a Lecturer. We need the following details to process a reservation for a guest

- Name
- Email
- Address
- Phone number
- Student/Staff number

The system will control 26 rooms (6 suites, 8 doubles, 12 singles) for a max occupancy of 46 guests. Each room has a rate per night per person, indicator whether it is in use, max guests allowed stay and current guest of the room(if it is use). Each room can accept a student or lecturer. The guests with the student/lecturer are not needed.

1. Suite can hold 3 guests
 - a. Rate is 150 pp per night
2. Doubles can hold 2 people
 - a. Rate is 100 pp per night
3. Singles hold 1 person
 - a. Rate is 75 per night

Max 46 guests in hotel per night. but we only worry about the person who booked the room. We can track a max number of guests of 26(26 rooms).

The system has the following basic functions:

1. Reservations
 - Add a new reservation
 - i. A reservation will be either from a student or a lecturer
 - ii. Once a reservation is made the room is no longer available
 - Cancel a Reservation
 - i. A room becomes available once reservation is cancelled
 - ii. Guest is removed from system once reservation cancelled
 - Display all Reservations
2. Display All current guests
 - By Lecturer or by Student
3. Display all available Rooms
4. Process a new reservation
 - Get the guest details
 - Give option of room
 - i. Check room availability
 - Lecturers get 10% discount on room rate
5. Display Payments
 - Process a payment
 - i. A room becomes available once payment is received
 - ii. Guest is removed from system payment is received

- iii. We are not worried about credit cards etc here. Payment is processed if you say it is!!
 - Outstanding Payments
 - 6. Exit the system
 - Asks the user to save the current system
 - Save to file
 - i. Reads from file if file exists on startup to load objects into the system.
- The following are expected to be used in the code
- Packages
 - Good programming standards
 - OOP concepts
 - Comments – Indicating what methods are supposed to be doing ect.
 - i. Very useful to readers when grading code to know what a programmer was doing when creating a method.
 - Exception handling
 - We will be covering this
 - i. Use your own Exception where applicable
 - Indentation
 - i. **I will fail you for this** 😊
 - Naming standards
 - Collections
 - i. ArrayList ect..
 - Read/Save to file
 - i. We will be covering this

Below are examples of what your menu's could look like

Main menu

```
Welcome to CIT Hotel Management System
*****
1) Display Available Rooms
2) Display Guests
3) Process Reservation
4) Process Payment
5) Exit
```

Reservations Menu

```
Welcome to Reservations
*****
1) New Reservation
2) View Reservation
3) Cancel Reservation
4) Return
```

Hand up date midnight 22-12-2019 on blackboard, any later submissions must be done so through email to Diarmuid.McCarthy@CIT.ie
 Any assignments handed in after this time will be subject to 10% penalty per week.
 Any assignments not handed in by 31-12-2019 will not be accepted!