Object Oriented Software Development - CA1

Dr. Jason Barron
Department of Computing
Institute of Technology Carlow

November 4, 2024

Worth: 20%
Duration: 90 minutes

Problem:

You have been asked to create a hotel management system called **HotelMan** to manage an increase in hotel bookings. The system will keep track of room bookings including number of rooms booked and available. The system should offer the user the following options:

1. List all rooms

2. List all booked rooms

3. List all available rooms

4. Create a new room booking

5. List all room bookings

Some specifics:

- The system will initialise 10 room records automatically. They should have unique IDs starting at 100 (allocated from a static class variable).

- Each room should have a bed type (single, double, twin, etc.), bathroom, price and availability.

- Each room can accomodate up to 2 guests.

- Users can create up to a maximum of 5 room booking records.

- Each room booking should have an automatically assigned room booking number, starting at 1000, guest name, telephone, number of days booked and an address consisting of

  - Street
  - City/town
  - County

- All guests must be assigned to an existing room (maximum 2 guests per room).

Implementation:

You are expected to use classes and aggregation. You should have the following classes (include whatever class variables you feel appropriate):

- Room

  - (it should also contain a method to return the availablity of the room)
  - (it should also contain a method to return the record or each guest staying in the room)

- Room Booking

  - (it should also contain a method to return the number of guests staying in the hotel)

- Address

Each class should implement a toString() method for printing.

Deliverables:

1. The Java classes and driver program implementing all the above requirements. Marks for:

   (a) A running program,

   (b) Requirements correctly implemented,

   (c) Good programming practices (variable names, comments, indentation, readability).

2. Only submit the java source files (i.e. .java files).

3. **Zip the files and rename the zipped file (e.g. CA1-Student-Name.zip).**

4. Upload the zipped file back to Blackboard.