- Go through the problem statement clearly.

- Time limit is 90 minutes.

- Make sure that project is created in eclipse only.

- Create all your java files in package **com** within src folder of eclipse project.

- Make sure that exact class outline is followed as you did in previous assignments.

- You need to zip the eclipse project folder and upload the same in LMS once completed. The project folder will be available in your workspace folder.

- It is mandatory to upload eclipse project and not java files alone, for your code to be assessed.

- Make sure that there is no compilation error in your code before submission. Even if there is minor error, entire solution could be rejected.

- You must write all the method at least method signature with blank body if that method is not implemented otherwise your code will not be compiled in eAssessment tool.

- You may refer previous assignments, ~~course content and internet~~ for any reference.

Gulmohar Grand Hotel is planning to automate their processes to manage the operations better.

Mainly there are below operations for which a Java based solution is required:

- Adding customers to the Hotel

- Adding rooms to the Hotel with different room types

- Allocating types of rooms to different customers
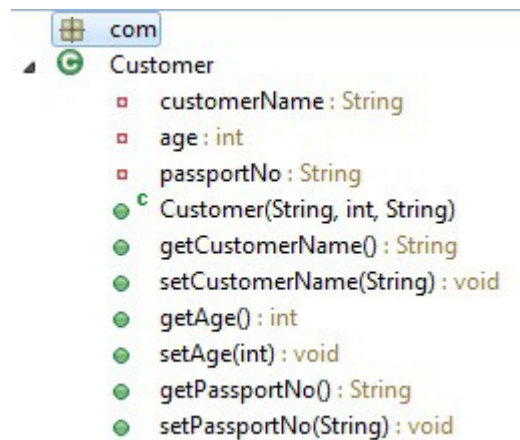
Create project Empid_Name_HMS in eclipse.

All classes should be created inside **com** package.

Create class **Customer** with below outline.

Create constructors, generate getters/setters and override required methods with the exact details given in outline.

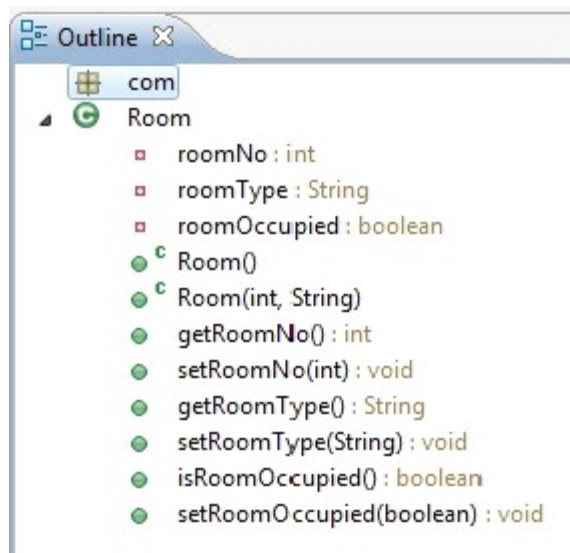The constructor of Customer class should be of following sequence.

(String custName,int age,String passportNo)

Create **Room** class with below outline. Create constructors, generate getters/setters with the exact details given in outline.
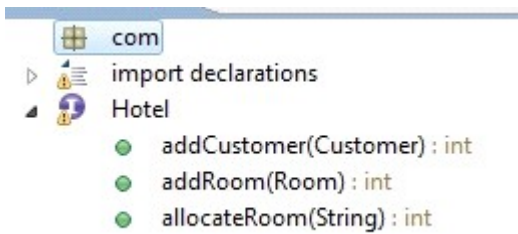
Room Type : could be AC or Non AC.

By default roomOccupied should be kept as false.

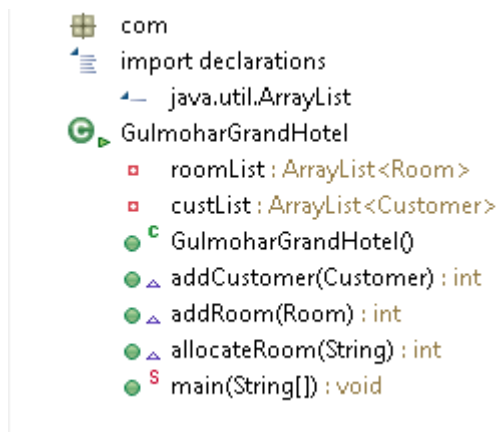Create an interface **Hotel** –
This is a contract to follow the design for building Hotel Management System. Refer below outline

Create a class **GulmoharGrandHotel** with below details.

- Implement Hotel interface and all its methods with appropriate logic.

- GulmoharGrandHotel class should contain ArrayList of Customers and Rooms.

- You can write main method in this class.

Refer below outline for this class.

Consider below methods in **GulmoharGrandHotel** class:

addCustomer – This method will take Customer reference as a parameter. The method should add the Customer to the list. Before the customer is added to the list, the method should check if customer already exists in the system. Combination of "name" and "passportNo" of customers will be used to check if the same customer exists in the Hotel List already. A Customer already exists with the same name and passportNo then, method must not add the customer to the list. This method returns total count of customers which are there in the hotel.

addRoom – This method will take Room object reference. It will add this object to the list and returns the total number of rooms in the list. This method should not add duplicate rooms in the list. Two rooms with the same roomNo are considered duplicate. The method must return the total number of rooms available in the list even if new room is not added.

allocateRoom –This method will take roomType as parameter. The method should search if there exists a room in the list which is not occupied with given roomType. If so then occupy that room and return the room number which is occupied to that customer (To check whether the room is occupied

or not there's an attribute present in the room class,you must make the code in such a way that by default room is not occupied .). If the rooms with provided roomType is already occupied then method must return 0.If provided room type is not at all exist in roomlist(other than AC or Non AC) then the method must return -1. We have assumed here that room number will never start with -1 and 0.

Note : One Room can be occupied by one person only.