Course: Object Oriented Programming

Title: Design Activity document of Open Ended Assessment

“Yatri Nivas”

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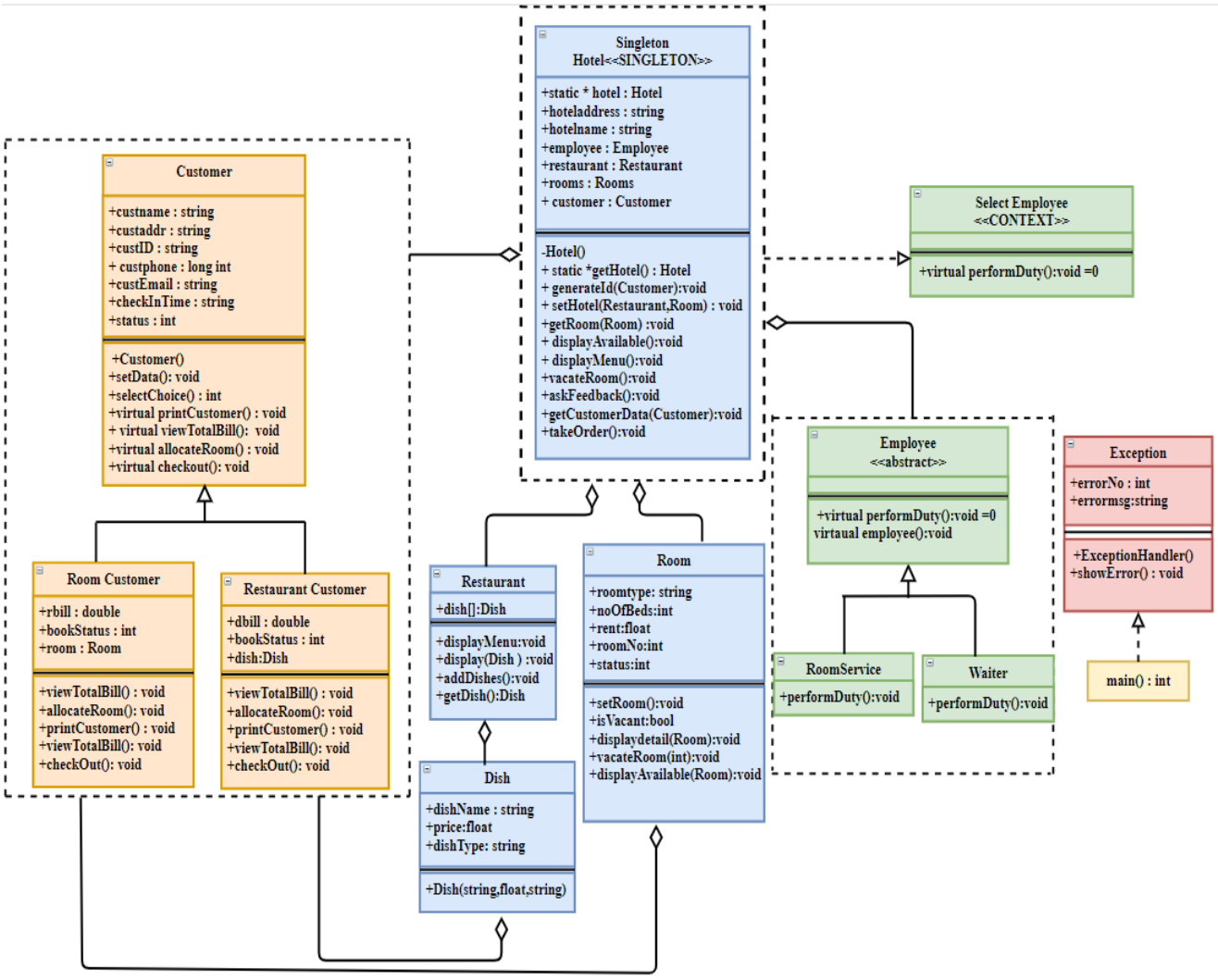
Problem Description:

One of Hubli's newest hotels is Hotel Renaissance. For the astute visitor, the hotel—which has all the standard amenities and facilities—is the perfect dream location, nestled among exquisitely manicured gardens and a freshwater lake. The hotel offers delicious meals and well-furnished rooms that are sure to please. When a customer wishes to reserve a room and gives the required information, he will be given a special ID. The customer will be assigned a room based on the availability of available rooms. The consumer might get in touch with room service if he is not content with the conditions of the accommodation. Every customer's information will be saved and accessible to the manager. Customers are able to place orders.

Objects Identified:

- Customer
- Room Customer
- Employee
- Dish
- Restaurant Customer
- Restaurant
- Hotel
- Room
- Room Service

Class Diagram:



Implementation Details:

1. Class : Hotel

Hotel is the main class which follows singleton design pattern. It consists of static *hotel to create an instance of the class. The other attributes include the name and the address of the hotel.

Functions:

generateID() which generates a unique ID for every customer.

displayAvailable(): displays all the available rooms in the hotel.

displayMenu(): displays the menu available in the restaurant.

guestSummary(): It gives the whole summary of the details of the customer.

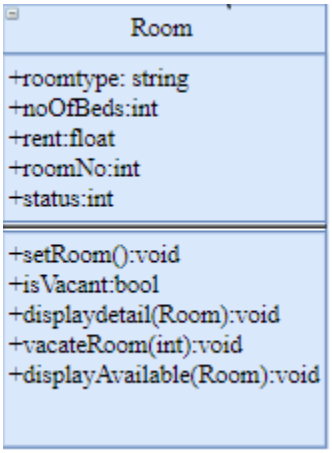
askFeedback() : It asks the feedback of the customer about the hotel service.

vacateRoom(): to vacant the room that has been allotted.

getCustomerData() : to get the data from customer.

takeOrder() : to take the order from the customer.

2. Class : Room



It has five attributes where roomType describes the type of room i.e., Deluxe, AC, Non-AC , General, Suite. The attribute status tells whether the room is occupied or no.

Functions:

setRoom() : to book a room.

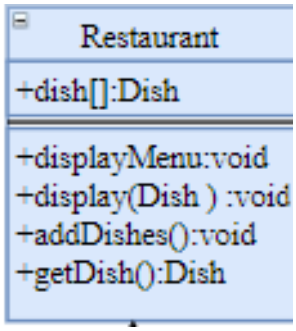
isVacant() : to know the status whether the room is booked or no.

displayDetail(): to display the details of all rooms

vacateRoom(): to vacate the room.

displayAvailable() : to display the details of the rooms which are available.

3.Class : Restaurant



It consists of array all the dishes that are available.

Functions:

displayMenu() : to display the menu for all dishes available.

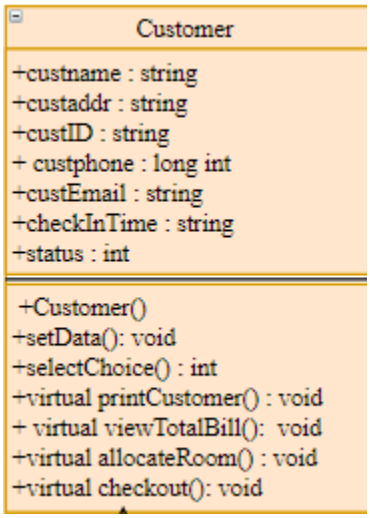
display() : To display the details of a particular dish

addDish(): to add a dish into the menu.

getDish() : to get the dish.

3. Class: Customer

The class Customer has two inherited classes restaurantCustomer and roomCustomer. It follows factory design pattern



Functions:

Setdata() : to enter all the customer details.

selectChoice() : To select the choice between booking a room and placing an order for a dish.

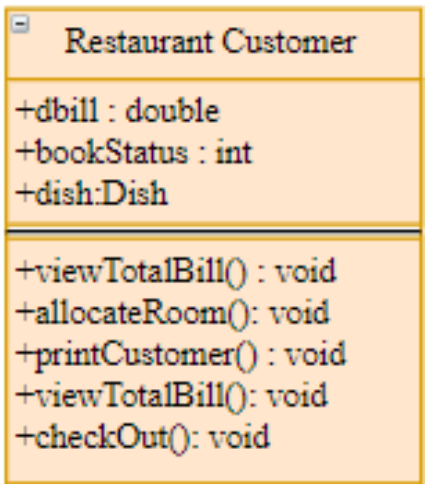
callRoomService(): To call the room service.

viewTotalBill() : to view the bill of the service service provided to him.

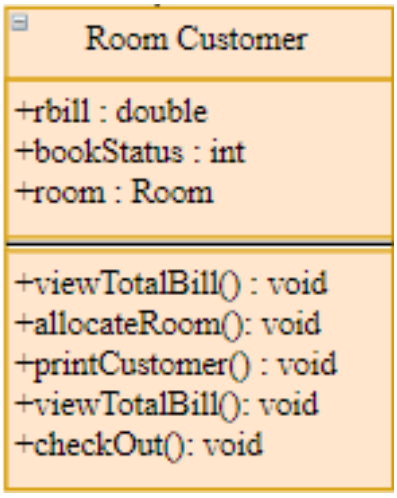
Checkout() : to checkout from the hotel.

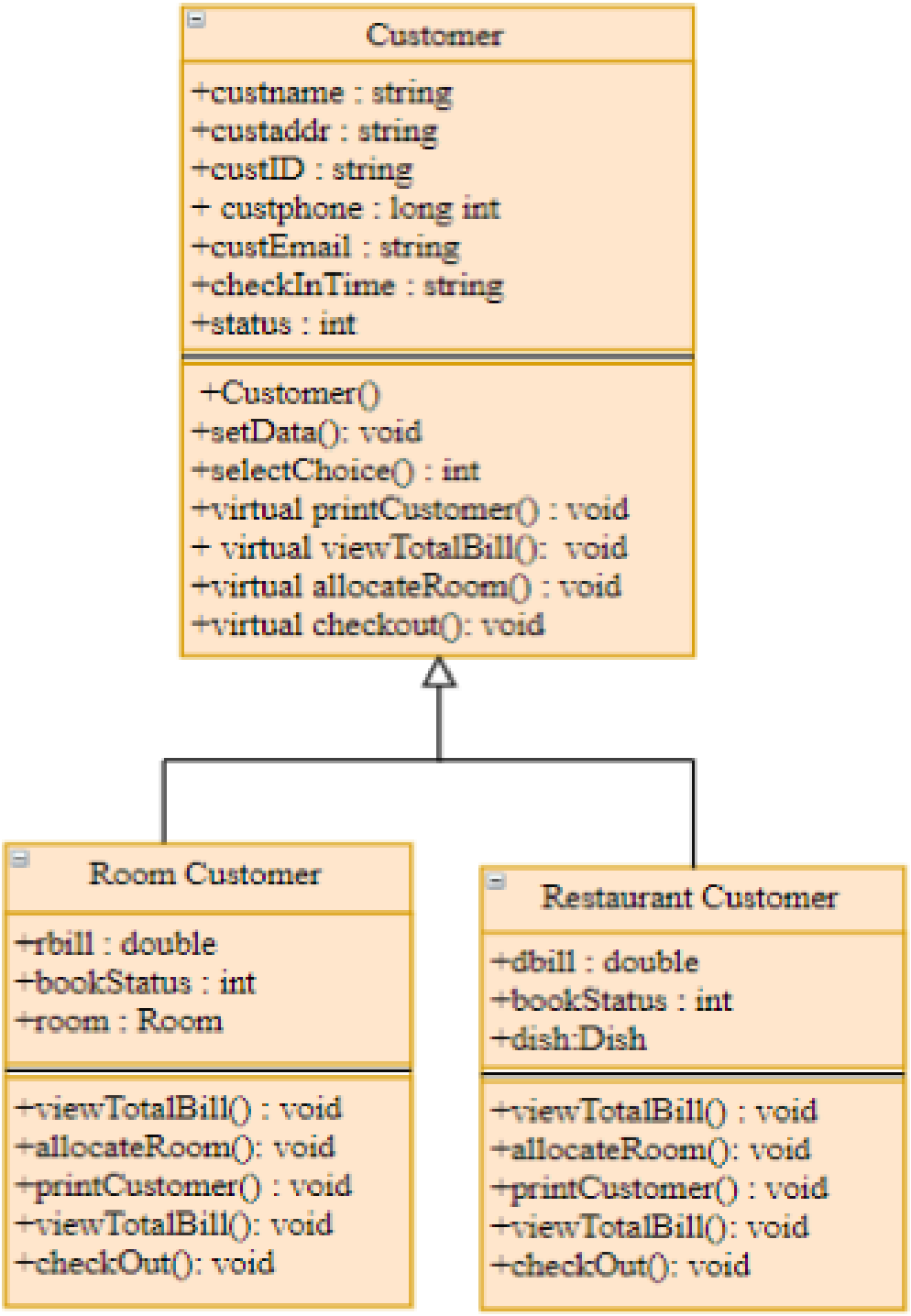
printCustomer() : to print the customer details who is in the room.

Class RestaurantCustomer:



Class RoomCustomer:

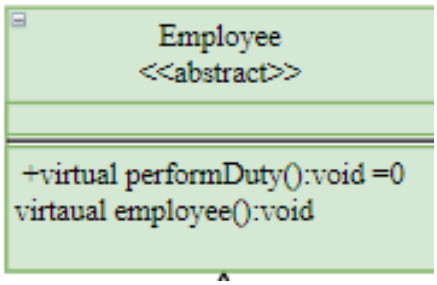




The customer class follows factory design pattern.

4. Class : Employee

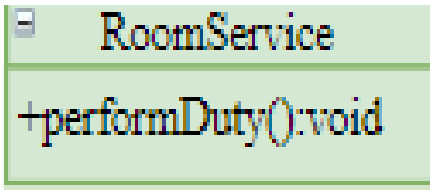
The class employee inherits two classes namely RoomService and Waiter who perform their respective duties on customer demand. It follows strategy design pattern.



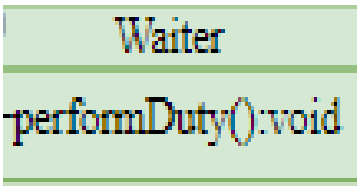
Functions:

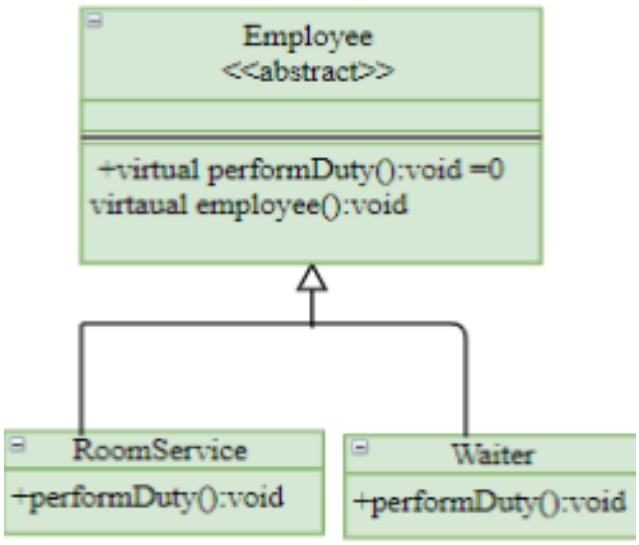
performDuty() : To display all the employees working in the hotel

Class: Roomservice



Class : Waiter

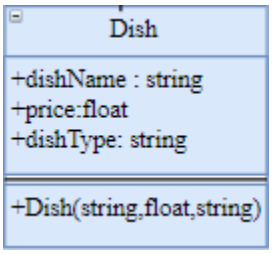




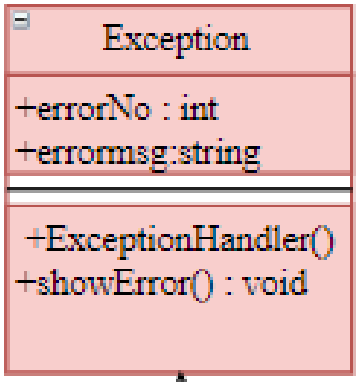
5. Class: Dish

This class has attributes such as dishname, price and dish type. The dishtype specifies the type to which the given dish belongs i.e., main course, starters, desserts, beverages etc.

The parameterized constructor creates new dishes.



6. Class: Exception



The following exception class comes into picture if:

- any customer asks for a room which is already occupied.
- any customer orders for a dish which is not available at that instance of time.

In the above cases Exception Handler will throw an appropriate error.