HOTEL MANAGEMENT SYSTEM

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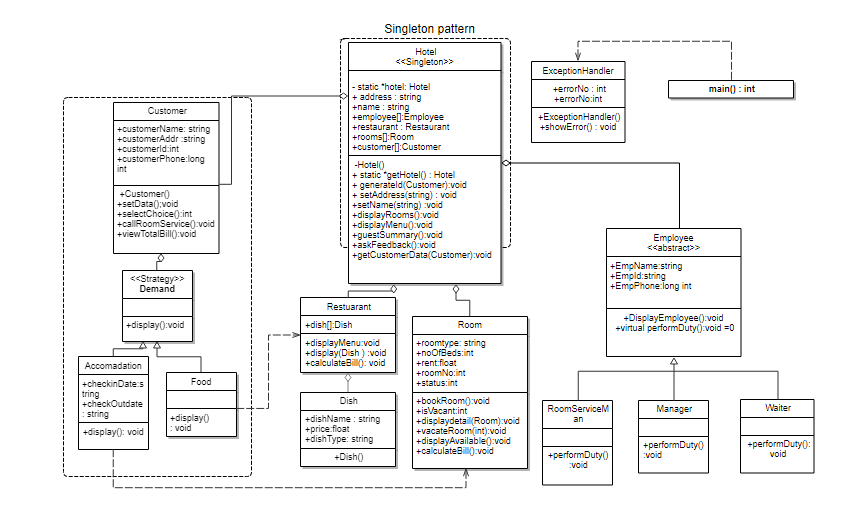
**Problem Description**

Hotel President is one of the newest hotels in Hubli . The hotel is equipped with all the general amenities and facilities , set amidst beautifully landscaped gardens and fresh water lake it proves to be an ideal dream destination for a perceptive traveller.

The hotel has well furnished rooms with inclusive meals and lip smacking dishes.

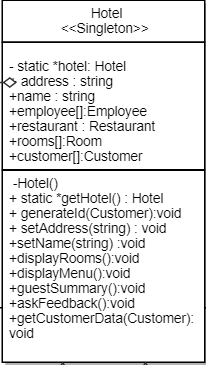
The customer requests to book a room by providing the necessary details, a unique ID will be assigned to him.The room will be allocated to the customer depending upon the availability of vacant rooms .If the customer is unhappy with the room conditions he can contact the room service .The details of all the customers will be stored which can be viewed by the manager. The customers can order food from the provided appetizing menu. Before the customer checks out ,he will be asked for a feedback.

**Write a C++ program to implement the class diagram below.**



**Implementation details**

**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.

It consists of various functions like :

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

setAddress() and setName() are used to set the name and address of the customer.

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

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

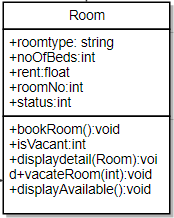
guestSummary(): It gives the whole summary of the details of the customer.

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

The hotel class has includes two more classes Restaurant and Room

which are inherited from the Hotel Class.

**Class : Room**



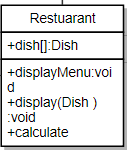
It has five attributes where roomType describes the type of room I.e., Deluxe , AC, Non-AC , General, Suite. Status tells whether the room is occupied or no.

It includes functions to book the room(bookroom()), to know the status of the room(isVacant()),

display roomdetails(displaydetail()), to know the status of the room (vacateRoom(),

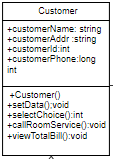
displayAvailable()).

**Class : Restaurant**



It consists an array of dishes. It includes functions to display the menu and to display the details of particular dish. The function calculateBill calculates the bill of customer and displays it.

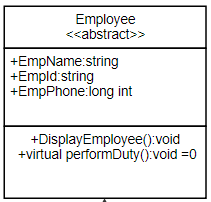
**Class: Customer**



It consists of attributes such as Customer name,address ,Customer iD, and phone numbers I.e, nothing but the details that describe the customer.

The constructor creates a new customer with blank details. In order to get the details we have used the function setData. Select choice function selects one from accommodation or Meals as per his requirement. In case the customer is not satisfied with the cleanliness of Room or the Restaurant he can immediately call the room service. The total bill displays the total bil of customer.

**Class : Employee**

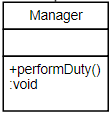


It consists of attributes which hold the employee details. The display employee function displays the details of employee. It is a virtual class with performDuty as virtual function.

The duty that he has to be performed depends on the type of employee.

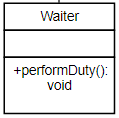
There are three types of employees namely Roomservice, Waiter , Manager who have been assigned work based on their designation.

**Class : Manager**



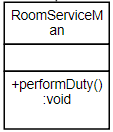
In case the customer is not happy with the room service or the food he will have an option to call the manager. The duty of manager is to manage the hotel in general. It consists of mere cout statements.

**Class : Waiter**



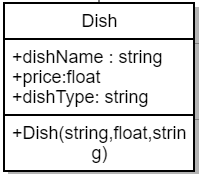
The job of the waiter is to serve food. It involves mere cout statements.

**Class : RoomService**



The job of the Roomservice is to clean the room. It involves mere cout statements.

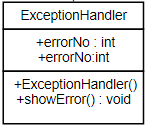
**Class : Dish**



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

The parameterized constructor creates new dishes.

**Class : Exception handling**



The following exception class comes into picture when

1. if any customer asks for a room which is already ocupied.
2. If 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.

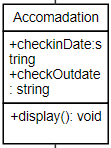
**Class : Demand**



This is nothing but a strategy class. It does the operation base on customers requirement.

There exists two sub classes which aid the desired operation.

**Class : Accommodation**



When the customer chooses to accommodate, the types of rooms with the total vacancy will be displayed so that he can make choice based on his requirement .

**Class : Food**



When the customer chooses to dine, thelist of dishes with the price of each dish will be displayed so that he can make choice based on his requirement .