Hotel Project

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Section
700

A hotel needs a program to keep track of the customers who book rooms, and the room types, it also needs to keep track of its staff members. This program should be able to maintain and organise the structure of the hotel.

Classes implementation

There will be (10) classes The first class is named Hotel which will store name ,address and the method will display staff , room and customer information.

The other class is Booking which has the booking ID checkin and checkout time .

there is an abstract class called Room. Its will have the room number, and an abstract method that will determine the services.

-individual is a class that Inherits (Room) it will store the number of beds
-Family class also Inherits room. It's will store the number of rooms
-Suite class is the last class that inherits room will store the number of rooms.

The customer class stores the name of customer, ID and gender with a method to display the information the class CVIB Inherits customer which has a rank for the VIP customer and privileges to go with it

Staff is a class to store the name, ID, salary and job for staff member. It is will display the information and allow you to set the salary.

The last HotelTest is the driver class which contains the main method

Note/ there will be polymorphism in Hotel class to Room and Suite,Family and Individual also in Customer class polymorphism to Cvip.
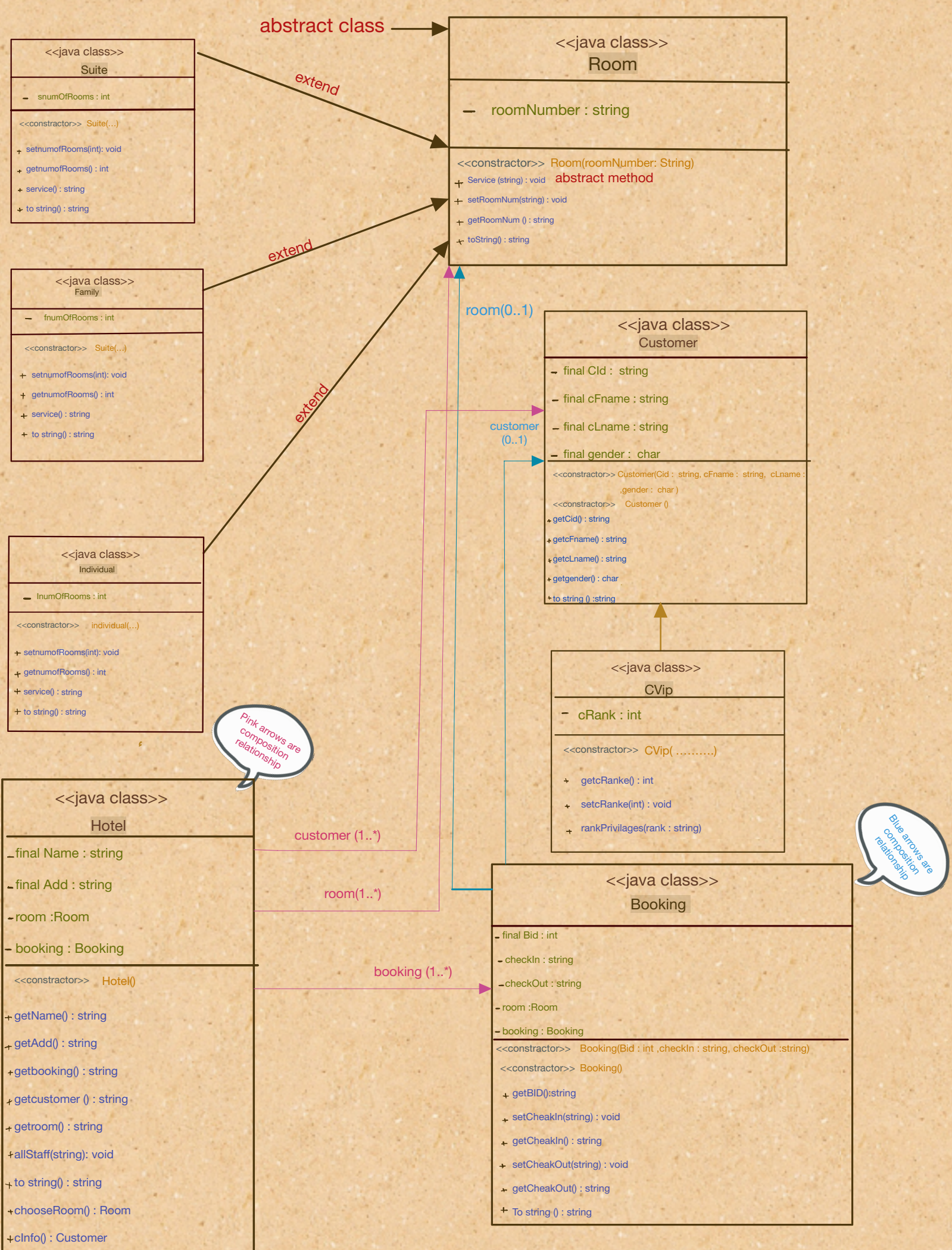
there will be exception handling in family class , suite class and individual class to choose the number of rooms allowed for each of them
here an example in family class\….

```java
//constructor
public Family(String roomNumber, int fnumberofRooms)
{
    super(roomNumber);

    //since the rooms can't have more than  6 beds we have to use exception handling
    if (fnumberofRooms > 4)
        throw new IllegalArgumentException
        ("Number of Rooms cannot be graeter than 3");
    this.fnumberofRooms=fnumberofRooms;
}
```
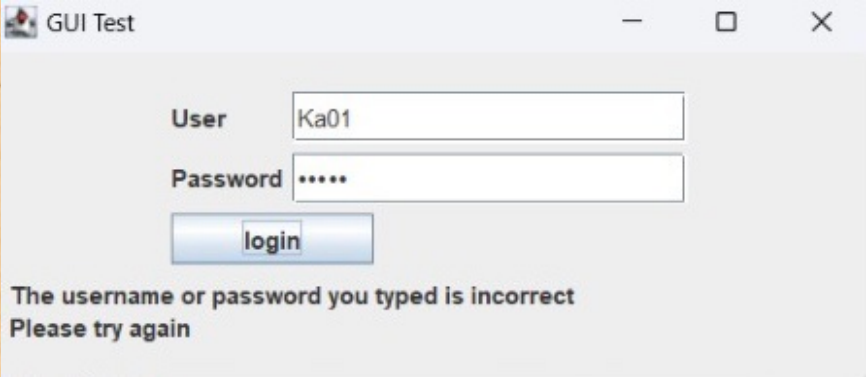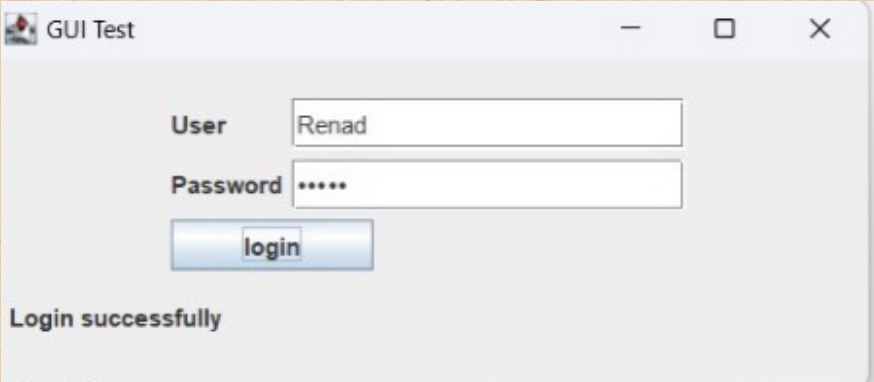
UML

abstract class →

<<java class>>
Room

— roomNumber : string

<<constractor>> Room(roomNumber: String)
+ Service (string) : void **abstract method**
+ setRoomNum(string) : void
+ getRoomNum () : string
+ toString() : string

<<java class>>
Suite

— snumOfRooms : int

<<constractor>> Suite(…)
+ setnumofRooms(int): void
+ getnumofRooms() : int
+ service() : string
+ to string() : string

extend

<<java class>>
Family

— fnumOfRooms : int

<<constractor>> Suite(…)
+ setnumofRooms(int): void
+ getnumofRooms() : int
+ service() : string
+ to string() : string

extend

<<java class>>
Individual

— InumOfRooms : int

<<constractor>> individual(…)
+ setnumofRooms(int): void
+ getnumofRooms() : int
+ service() : string
+ to string() : string

extend

room(0..1)

<<java class>>
Customer

— final CId : string
— final cFname : string
— final cLname : string
— final gender : char

<<constractor>> Customer(Cid : string, cFname : string, cLname : ,gender : char)
<<constractor>> Customer ()
+ getCid() : string
+ getcFname() : string
+ getcLname() : string
+ getgender() : char
+ to string () :string

customer (0..1)

<<java class>>
CVip

— cRank : int

<<constractor>> CVip(……….)
+ getcRanke() : int
+ setcRanke(int) : void
+ rankPrivilages(rank : string)

Pink arrows are composition relationship

Blue arrows are composition relationship

<<java class>>
Hotel

— final Name : string
— final Add : string
— room :Room
— booking : Booking

<<constractor>> Hotel()
+ getName() : string
+ getAdd() : string
+ getbooking() : string
+ getcustomer () : string
+ getroom() : string
+ allStaff(string): void
+ to string() : string
+ chooseRoom() : Room
+ cInfo() : Customer

customer (1..*)

room(1..*)

booking (1..*)

<<java class>>
Booking

— final Bid : int
— checkIn : string
— checkOut :string
— room :Room
— booking : Booking

<<constractor>> Booking(Bid : int ,checkIn : string, checkOut :string)
<<constractor>> Booking()
+ getBID():string
+ setCheakIn(string) : void
+ getCheakIn() : string
+ setCheakOut(string) : void
+ getCheakOut() : string
+ To string () : string

```
        <<java class>>
           HotelTest



    +main(args: string [] ): void
```

```
              <<java class>>
                  Staff

  _ final sFname : string
  _ final sLname : string
  _ final Sid : string
  _ Salary: double

  <<constractor>>Staff(sFname : string , sLname : string , Sid : string
  , Salary: double , Jop : string)
  + getFname() : string
  + getLname() : string
  + getSid() : string
  + getSalary() : double
  + getJop() : string
  + setSalary(double ) :void
  + to string () :string
```

GUI

Note\ the simple application GUI code is attached in separate zip file

```
GUI Test                      —   □   ✕

   User       Renad
   Password   •••••
         login

Login successfully
```

```
GUI Test                      —   □   ✕

   User       Ka01
   Password   •••••
         login

The username or password you typed is incorrect
Please try again
```

```
Welcome to
Intercontinental Hotel
TAIF Branch


Choose from the menu:
1) Make a new reservation
2) Get all reservatins details
3) Get a customer information
4) Delete a reservation
5) get information for all staff members
6) Exit
Enter your choice 1-6:
1
choose type of customer:
1) regular
2)VIP:
1
Enter the customer ID:
44107163
Enter the customer first name:
Bdoor
Enter the customer last name:
Al-dajani
Enter the customer gender (M/F):
F
Choose a room from the menu:
1) Suite number 101 with 4 rooms
2) Suite number 102 with 5 rooms
3) Suite number 103 with 6 rooms
4) Singles room number 104 with 1 bed
5) Singles room number 105 with 1 bed
6) Singles room number 106 with 2 beds
7) Family room number 107 with 2 rooms
8) Family room number 108 with 3 rooms
9) Family room number 109 with 3 rooms:
4
Enter the booking ID:
104
Enter the check in date (YYYY-MM-DD):
16-2-2023
Enter the check out date (YYYY-MM-DD):
22-2-2023
Choose from the menu:
1) Make a new reservation
2) Get all reservatins details
3) Get a customer information
4) Delete a reservation
5) get information for all staff members
6) Exit
Enter your choice 1-6:
1
choose type of customer:
1) regular
2)VIP:
2
Enter the customer ID:
44102721
Enter the customer first name:
Renad
Enter the customer last name:
Ali
Enter the customer gender (M/F):
F
Enter the customer rank:
1
Choose a room from the menu:
1) Suite number 101 with 4 rooms
2) Suite number 102 with 5 rooms
3) Suite number 103 with 6 rooms
4) Singles room number 104 with 1 bed
5) Singles room number 105 with 1 bed
6) Singles room number 106 with 2 beds
7) Family room number 107 with 2 rooms
8) Family room number 108 with 3 rooms
9) Family room number 109 with 3 rooms:
```

```
9) Family room number 109 with 3 rooms:
2
Enter the booking ID:
102
Enter the check in date (YYYY-MM-DD):
24-2-2023
Enter the check out date (YYYY-MM-DD):
28-2-2023
Choose from the menu:
1) Make a new reservation
2) Get all reservatins details
3) Get a customer information
4) Delete a reservation
5) get information for all staff members
6) Exit
Enter your choice 1-6:
1
choose type of customer:
1) regular
2)VIP:
2
Enter the customer ID:
44108363
Enter the customer first name:
Huda
Enter the customer last name:
Ibrahem
Enter the customer gender (M/F):
F
Enter the customer rank:
3
Choose a room from the menu:
1) Suite number 101 with 4 rooms
2) Suite number 102 with 5 rooms
3) Suite number 103 with 6 rooms
4) Singles room number 104 with 1 bed
5) Singles room number 105 with 1 bed
6) Singles room number 106 with 2 beds
7) Family room number 107 with 2 rooms
8) Family room number 108 with 3 rooms
9) Family room number 109 with 3 rooms:
9
Enter the booking ID:
109
Enter the check in date (YYYY-MM-DD):
20-2-2023
Enter the check out date (YYYY-MM-DD):
21-2-2023
Choose from the menu:
1) Make a new reservation
2) Get all reservatins details
3) Get a customer information
4) Delete a reservation
5) get information for all staff members
6) Exit
Enter your choice 1-6:
2
[The ID for the booking is: 104
The check in date is: 16-2-2023
The check out date is: 22-2-2023
The room number: 104
The number of beds: 1
The rooms services: The service for this room include free wifi and breakfast


Customer ID: 44107163
Customer Name: Bdoor Al-dajani
Gender: F


, The ID for the booking is: 102
The check in date is: 24-2-2023
The check out date is: 28-2-2023
The room number: 102
```

```
Customer ID: 44102721
Customer Name: Renad Ali
Gender: F

The rank for this customer is: 1
This customer is ranked as VIP & has an Exclusive access and reservations


, The ID for the booking is: 109
The check in date is: 20-2-2023
The check out date is: 21-2-2023
The room number: 109
The number of rooms: 3
The rooms services: The service for this room include free wifi and breakfast


Customer ID: 44108363
Customer Name: Huda Ibrahem
Gender: F

The rank for this customer is: 3
This customer is ranked as a Politician & has access to meeting facilities, complimentary coffee and branch ser


]
```

```
Choose from the menu:
1) Make a new reservation
2) Get all reservatins details
3) Get a customer information
4) Delete a reservation
5) get information for all staff members
6) Exit
Enter your choice 1-6:
4
Enter the booking ID:
102

The reservation:
The ID for the booking is: 102
The check in date is: 24-2-2023
The check out date is: 28-2-2023
The room number: 102
The room type is: Suite
The number of rooms: 5
The rooms services: The service for the suite includes free wifi, braekfast and lunch, along with a freepass fo


Customer ID: 44102721
Customer Name: Renad Ali
Gender: F

The rank for this customer is: 1
This customer is ranked as VIP & has an Exclusive access and reservations


is deleted successfully

Choose from the menu:
1) Make a new reservation
2) Get all reservatins details
3) Get a customer information
4) Delete a reservation
5) get information for all staff members
```

```
Choose from the menu:
1) Make a new reservation
2) Get all reservatins details
3) Get a customer information
4) Delete a reservation
5) get information for all staff members
6) Exit
Enter your choice 1-6:
5
Staff Name: Othman Ahmed
Staff ID: 221
Staff Job: Cleaner
Staff Salary: 2000.00


Staff Name: Ali Fahad
Staff ID: 222
Staff Job: Cleaner
Staff Salary: 2000.00


Staff Name: Chang Lee
Staff ID: 121
Staff Job: Chef
Staff Salary: 15000.00

Staff Name: Noura Khaled
Staff ID: 321
Staff Job: Receptionist
Staff Salary: 3000.00


Staff Name: Waleed Omar
Staff ID: 322
Staff Job: Receptionist
Staff Salary: 3000.00


Staff Name: Ameen Nour
Staff ID: 421
Staff Job: Security
Staff Salary: 2500.00


Choose from the menu:
1) Make a new reservation
2) Get all reservatins details
3) Get a customer information
4) Delete a reservation
5) get information for all staff members
6) Exit
```