**Project Report**

**Hotel Management system**

Following concepts are used in this project:

* Class
* Objects
* Inheritance
* Polymorphism
* File Handling

In this project we used one base class of room and five derived classes inherited from the base class room.

* Base Class:

The base class has data members:

* Full Name
* Age
* Gender
* ID card-Number
* Balance in Rupees (If paid in advance, balance will be zero)
* Total Days to reserve
* Floor Number on which reserved room is
* Room Type
* Room Number
* Check in time and date
* Checkout time and date
* Time remaining in the Hotel (in Hours, should be calculated on runtime, automatically)

Which are taken as protected so that I can use these data members in derived class.

I created two pure virtual functions in base class of name reserveroom ().

So that I cannot be able to create any object of base class.

The other three functions are (ToCheckin(), ToView (), ToReport ()).

* In function ToCheckin () when customer come to hotel he asked for room keys and the receptionist check his name in reservation file to cross checked the in advance reservation. If reservation found then keys are given to the customer otherwise asked to reserve room first then checkin. If reservation found the time is noted down and saved the detail in checkin file for the record.
* In function ToView() the hotel owner can see the detail of each and every type of room that is reserved and for whom it is reserved. The record is extracted from the file room and displayed on the console with the required detail.
* In function ToReport () the hotel owner can generate the report on daily bases that how many customer checked in or check out. How many rooms have been reserved? How many are occupied and their types? How many are free and their type? In this I took globally declared static variables so that I can use them anywhere in the program where I need them.

* Derived Classes:

In derived classes (standard, moderate, superior, Junior suite, suit )

* Public:

I declared the definition of one virtual functions ReserveRoom ().

* In function ReserveRoom () I reserved the room with floor and room number and then save the detail of reservation in file room for the record. If room is already reserved then ask the user to re-enter the room number as previous one is already reserved. If the customer is old one then retrieves his or her data from customer file and allocate the room otherwise enter all detail of customer first then reserve room for them.
* Checks:

Applied all kind of checks that is required for the accurate and useful information so the hotel owner have exact type of information.

* Check for accurate floor and room number.
* Check for not allocating the room which is already booked.
* Check for proper selection of choice.
* Check for age and gender.
* Main:
* In main I declared pointer to base class.
* Then I declared switch and enter the choice of the hotel owner by showing him the menu first. For 1 the reservation blocked is entered then there is another switch which is called and again options are declared for 5 different types of rooms present in hotel.
* For 2 option ToCheck() function is called and the task is performed for check the customer id is called and search is done through the room file.
* For the 3 option ToView() function is called and all reservation is displayed on the console.
* For the 4 the ToReport() function is called and it displayed the overall detail of the hotel.
* For the 5 the program is exit.