**Title: Hotel Management System**



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Project :Hotel Management System with Data Structure And Algorithm

**One line Description of Project**

Design and Develop a **Console** based Hotel Management System.

**Overview of Project**

This project will facilitate the Hotel owner in the Hotel to keep record of rooms and reservations and create a report on regular basis.

**Project Detail**

The Hotel for which you are creating this project has 5 floors and each floor has 50 rooms.

Following are types of rooms:

**Standard**

* This category usually means the most basic room type offered by the hotel. It has basic, standard amenities and furnishings. A standard room in a Four Seasons hotel is without question much more deluxe than a standard in, say, a Holiday Inn, but there may be higher categories from which to choose. Standard rooms in hotels with higher categories often have no view or have a poor view over the dumpster or parking lot.
* Price is Rs.300 / 24 Hours
* This Hotel contains total of 50 rooms of this type, 10 on each floor.

**Moderate**

* Usually a slight bit better than standard, but still not deluxe. It may refer to the room view as well as the size and type of furnishings offered.
* Price is Rs. 500 / 24 Hours
* This Hotel contains total of 50 rooms of this type, 10 on each floor.

**Superior**

* This category is always subject to interpretation. It's supposed to mean superior to a standard room in both size and furnishings, but it often refers to just the view. Some hotels have only Superior rooms; the categories then are defined by the view and location of the room.
* Price is Rs. 1000 / 24 Hours
* This Hotel contains total of 50 rooms of this type, 10 on each floor.

**Junior Suite**

* A "junior" suite is typically a larger room with a separate seating area. Sometimes it's got a small divider between the part of the room that the bed is in and the seating area, but it is not two separate rooms.
* Price is Rs. 2000 / 24 Hours
* This Hotel contains total of 50 rooms of this type, 10 on each floor.

**Suite**

* A Suite is usually two or more rooms clearly defined; a bedroom and a living or sitting room, with a door that closes between them. Many hotels use the word "suite" to define any room with a sofa in it so be sure to check thoroughly if what you really want are the two or more separate rooms.
* Price is Rs. 5000 / 24 Hour
* This Hotel contains total of 50 rooms of this type, 10 on each floor.

This Hotel records following information of its customer

* 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)
* In Detail Report you’ve to give daily base statistics for example

o How many customers have checked in today o How many have checked out today

o How many rooms have been reserved and their types o How many are empty and their types.

* You also have to save all the information in the files. There is no restriction on the file format.

**Class Design**

**For Rooms make following class hierarchy:**

Room



|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Standard |  | Moderate |  | Superior |  | Junior Suite |  | Suite |
|  |  |  |  |  |  |  |  |  |

**You must use all concept of classes including inheritance, polymorphism along with arrays and functions etc.**

**Data Storage**

* **In Files**

All data Store in Files

**File Use:**

* Text
* Binary

**Files:**

* customer
* checkin
* skip
* and create a file according to every room.
* Use binary fiile for database one is customer that store the customer data how many

customer are reserved room until now.

* Second is room that is store data of room if system switch off data save and we see the data
* each room have his own form or file.i created room files by using header file of sstream that help your you to create untilimited file without create file name.
* Third use skipping file if customer time is over then data store in skipping file and data update from room file.skipping file in text form.
* Customer and room files are in binary form.

**Reports:**

Room reports to create a file for a particular room..if room is 250 so files also 250 that store the Room data.

This system also generate a report

* Daily basis
* Weekly
* Monthly
* Complete(how many customers are visted hotel)

**Algorithm:**

**Stack:**

use for a Standard Room

**Queue:**

use for a Moderate Room

**Singly Linked List:**

use for a superior room

**Doubly linked list:**

use for a junior suite

**Binary search Tree:**

use for a suite room

**Check&Search:**

check customer detail

* by using name
* by using id
* by using room no
* by using floor no

**Sytem:**

* In this system we check room data
* Reserved room before room reserved check data from file if availibile you reserve the room
* otherwise you can,t reserve the room.
* Use do while loop for many time because we use frequently on the base of date and 24 hour
* services.
* Update data on tha base of date
* And we check whole customer file
* Search specific data by using name,floor no,room type and customer id card number
* We create report at the base of daily,weekly and monthly .
* We check the customer data that leave or skip the hotel aftter time completing