Design and develop a Hotel Room Reservation System as per requirements stated below. Develop your system using the C programming language and you are required to present your solution after completion.

* 1. **Login/Register:** Your system should allow a User to login with his credentials (user-id and password), and allow a new User to register to get login credentials.
* 2. **Booking:** User will be able to fill in details like room type, no of adults/kids, date of check-in and checkout to get a list of available rooms. For confirmation of reservation user have to select specific room and fill all respective detail about the occupants (like name, age, gender and ID number). At the end room number is allocated to the user which shows the confirmation of reservation.
* 3. **Cancellation:** User will be able to cancel the reservation by providing specific reason which is recorded for the cancellation process.
* 4. **Modify Booking:** User will be able to modify / change the reservation after a room is confirmed.
* 5. **View Status:** Admin will be able to upload and modify the room detail, view and search the reservations, cancellation and allocations. User is able to see the reservation detail.
* **2.0 REQUIREMENTS**
* i. You are required to carry out extra research for your system and document any logical assumptions you made after the research.
* ii. Your program should use symbolic constants where appropriate. Validations need to be included to ensure the accuracy of the system. State any assumptions that you make under each function.
* iii. Your program must be modular, user-friendly using programming techniques that you have learnt. You may include any extra features which you may feel relevant and that add value to the system. The menus could be modified in order to facilitate more options.
* iv. There should be no need for graphics in your program, as what is being assessed, is your programming skill not the interface design. The marking scheme for the assignment has been provided so that you clearly know how the assessment for this assignment would be done.

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* v. You should include the good programming practice such as comments, variable initialisation, naming conventions and indentation**.**
* vi. In a situation where the students,**f**ailed to attempt the assignment demonstration, overall marks awarded for the assignment will be adjusted to 50% of the overall existing marks
* **3.0 DELIVERABLES**

You are required to submit:

* i. A softcopy of the program coded in C – submitted in a CD. The program should include the following:
* - Basic C concepts such as displaying and reading of text, variables, and assignment of values, comments – to explain various parts of the program, etc.
* - Intermediate C concepts such as control structures – selection and iteration control structures, use of arrays – single / double scripted, string.
* - Advanced C concepts such as functions – programmer defined and library functions, pointers, structures, unions, linked list and files.
* - Any other features of C that has not been covered.
* ii. A documentation of the system, that incorporates basic documentation standards such as header and footer, page numbering and which includes
* - Cover page
* - Table of contents
* - Introduction and assumptions
* - Design of the program – using pseudo code **and** flowcharts – which adheres to the requirements provided above
* - Explanation of C programming concepts applied with sample segment of source code from the system created.
* - Additional features which have been incorporated in the solution in terms of design and C codes (sample segment of source code from the system created)
* - Sample outputs when the program is executed with some explanation of the outputs / sections of the program
* - Conclusion
* - References – Harvard Name Referencing

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