

## WISDOM COLLEGE HOSTEL MANAGEMENT SYSTEM

Wisdom College in Langkawi is providing accommodation for its students. The types of accommodation and its related details are given in the table below:

Block	Gender	Room Type	Rooms per Block	Weekly Rate (RM)				
				Room	Internet	Meal	Laundry	Gym
A1	Male	Single Bed	100	400	40	120	20	10
A2		2-Bedded		200	20			
A3		3-Bedded		150	15			
A4		4-Bedded		100	10			
B1	Female	Single Bed		400	40			
B2		2-Bedded		200	20			
B3		3-Bedded		150	15			
B4		4-Bedded		100	10			

You are required to write a program for managing the hostel booking of Wisdom College.

Following are the features that the program should have:

- Store hostellers' details like student ID, name, gender, room details, amount due, payment made and any other relevant details.
- Check room availability by type and gender in each block.
- Allow booking as per gender and room type.
- Bill based on number of weeks of booked by hosteler.
- Search hosteler's room detail.
- Provide payment facility.
- Allow early (or mid-way) cancellation.
- Allow change of room type.
- Print amount receivable from each hosteler either by block or room type.
- Print total amount receivable and total payment received.

You are required to store all data in text files. There is no limit on the number of text files that can be used but they should be kept minimum. You should use array, structures and functions (called by value and/or reference) in your program. All the features in your program must be coded in separate functions and called from a menu function. You may include some analytics in your program as additional features like percentage of occupancy by gender or room type; percentage of occupants who stay with/without subscribing to meal and/or laundry service; or any other feature(s).

### Important Note:

Due to some delay in construction, assume only 4 blocks are ready for occupancy which include at least one from block A1-A4 and one from block B1-B4. Also, due to some reasons, only two of the services with an exclusion of meals OR only one of services

with an inclusion meal are available for subscription. Hence, you are required to check with your lecturer the blocks and service(s) (with/without meal) that are available for you to consider when writing the program. Take note that each of you will be assigned with different group of blocks and service(s) (with/without meal) to work on.

## **1.0 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.
- v. You should include the good programming practice such as comments, variable initialisation, naming conventions and indentation.

## **2.0 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. CD Content

- **Documentation file** (.doc file if using Ms-Word)
- **Program / Source files** (.c files)
- **Header files** (.h files) - optional
- **Executable file** (.exe file)