

Challenges > Backend > Make Space

Problem 1

Make Space ▾

All Geektrust challenges are meant to be solved offline. Your score will be such as OOPS, readability, and scalability.

You should read [what we look for](#) in your solution before you start coding the right output.

Please go through the build instructions [here](#)

The challenge

Make Space Ltd. is a startup offering a co-working space to individuals, free of charge. They provide a common workspace where anyone can come and work. Along with meeting rooms that their customers can book for private discussions.

They are looking for a scheduling system to effectively schedule meetings for Make Space Ltd.?

Make Space Ltd. currently has 3 meeting rooms with varying capacity

Name	Person Capacity
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Person Capacity - Maximum number of people the meeting room can accommodate.

Buffer Time - Buffer time is the time used to clean up the meeting room. It is 09:00 - 09:15, 13:15 - 13:45 and 18:45 - 19:00. During this time, no meeting can be booked.

Rules

1. Bookings can be made only in a single day from 00:00 to night 23:45. It means you cannot book from 23:00 to 01:00, but can from 23:00 to 23:45.
2. A booking can be started and ended only in 15 minute intervals, i.e. XX:(00-45) means a booking can be made at 01:15 or 16:00 but not 15:35 or 16:03.
3. The rooms will be allocated only to those who book them, on a first come first served basis.
4. The most optimal room which can accommodate the number of people requested. If asked for a 4 person capacity requirement then the D-Tower (7 person capacity) will be provided if it is available.
5. In case if the room of desired capacity is not available, the next available room will be allocated. For eg., If you asked for the 4 person capacity room between 12:00 and 13:00 and it is not available then the G-Mansion will be allocated, provided it is available.
6. No meetings can be scheduled during the buffer time. If the booking time falls within the buffer time, then NO_VACANT_ROOM should be printed.
7. Time input should follow HH:MM format (24 hours format). If an incorrect time is provided, then INCORRECT_INPUT should be printed.

As a co-working space customer, I shall schedule a meeting by giving a time requirement.

Format - BOOK <start_time(inclusive)> <end_time(exclusive)> <person_capacity>

Example - BOOK 14:15 16:00 12

Possible Output:

"<Meeting_Room_Name>" - If the booking is successful

"NO_VACANT_ROOM" - If no room is vacant during the requested time period

2. View available meeting rooms

As a co-working space customer, I would like to view a list of available meeting rooms for a given time period. This should print the rooms in the ascending order of the room capacity. The output should be separated by a single space character.

Format - VACANCY <start_time(inclusive)> <end_time(exclusive)>

Example - VACANCY 14:30 15:00

Output: C-Cave G-Mansion

Input Constraints

1. Time will be in HH:MM (24 hours) format
2. Time input should always consider the 15 minute time interval
3. For all the time inputs end_time > start_time
4. person_capacity >= 2 and person_capacity <= 20

SAMPLE INPUT-OUTPUT 1

BOOK 11:30 13:00 15	G-Mansion
VACANCY 11:30 12:00	D-Tower
BOOK 14:00 15:30 3	C-Cave
BOOK 15:00 16:30 2	D-Tower
BOOK 15:15 12:15 12	INCORRECT_INPUT
VACANCY 15:30 16:00	C-Cave G-Mansion
BOOK 15:30 16:30 2	C-Cave
VACANCY 15:45 16:00	G-Mansion
BOOK 16:00 17:00 5	G-Mansion
VACANCY 18:00 19:00	NO_VACANT_ROOM

SAMPLE INPUT-OUTPUT 2

INPUT	OUTPUT
BOOK 09:30 13:15 2	C-Cave
BOOK 13:45 18:45 2	C-Cave
BOOK 12:55 14:00 3	INCORRECT_INPUT
BOOK 13:45 17:15 6	D-Tower
VACANCY 13:45 15:00	G-Mansion
BOOK 14:00 15:00 2	G-Mansion
BOOK 17:00 18:30 12	G-Mansion
VACANCY 17:00 18:00	NO_VACANT_ROOM
VACANCY 17:30 18:00	D-Tower

1. [Help docs](#) to help you get a good score.
2. [Key badges](#) to earn.
3. [Build instructions](#) before submitting your code.

Note: When testing your code, make sure your program reads input from the program as a command line argument. And output should be printed to

Attribution - This coding problem was created by [Mohit Khandelwal](#). To submit a coding problem, mail us at problems@geektrust.in

**+3**

More Badges