Lift System

Lift system
There were 8 modules
1. Display the position of Lift

Lift : L1 L2 L3 L4 L5
Floor: 0 0 0 0 0

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2. Assign Lift to the users

Input : 2 5
Output : L1 is assigned
Lift : L1 L2 L3 L4 L5
Floor: 5 0 0 0 0

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3. Assign nearest lift by comparing their current positions
Assume,

Lift : L1 L2 L3 L4 L5
Floor: 5 2 7 9 0
Input : 4 10
Output :
L1 is assigned
Lift : L1 L2 L3 L4 L5
Floor: 10 2 7 9 0
Explanation : L1 is near to 4 floor

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4. If two lifts are nearest to the user's source floor, the assign the lift with same direction of user's requirement.
Example: if user request to move from 4 to 2 ,and if L3 is in 5th floor & L5 is in 3rd floor, then we should assign L3
because user requested for downward motion so L3 ill move down from 5th floor

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5. Restrict L1 & L2 for 0-5th floor , L3 & L4 for 6-10th floor , L5 for 0-10th Initially all lifts are at 0th floor.

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6. Assign lift with least number of stops
Example:
If L3 is in 9th floor
And L5 is at 8nd floor
If user wants to move from 8 to 0
We should assign L3 because L3 ill stop at 8,7,6 and then 0 NumberOfStops = 3, but L5 ill stop at 8,7,6,5,4,3,2,1,0 and
NumberOfStops = 8 so we should assign L3

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7. Assign capacity (Number of people capable to travel) to all lift and assign according to the capacity

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8. If any lift is under maintenance then their current position should be marked as “-1” and that lift should not be
assigned at any cost.