Experion – Coding Assessment

Q1) Minimum Number of Jumps to Reach the End of the Array

You are given an array of integers where each element represents the maximum number of steps that can be taken forward from that position. Your task is to determine the **minimum number of jumps** required to reach the end of the array (starting from the first index). If the end of the array cannot be reached, return -1.

Input Format:
The input line contains N space-separated integers representing the elements of the array.

Output Format:
Print a single integer representing the minimum number of jumps required to reach the end of the array. If it is not possible to reach the end, print -1.

Example Input:
2 3 1 1 4

Example Output:
2

Explanation:
Starting from index 0 (value = 2), you can jump to either index 1 or 2. Choosing index 1 (value = 3) allows you to reach the end of the array in the next jump. Hence, the minimum number of jumps required is 2.

Constraints:
$1 \leq N \leq 10$■
$0 \leq arr[i] \leq 10$■

Q2) Parking Lot Management System

Design a program to simulate a **parking management system** for a parking lot with N slots, numbered from 1 to N. The system must handle the following commands:

Commands:
1. **park <vehicle>** → parks a vehicle (Car, Bike, or Bus)
2. **leave <slot_number>** → removes the vehicle occupying that slot
3. **status** → displays the current status of all parking slots

Rules:
• Car and Bike occupy 1 slot each.
• Bus occupies 3 consecutive empty slots.
• Parking must be done in the lowest available slot(s).
• If there is no available space for a vehicle, print **"No space"**.
• The **status** command should print "Empty" for free slots and the vehicle type for occupied ones.

Input Format:

1. The first line contains an integer N, the number of parking slots.
2. The following lines contain commands — one per line — until the end of input.

Output Format:

For **status** → print the slot number and its current status line by line.

Example Input:

10
park Car
park Bus
park Bike
status
leave 3
status

Expected Output:

Slot 1: Car
Slot 2: Bus
Slot 3: Bus
Slot 4: Bus
Slot 5: Bike
Slot 6: Empty
Slot 7: Empty
Slot 8: Empty
Slot 9: Empty
Slot 10: Empty

Slot 1: Car
Slot 2: Empty
Slot 3: Empty
Slot 4: Empty
Slot 5: Bike
Slot 6: Empty
Slot 7: Empty
Slot 8: Empty
Slot 9: Empty
Slot 10: Empty