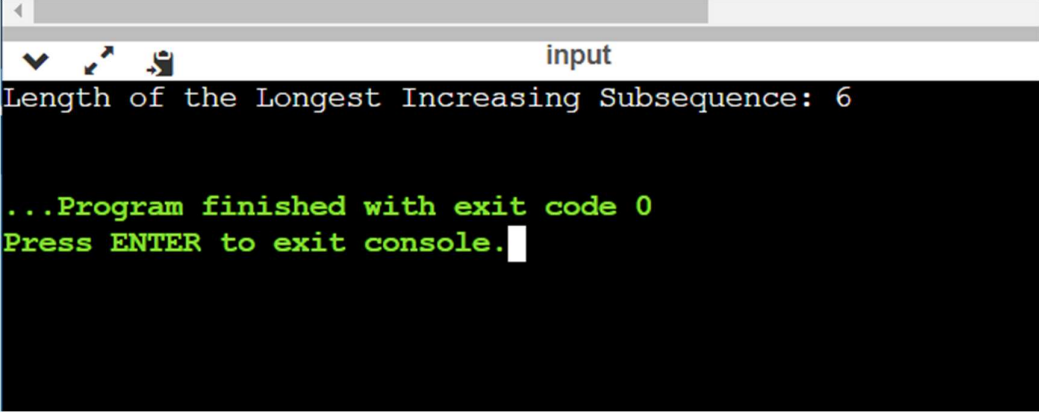


Problem – 2 Longest Increasing Subsequence

```
def longest_increasing_subsequence(arr):  
    n = len(arr)  
    lis = [1] * n  
  
    for i in range(1, n):  
        for j in range(0, i):  
            if arr[i] > arr[j] and lis[i] < lis[j] + 1:  
                lis[i] = lis[j] + 1  
  
    return max(lis)  
  
sequence = [10, 22, 9, 33, 21, 50, 41, 60, 80]  
result = longest_increasing_subsequence(sequence)  
print("Length of the Longest Increasing Subsequence:", result)
```



The screenshot shows a terminal window with a title bar that includes a close button, a maximize button, and a window icon, followed by the text "input". The terminal output displays the result of the program execution: "Length of the Longest Increasing Subsequence: 6". Below this, a green message states "...Program finished with exit code 0" and another green message prompts "Press ENTER to exit console." with a white cursor character.

```
input  
Length of the Longest Increasing Subsequence: 6  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```