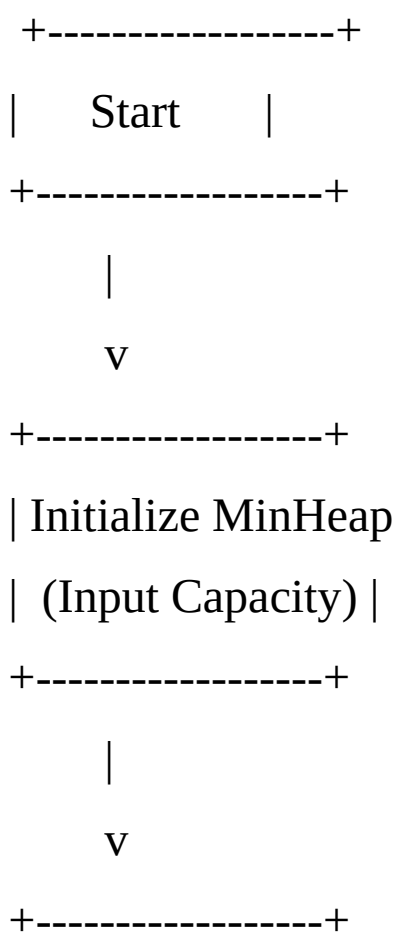
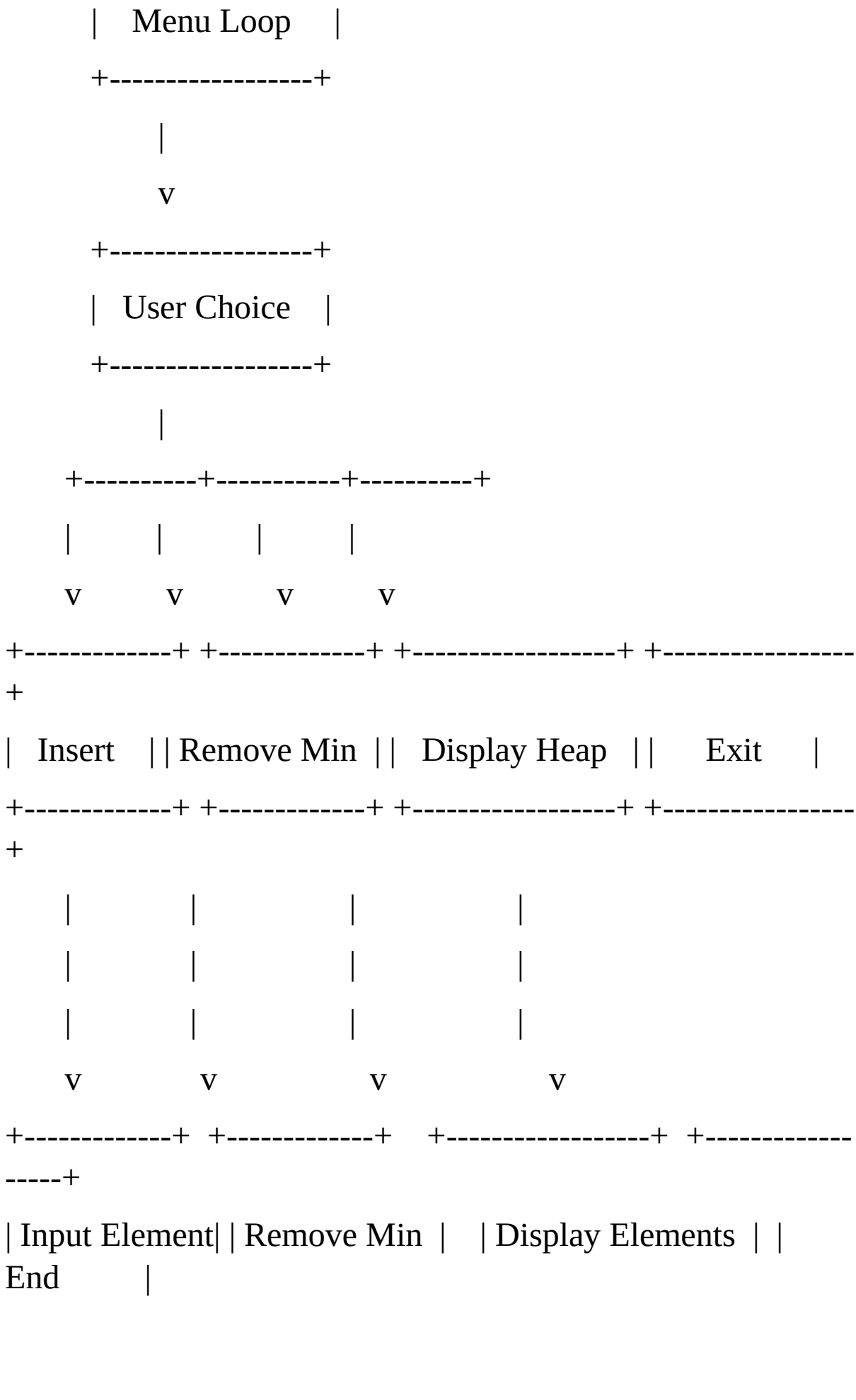
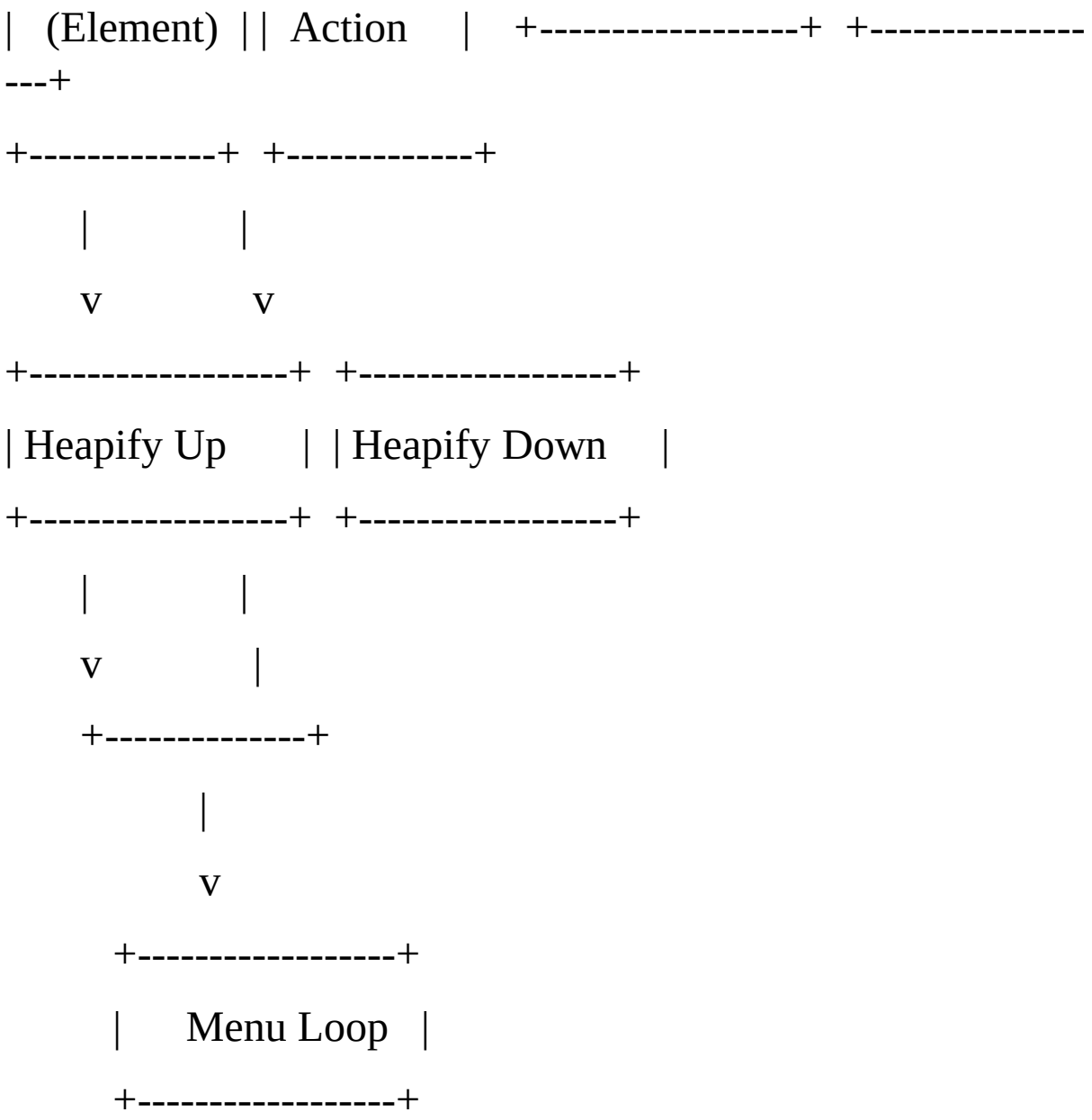
❖ Min-Heap:

- Explanation- The time complexity for both insertion and removal of the minimum element in a MinHeap is (O(log n)) due to the need to maintain the heap property through up or down adjustments. Displaying all elements requires (O(n)) time as it involves iterating through the entire array. The space complexity is (O(n)) since the heap is stored in an array proportional to the number of elements.
- Time Complexity- Insertion: O(logn)
  Min: O(logn)
  Display: O(n)
- Space Complexity- O(n)
- Flowchart-




| Menu Loop |
+----------+
|
v
+----------+
| User Choice |
+----------+
|
+----------+----------+----------+
| | | |
v v v v
+----------+ +----------+ +----------+ +----------+
| Insert | | Remove Min | | Display Heap | | Exit |
+----------+ +----------+ +----------+ +----------+
v v v v
+----------+ +----------+ +----------+ +----------+
| Input Element| | Remove Min | | Display Elements | | End |


| (Element) | | Action |
+-------------+ +-------------+
+-----------------+ +-----------------+
| Heapify Up | | Heapify Down |
+-----------------+ +-----------------+
+-------------+
Menu Loop