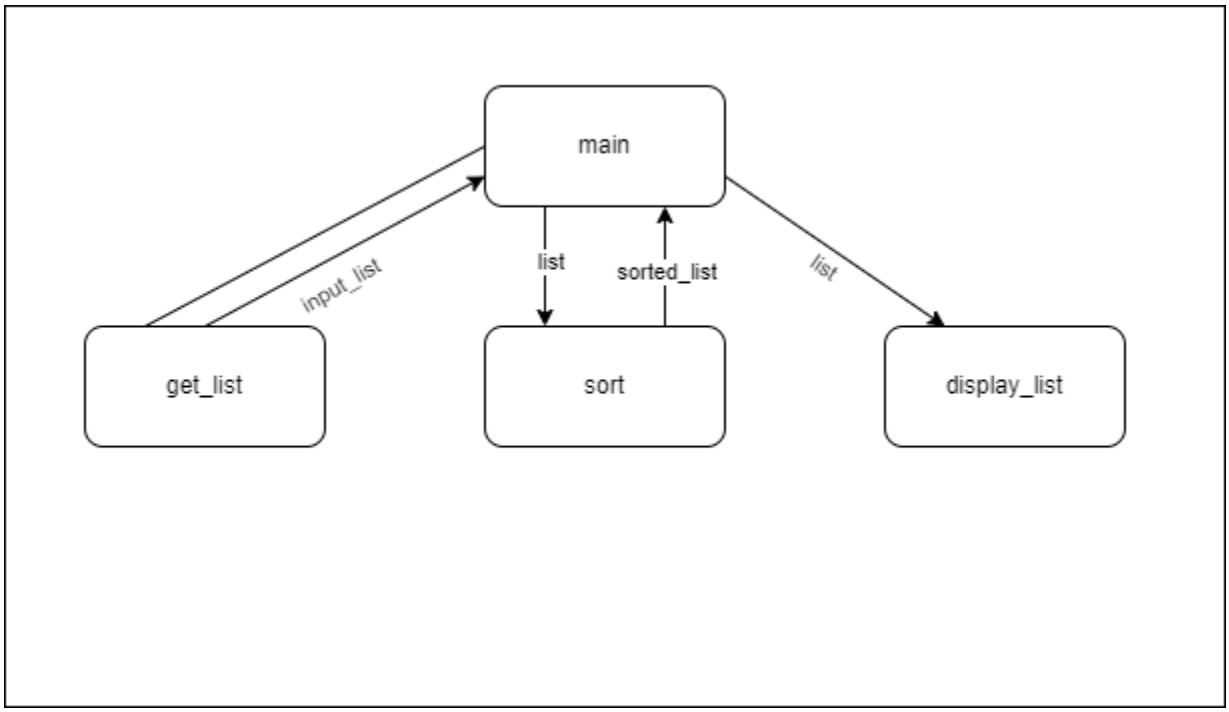
Lab 10:

Structure Chart



Pseudocode

```
1. FUNCTION sort_rec(array, i_start, i_end):
2.     i_up = i_start
3.     i_down = i_end
4.     i_pivot = (i_start + i_end) // 2
5.
6.     # End condition
7.     IF i_up >= i_down or array == []:
8.         RETURN array
9.
10.       WHILE i_up < i_down:
11.
12.           WHILE array[i_up] <= array[i_pivot] and i_up < i_pivot:
13.               i_up += 1
14.
15.           WHILE array[i_down] >= array[i_pivot] and i_down > i_pivot:
16.               i_down -= 1
17.
18.           IF i_pivot == i_up:
```

```
19.                 i_pivot = i_down
20.             ELSE IF i_pivot == i_down:
21.                 i_pivot = i_up
22.
23.             Swap array[i_up] and array[i_down]
24.
25.         sort_rec(array, i_start, i_pivot - 1) # left sort
26.         sort_rec(array, i_pivot + 1, i_end) # right sort
27.         RETURN array
```

Submission Notes

- How long did it take for you to complete this assignment?
    - 6 hours
- What was the hardest part of the assignment?
    - The hardest part was implementing the recursion and understanding how recursion fit into it.
- Was there anything unclear about the instructions or how you were to complete this lab?
    - Everything was very clear.