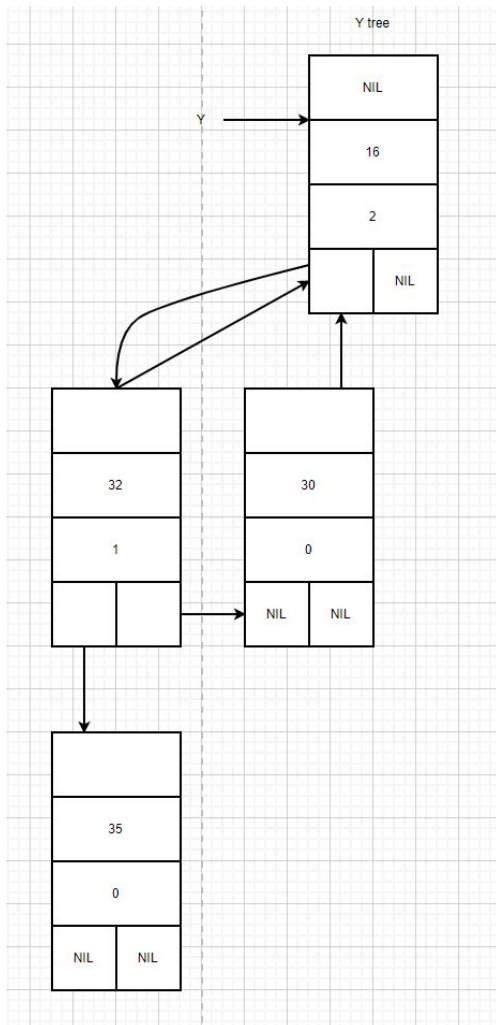


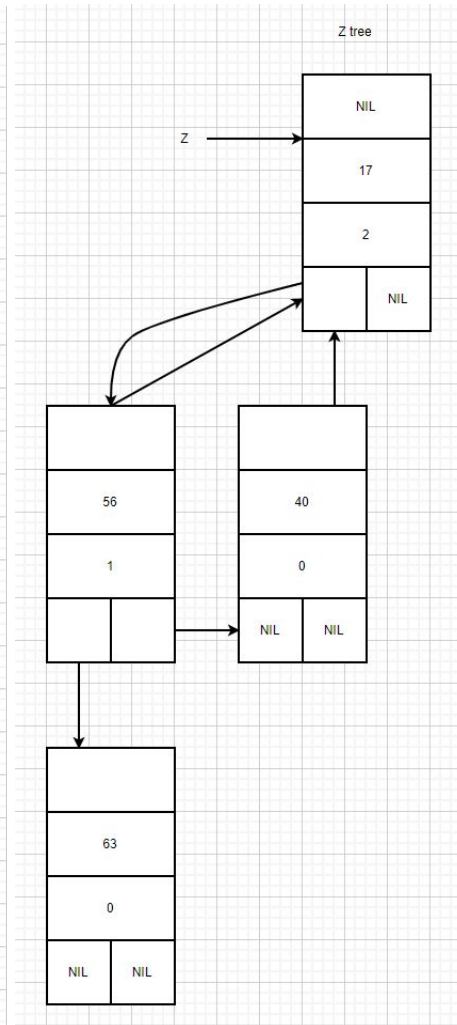
I certify that every answer in this assignment is the result of my own work; that I have neither copied off the Internet nor from any one else's work; and I have not shared my answers or attempts at answers with anyone else.

1.

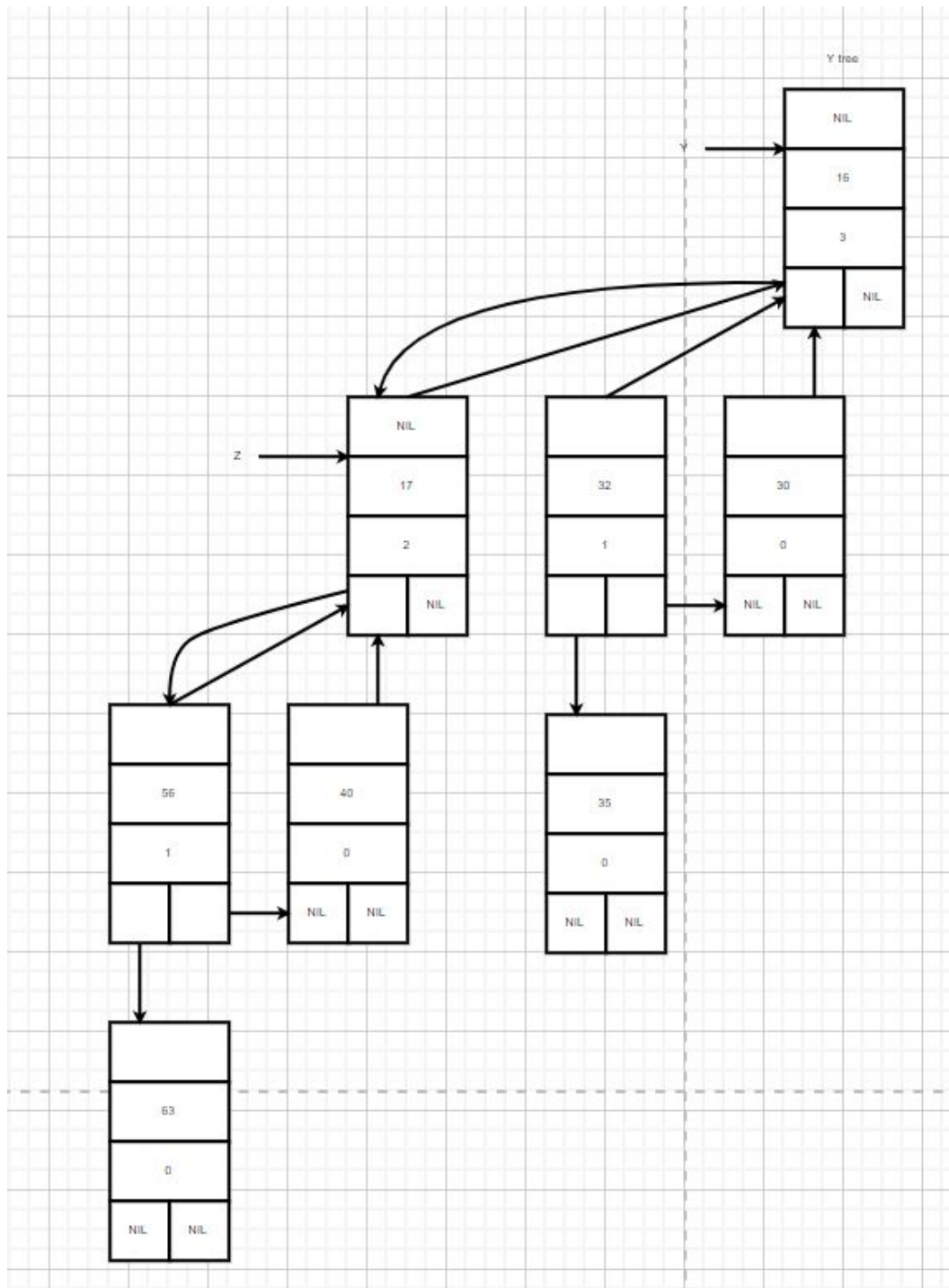
Data Structure for Y:



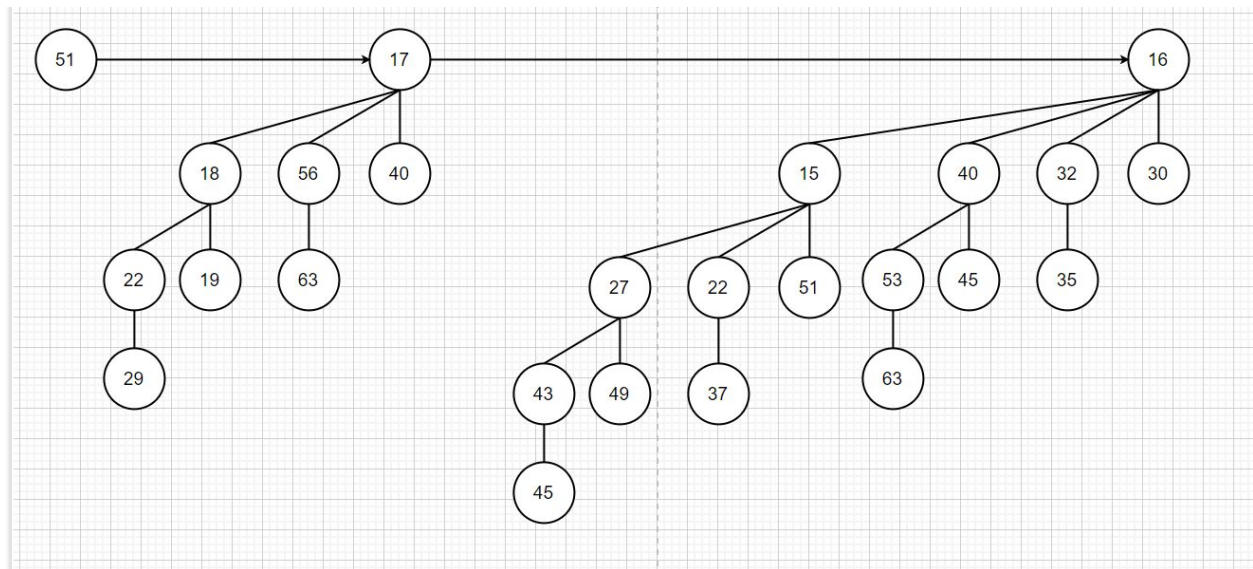
Data Structure for Z:



Data Structure after BinomialLink(z,y):



2. Final Heap after BINOMIALHEAPEXTRACTMIN:



3.

- After the first call to PARTITION, the return value is **q = 5**
- The two subarrays immediately thereafter are as follows:

[27, 2, 19, 2]
[55, 41, 48, 96]

For the left subarray ($A[p \dots q - 1]$)
 For the right subarray ($A[q + 1 \dots r]$)
- The entire recursion tree generated from the initial invocation is as follows:

