

For this problem, I knew that the values of the linked list will all be integers and ordered from least to greatest, starting at one. With this information, I decided I could sort the list by only changing the values of each node. So first, I needed to find the size of the list. To do this I made a while loop that traverses the list and increments the value of the size by one each time the node I'm currently in is not a null pointer. If the size equals to 1, I exit the function. If the size is odd, replace the first half + 1 of the values to odd numbers from least to greatest. So from 1 to $(k/2)+1$, k being the value of the last node, replace those values with odd integers. Then, for the rest of the elements, replace them with even integers. If the linked list contains an even amount of nodes, the process is very similar. The first half of the values or in other words 1 to $k/2$ to is replaced with odd numbers. The rest is replaced with even numbers.