Thomas Morton

A11353689

Dr. HK Dai - CS 3353-24287

userInput defines the number of elements to print, which will be a valid positive integer. The while loop containing the merge() calls ensures that the size of finalList contains enough elements to satisfy the output. Because the loop will not contain sufficient accurate terms given an input of n, the userInput is multiplied by 2 for the loop sentinel.

The reasoning is that there are 8 terms from 1-10 that must be generated to represent all numbers, but there are only 4 lists. So, to manage 8 elements from these 4 lists, we multiply the requested number of terms to generate by 2.

If it this condition is not satisfied, fillL2L3L5() will generate additional terms, which then will be merged to tempList. tempList is then merged to finalList thus containing the same number of elements. When finalList is of sufficient size, the loop then exits, and the correct sequence is output. printNTerms() will begin a for loop to iterate through finalList a number of times equal to UserInput