

Addition of large numbers

Java has some limitations to add very large numbers using int and long data types. To be able to add two large numbers we program the traditional paper based algorithm we learnt in school. Start by adding the two digits in the ones place, then add the digits in the tens place including the carry digit and so on until we reach the last digit on the extreme left hand side.

Write a Java program with the following 3 methods.

1. `LinkedList numberToDigits(String number)` [1.5 marks]
You were given a string, Iterate over the string and add each digit to a node in the linked list. Return the linked list object.
2. `String digitsToNumber(LinkedList number)` [1.5 marks]
You were given a linked list object. Iterate over that linked list and append the values of each node in that linked list to a string.
Return the String containing values of linked list
3. `LinkedList addLargeNumbers(LinkedList, LinkedList)` [2 marks]
You were given two linked lists objects which contains digits in each node. Add those two linked list digits by using a Stacks.
Create two stacks for two Linked lists and add all the elements from each Linked list to the respective stacks. Popping each item simultaneously from each stacks you can add those digits and insert it in to a new result linked list. That's how you solve on paper.
Think a way to deal with carry.