Write recursive algorithms for the following and check the output with java code.

1. Find length of the string.
2. Find substrings of string.
3. Find characters of string.
4. Find sum of number in a string. E.g. for a given string (2000 N Court 9 C) the sum is 11.

Hint : use if next is a digit character('0' through '9'), character.digit isDigit(next) is true and the numeric value of next is Character.digit(next,10).

5. For stutter method that returns a string with each character in its argument repeated. For example if the string passed to stutter is "hello" , stutter will return the string 'hheelllloo'.

6. A string is a palindrome if it reads the same from left to right or right to left.
   Create a recursive definition
   Identify base case(s)
   Write a recursive program and test it