

C++ Lab

1. A palindrome consists of a word or debanked, unpunctuated phrase that is spelled exactly the same when the letters are reversed. Write a recursive function that returns a value of 1 if its string argument is a palindrome. Notice that in palindromes such as level, deed, sees, and Madam I'm Adam (madamimadam), the first letter matches the last, the second matches the next-to-last, and so on.
2. Write and test a recursive function that returns the value of the following recursive definition:

$$f(x) = 0 \text{ if } x = 0$$

$$f(x) = f(x-1) + 2 \text{ otherwise}$$

What set of numbers is generated by this definition?

3. Write a recursive C function that counts the number of vowels in a string
4. Explain the use of a stack in recursion.
5. Which is generally more efficient, recursion or iteration?
6. Which control statement do you typically find in a recursive function?