# Recursion Revision Questions

1. You are required to write a function called **Power(int x, int y)** which returns the value of xy.
   1. Write a recursive version of this function.
   2. Write an iterative version of this function.
2. Write a recursive function that detects if a string is a palindrome (a palindrome is a word that can be read the same way backward and forward, e.g. racecar, navan, abba).
3. Write a recursive function that prints all the values from a linked list.
4. Implement an algorithm to detect if a string contains valid pairs of parentheses.

e.g., valid = (()())()(()()())

invalid = (()(()()

1. Given the well-known Fibonacci sequence we can calculate the nth number , calculate a Tribonacci number such that . Assume the first 3 numbers are as follows , , .
2. **Coins**: given an infinite set of coins (containing 50 cent, 20 cent, 10 cent, 5 cent, and 1 cent), write code to calculate the number of ways of representing n cents.
3. **Paint fill**: implement “paint fill” function that people see in image editing programs. Given a screen (represented by a 2D array of colours), a point, and a new colour, fill in the surrounding area until the colour changes from the original colour?