Programming Assignment 10

You are not allowed to use iteration to solve any of the problems below.

1. Write a recursive function, called **recFactorial**, that takes an integer x as argument and returns the x! (x factorial). (10 points)
   For example : 5! = 5*4*3*2*1

2. Write a recursive function, called **dogLegs**, that takes number of dogs as argument and returns the number of dog legs (assume each dog has 4 legs). (20 points)

3. A triangle is made of blocks and each row has one more block than the one below it so the first row from the top has 1 block, then 2 blocks below that, then 3 blocks below that…etc. Write a recursive function, called **numBlocks**, that counts the number of blocks in a triangle of height h and returns it. (15 points)

4. Write a recursive function, called **containsTarget**, that takes a list and a target value and returns true if the list contains the target value or false otherwise. (10 points)

5. Write a recursive function, called **countTarget**, that takes a list of values and a target value and returns the number of times target appears in list. For example if the target is 4 and the list is [1, 3, 5, 4, 2, 4] then the function returns 2. (15 points)

6. Write a recursive function, called **countZZ**, that takes a string as an argument and computes the number of times lowercase "ZZ" appears in the string. (10 points)
   For example "hellozz Worzzld" would return 2 and “hellozzz Worzzzld” would also return 2.

7. Write a recursive function, **elimDuplicates**, that takes a string as an argument and returns a new string with all adjacent duplicate characters (a character followed by the same character) removed. (20 points)
   For example "hello" will become "helo" and "wohooo" will become "woho"