

Week 23 Tutorial

Question 1

There are a number of rabbits and each rabbit has two ears. Compute the total number of ears for all the rabbits recursively, without using loops or multiplication.

Question 2

Given a string, compute recursively (no loops) the number of uppercase “E”; chars in the string.

Question 3

The fibonacci sequence is a famous bit of mathematics, and it happens to have a recursive definition. The first two values in the sequence are 0 and 1 (essentially 2 base cases). Each subsequent value is the sum of the previous two values, so the whole sequence is: 0, 1, 1, 2, 3, 5, 8, 13, 21 and so on. Define a recursive fibonacci(n) method that returns the nth fibonacci number, with n=0 representing the start of the sequence.