ICP Lab Assignment 10 (A)

Q1. Write a C program to find sum of first n natural numbers using recursion. Note: Positive integers are known as natural number i.e. 1, 2, 3....n.

Q2. Write and test a recursive function harmonicSum with the following specification.

1. PARAMETERS: a positive integer, n
   RETURN VALUE: the sum 1 + 1/2 + 1/3 + ... + 1/(n-1) + 1/n

Q3. Write a recursive function that takes as parameters a String s and an integer i and returns a String that has s repeated 2^i times. For example, if the given string is "Go bears!" and the integer is 3 then the return value would be "Go bears! Go bears! Go bears! Go bears! Go bears! Go bears! Go bears! Go bears!". Do not use multiplication or exponentiation in your algorithm. Just double the length of the string i times.

Q4. Write a recursive function that takes as parameters an initial investment amount, an annual interest rate, and a number of years. The method should return the value of the investment after the given number of years, assuming that the interest is compounded annually. (For example, if the initial investment is 1000 and the interest rate is 10 percent, then after one year the investment will be worth 1100, after two years 1210, after three years 1331, etc.)