Data Structures

Tutorial 1

1. Introduction to recursion

a. Write a recursive function to calculate the sum of first n natural numbers.
b. Write a recursive function to search an element in the given random array.
c. Write a recursive function to find the sum of the terms: 3^2 + 4^2 + 5^2 + 6^2 + 7^2 +8^2.
d. Make it a general function in terms of n and m to sum any series. Try your function by setting m = 3 and n = 8 to solve this particular series.
e. Write a recursive function which returns the sum of elements of an array
f. Write a recursive function which returns the sum of alternate elements of an array starting from the last element. Number of elements are even.
g. Write a recursive function to print a string backwards.
h. Write a recursive function to compute GCD of two integers a and b, given that a> b.
i. Write a recursive function to print the binary equivalent of a decimal integer.
j. Write a recursive function to implement selection sort algorithm.