Please work on separate paper, and write only the final solution here. Also, check your work as you are not able to run the code, so it better be right. This is an individual quiz, and no electronic help is allowed. Everything with an on/off button must be off.

There are two problems on this test. You have 50 minutes. Good luck!

**Problem 1** Write C/C++/Java code for the problem below. Do not declare or use any class or functions/procedure other than the one asked by the problem.

You are given a linked list represented by the following data structure. Nodes have two fields: `element`, and `next-node`. The `element` is an integer. Write a function with input parameter the location of the first node of the list (or pointer to that node), and that computes the average value of the elements in list.
Problem 2 You are given a tree represented by the following data structure. Nodes have three fields: element, left-child, and right-child. The element is an integer. Write a (recursive) function with input parameter the location of node (or pointer to the node), and that computes the average value of the elements in the subtree rooted by that node.