In this homework you will implement preorder and postorder traversal of quad-trees.

You are given the following data type for an quad-tree. tree:
datatype Ntree = Null | Node of int*Ntree*Ntree*Ntree*Ntree |Leaf of int;

In the Node 5-tuple first element is the node content of the parent and the other
elements are Ntree typed children. These values can have Null value indicating child at
that position does not exist. A leaf node with value $x$ can be represented as Leaf($x$). It is practically same with Node($x$,Null,Null,Null,Null)

The above tree can be represented by the int Ntree typed value:

Node(1, Node(5,Leaf 7,Null,Null,Null),
    Node(3,Leaf 10, Leaf 4, Leaf 8,Null),
    Node(6,Leaf 1, Leaf 9, Leaf 6, Leaf 2),
    Leaf 2)

Write two functions:  
postorder: Ntree → int list
and
preorder: Ntree → int list

Which will return the list of values from postorder and preorder traversals of the
tree. In the postorder traversal, first subtrees are traversed and then the current node
content is traversed. In the preorder traversal, first the current node is traversed and
then the subtrees are traversed in the same manner.

For example if the tree above is in variable x,
‘postorder x’ will return: [7,5,10,4,8,3,1,9,6,2,6,2,1]
and
‘preorder x’ will return: [1,5,7,3,10,4,8,6,1,9,6,2,2]

Write your ML functions together with the type declaration in a single file. Submission
details will be announced later.