A binary tree is constructed from binary compound terms $n(a, b)$ called nodes, where components $a$ and $b$ are either nodes or integers. Suppose integer components are restricted to the values 0 and 1.

Write a Prolog program to return a list of all the 0’s and a list of all the 1’s in a given tree. For example, the goal $\text{enum}(n(n(0, 1), 1), X, Y)$ should instantiate $X$ to $[0]$ and $Y$ to $[1, 1]$. The program is required to use difference lists. [20 marks]