`L3: MAP Functions`

For the following problems it is required to write a function that uses MAP calls.

1. Define a function that determines the depth of a multi level list.
2. Define a function that given a multi level list returns the list of all atoms in the same order. E.g. (((A B) C) (D E)) $\rightarrow$ (A B C D E)
3. Define a function that checks if an atom is a member of a multi level list
4. Define a function that returns the sum of all numeric atoms in a multi level list
5. Define a function that checks if a node of an n-ary tree ($< value > < subtree_1 > ... < subtree_N >$). E.g. (a (b (c)) (d) (e (f))), 'b $\rightarrow$ T
6. Define a function that returns the product of all numeric atoms on a multi level list.
7. Define a function that returns the sum of all even numbers minus the sum of all odd numbers in a multi level list.
8. Define a function that returns the maximum value of a multi level list.
9. Define a function that substitutes an element E with the elements of a list L1 in a multi level list L.
10. Define a function that determines the number of nodesat level k in a n-ary tree ($< value > < subtree_1 > ... < subtree_N >$). E.g. (a (b (c)) (d) (e (f))), k=1 $\rightarrow$ 3
11. Define a function that deletesall appearances of a atom in a multi leve list.
12. Define a function that substitutes a node with another in an n-ary tree ($< value > < subtree_1 > ... < subtree_N >$). E.g. (a (b (c)) (d) (e (f))), 'b, 'g $\rightarrow$ (a (g (c)) (d) (e (f)))
13. Define a function that substitutes all instances an element with another in a multi level list
14. Define a function that returns the height of an n-ary tree ($< value > < subtree_1 > ... < subtree_N >$). a (a (b (c)) (d) (e (f))) $\rightarrow$ 3
15. Define a function that returns the number of atoms in a multi level list
16. Define a function that reverses a list along with all its sublists