# 6 N-ary Trees

An ordered *n*-ary tree is a rooted tree, where each node has at most *n* ordered subtrees; see Figure 1. In CWP, we store in each node a letter, and a count. The path from the root to a node yields a word made up of these letters. The cnt field of a node contains the number of times the word represented by the path to this node occurs in the input text itx. The cnt fields of some nodes may be zero since not every prefix of a word occurs as a word in itx.
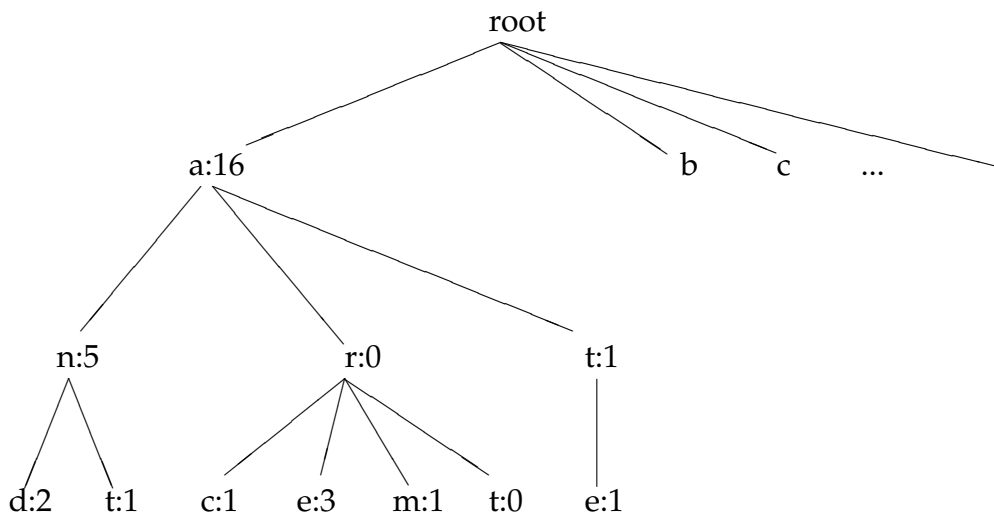


Figure 1: Example *n*-ary tree

We also would like to alphabetically order the subtrees of every node based on the letters in their roots.

```
type ntree-ao :=
  tuple (
    ltr: letter,
    cnt: nat,
    stq: seq ntree-ao
  ) such that (
      for all t: ntree-ao
        ( sorted(t.stq.ltr) )
);
```