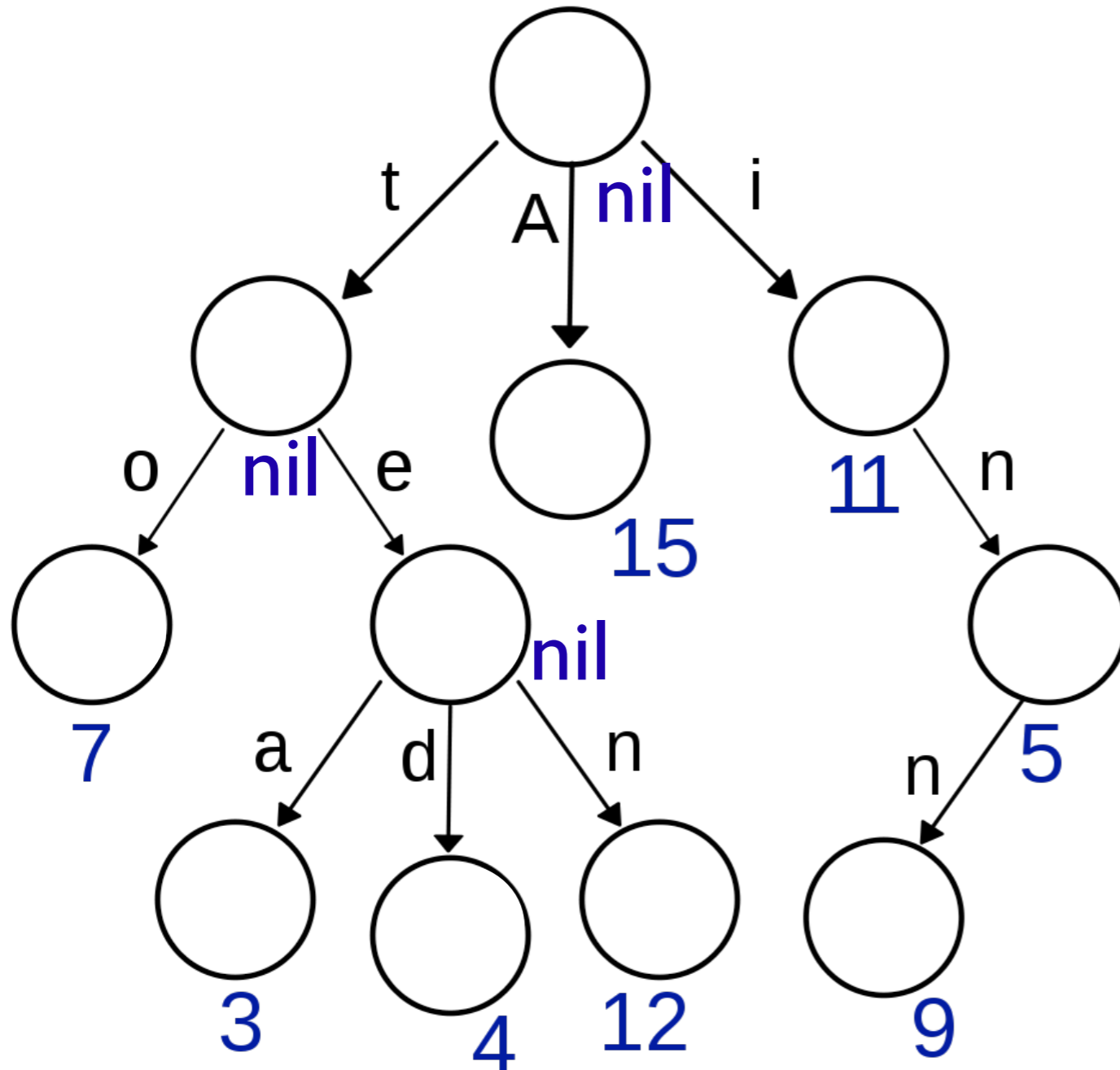


# Tries, also known as Radix Trees

Andrew P. Black

# Trie Example from Wikipedia

A trie that maps keys as follows:



A	15
to	7
tea	3
ted	4
ten	12
i	11
in	5
inn	9

# Trie

- A trie, or prefix tree, or radix tree, is
  - ▶ an ordered tree data structure
  - ▶ used to store an associative array or dictionary that maps keys to values
- a node's position defines its key
  - ▶ The keys of all the descendants of a node  $N$  have the key of  $N$  as a prefix of their keys.
  - ▶ The root has the empty string as its key.
  - ▶ Not every node has a value:
    - some nodes exist because their keys have been mapped to values
    - other nodes exist just to support their descendants

# Trie with binary strings as keys

