

[◀ Back to Week 1](#)[☰ Lessons](#)[Prev](#)[Next](#)

You may find it useful before implementing some of the problems in the Programming Assignment to look closer at the pseudocode for the algorithms discussed in the lectures.

Here is the pseudocode for constructing a trie from a collection of patterns:

```
TRIECONSTRUCTION(Patterns)
  Trie  $\leftarrow$  a graph consisting of a single node root
  for each string Pattern in Patterns
    currentNode  $\leftarrow$  root
    for i  $\leftarrow$  1 to |Pattern|
      currentSymbol  $\leftarrow$  i-th symbol of Pattern
      if there is an outgoing edge from currentNode with label currentSymbol
        currentNode  $\leftarrow$  ending node of this edge
      else
        add a new node newNode to Trie
        add a new edge from currentNode to newNode with label currentSymbol
        currentNode  $\leftarrow$  newNode
  return Trie
```

Here is the pseudocode for matching a collection of patterns against the text using a trie:

PREFIXTRIEMATCHING(*Text*, *Trie*)*symbol* \leftarrow first letter of *Text**v* \leftarrow root of *Trie***while** forever **if** *v* is a leaf in *Trie* **return** the pattern spelled by the path from the root to *v* **else if** there is an edge (*v*, *w*) in *Trie* labeled by *symbol* *symbol* \leftarrow next letter of *Text* *v* \leftarrow *w* **else** **output** "no matches found" **return****TRIEMATCHING**(*Text*, *Trie*)**while** *Text* is nonempty **PREFIXTRIEMATCHING**(*Text*, *Trie*) remove first symbol from *Text*[Mark as completed](#)