

# Problem 5: Autocomplete with Tries

To solve this problem I implemented a Trie, the solution is divided into many parts: **insert word**, **find** and **finding suffixes**.

## Time and Space Complexity

### Insert word

Time  $\rightarrow O(n)$ , because we loop through a list of characters and when we finish we set a flag to true.

Space  $\rightarrow O(n)$ , because we assign the characters in a word to multiple nodes.

### Find

Time  $\rightarrow O(n)$ , because we loop a word character per character.

Space  $\rightarrow O(1)$ , because find returns a single node each time is called.

### Find suffix

Time  $\rightarrow O(n)$ , because it depends on the depth of the Trie.

Space  $\rightarrow O(n)$ , because we return as many alternatives as possible.