

Kahoot! challenge:

The subject of this task is to write an algorithm that provides auto-completion for words, in the same manner as it works for on-screen keyboards on mobile phones.

There are two steps in this task:

1. We need to provide a method that allows building a dictionary by adding some words into it.
2. Having prepared the dictionary, we need to provide a method that returns a list of words that are auto-completion candidates.

In the first step, for the purpose of this task, please write a function to create a dictionary that consists of only a few entries, for example: *car*, *carpet*, *java*, *javascript*, *internet*.

In the second step, please write a function to find auto-completion candidates. The function should accept a *query* as a parameter.

Example:

For a dictionary consisting of these words: *car*, *carpet*, *java*, *javascript*, *internet*.

The query is whatever user has typed so far on the keyboard.

- a) After user types "c", the function should return a list of two entries: "car" and "carpet".
- b) After user types "car", the function should still return the same list of entries as above, that is "car" and "carpet". Please note that "car" is still included.
- c) After user types "carp", the function should return a list of one entry: "carpet".
- d) After user types "jav", the function should return a list of two entries: "java" and "javascript".
- e) After user types "intern", the function should return a list of one entry: "internet".
- f) After user types "foo", the function should return an empty list, since there is not a single word in the dictionary we're working on that starts with "foo".

In real life, a dictionary for any given language would contain a very large number of entries. Having this in mind, please focus on using an appropriate data structure, to allow the fastest possible search.