

Project - Longest Word

In this game, two players compete to find the longest word using randomly drawn letters (consonants and vowels).

Game principle

- The two players take turns to choose the number of vowels they wish to have in the letter draw.
- 10 letters are then drawn randomly.
- The goal is then to find the longest word possible using the drawn letters.

Example 1

RANDOMLY DRAWN LETTERS Consonants & Vowels	LONGEST WORD(s) Displaying one word
C O E T G O L Y H N	TECHNOLOGY 10-Letter Word

Example 2

RANDOMLY DRAWN LETTERS Consonants & Vowels	LONGEST WORD(s) Displaying one word
I M A H G O T T L R	ALGORITHM 9-Letter Word

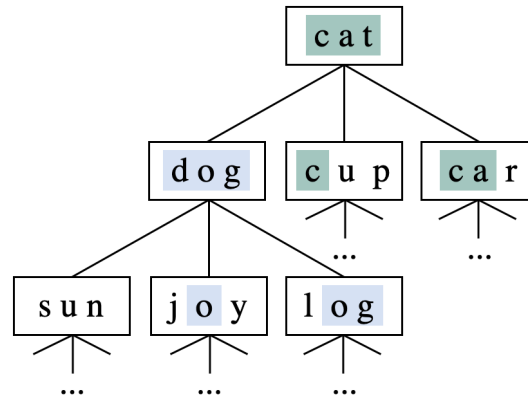
Assigned work - Part 2

The aim of this second part is to integrate the search using a dictionary to find the longest word (or all the n-letter words).

To be efficient, we represent the dictionary containing n-letter words by a planar tree, such that:

- Each node in this tree has up to n children.
- The relationship between a node and its ith child (if it exists) in terms of letters is that they have (i - 1) identical character(s) (same letter, same position).
- Specifically, the relationship between a node and its children is as follows:
 - First child: 0 identical (in common) characters.
 - Second child: 1 identical character.
 - nth child: n - 1 identical characters.

Illustrative example of a 3-letter dictionary/tree



Steps to follow

- Download a free ".txt" or ".csv" file/dictionary containing all English words.
 - You can pick the language of your choice (Arabic, English, French, etc.).
- Write the subprograms (functions) that use the provided files to create/load the dictionaries of n-letter words before starting the game ($2 \leq n \leq 10$).
- Write the subprograms that search for a word in these dictionaries.
- After finishing the game, you have to delete the created dynamic dictionaries.