

Relevant topics: array lists, stacks, queues, dictionaries, insertion sort.

Write a program that reads a string of up to 9 lower-case letters from the standard input and prints out the longest words (in words.txt) that can be formed by reordering a subset of the letters. If there is more than one word of the maximum length, print out all of them in alphabetical order, each on a new line.

For example, if the input is

njwhoarg

then the correct output is

jargon

ourang

For full credit, your program should take no more than 5 seconds and in no case should it take longer than 30 seconds.

Note: The BBC has a TV program called Countdown where contestants compete to find the longest word that can be formed from a given set of 9 letters. If you like British humor, you might enjoy it: <https://youtu.be/AoasCWHKhY8>. In that episode, someone got “jargon” in under 30 seconds.