UNIVERSITY OF CALIFORNIA, MERCED

CSE 30: Data Structures
Lab 7

Deadline: Friday, December 4, 2020 at 8:00 PM

Introduction

In this lab we are working with a list of all English words. Different people have different ideas of what a word is, so we have a file named `words2.txt`, which contains 69903 words, while the file `words.txt` has 466547. Both of these files are in the Lab 7 folder under Labs in CatCourses.

The problem we are trying to solve is simple. We want to find all the words from a given text file, that can be read forwards as well as backwards. Words like "RACECAR", known as palindromes, are the same when read forward or backwards, and they are part of the solution we are looking for. We also want to find words that make up a different word when read backwards, such as the word "TEAM", which produces the word "MEAT" when read backwards.

Write a program that reads a given file (`words.txt` or `words2.txt`), and have it output a list of all words that are also valid words when read backwards. As a means to check your work, the file `words2.txt` contains 756 such words. The file `words.txt` has a lot more. Your program must complete within a reasonable time (basically no more than a few seconds). Upload your completed project folder as a zip into the appropriate CatCourses assignment.