CS 10 - Assignment 10

Collaboration Policy

Collaboration between students on programming assignments is **NOT** allowed under any circumstances - you may not even discuss your work with others; you may **NOT** get coding assistance, or copy code, from **ANY** outside source *(books, web sites, current or past students, your own previous submissions if you are repeating the course, etc.)*. We test every submission for copying and when we find it we treat it as flagrant academic dishonesty on the part of **all** parties involved, regardless of their roles as provider or consumer. The penalty is generally instant failure in the course, in addition to the usual sanctions applied by Student Judicial Affairs.

As you can see from the submission header below, we ask you to essentially take an oath that the code you submit is **_entirely your own work_**.

At the same time, we certainly understand very well that you will frequently need help completing your programming assignment, so we provide channels where you may get that help in a way which will strengthen your programming skills: instructor and TA office hours, and the discussion forums where you can ask all the questions you want about the assignment, and even help others with the understanding that you have gained *(but not, of course, with any actual code)*.

Assignment Submission Instructions

Your assignment must be submitted as a **simple text file** named **main.cpp**
Files in ANY other format (MS Word document, etc.) or with ANY other name (main, main.doc, main.txt, etc.) will **not** be graded.

Submit your work via the appropriate iLearn assignment link, making sure you use the correct link.

We strongly recommend that:

1. you submit at least *6 hours* before the deadline, even if you haven't completed the program - you can re-submit as often as you like, and we will only grade the final submission
2. once you have submitted your final attempt, go back and download it back to your system: then run it just to make absolutely sure that it really is the file you intended to submit!

You are budding professionals, and are expected to take full responsibility for abiding by the requirements of a contract.

The **only reason we will ever accept** for a missed deadline is if the system administrators inform me that either the iLearn system or the CS department servers were off-line for a significant period around the time of the deadline *(In which case we will probably have notified you of alternative procedures)*.

Remember to include the following header information at the top of your program
(DO NOT REMOVE THE // at the beginning of each line, these tell the compiler to ignore these lines)

```
// Course: CS 10 <quarter & year>
//
// First Name:
// Last Name:
// Course username: <enter the username you use to login in the lab>
// Email address: <enter your cs or UCR student email address here>
//
// Lecture Section: <e.g. 001>
// Lab Section: <e.g. 021>
// TA:
//
// Assignment: <assn1, hw2, lab3, etc.>
//
// I hereby certify that the code in this file
// is ENTIRELY my own original work.
//
// =================================================================
```

NOTE: This header MUST appear at the top of EVERY file submitted as part of your assignment
(don't forget to fill in *your* details and remove the <> brackets!!).

Copy & paste this header into your file then update personal details.
(make sure spaces are copied too!)

Assignment Specifications

You are to write a program that finds words in a Word Search puzzle. **The only requirements** are that **you use a 2D vector of chars to store and search through the puzzle,** that you **use input redirection to read in the puzzle** and list of words, and that **your only output is the list of words you found, each word must be output on its own line.**

You have complete freedom to design your own algorithm and your own functions. **We will not be looking at your code except to verify you used a 2D vector of chars throughout the word search.**

That being said, I **highly** recommend you write multiple functions. Implementing logic within functions allows for easier development of your program and allows you to debug individual pieces as well as the entire program.

Puzzle Inputs

1. All puzzles will be a rectangular (all row sizes are the same, all column sizes are the same).
2. All characters in puzzles will be uppercase only.
3. The Star Wars puzzle is designed to contain only words going down and right.

Example Run

When using the `star_wars.txt` input file, the output of the program should be (Case does not matter):

```
ANAKIN
BATTLE
DARTH
DROID
HAN
JEDI
KENOBI
LIGHTSABER
LUKE
OBIWAN
PRINCESS
SOLO
STORMTROOPER
TATOOINE
VADER
```

Marking Guidelines
- ○ Make sure your code compiles.
- ○ Make sure your output matches the format of the examples!
- ○ The majority of points are assigned to the DOWN and RIGHT directions.
- ○ Extra credit: Proper results are output in alphabetic order.
    - ■ Cannot receive extra if you do not implement all directions.

Basic Style Guidelines
- **indentation** - follow proper 4 space indentation as you go into loops or branches
- **spacing** - blank lines should be used to separate logic blocks
- **no line wraps** - no line of code should have more than 80 characters
- "**meaningful**" variable **names**
- **comments** - each logical block of code should have a brief explanatory comment