

## Input/Output, Files, Command Line Arguments and Dynamic Memory

Write a C program that implements a Wordle-like game using file I/O and dynamic memory allocation.

### IMPORTANT NOTES

**Note 1:** Four sample input files have been provided in the GitHub repository. Copy these into your build folder for testing.

**Note 2:** To get ANSI colors showing in CLion:

1. Choose Help -> Edit Custom Properties
2. Add: run.processes.with.pty=false
3. Restart CLion.

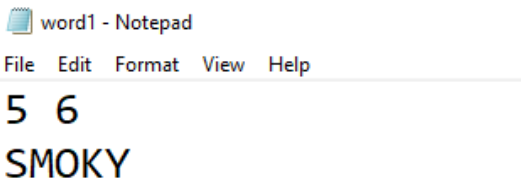
### TASK REQUIREMENTS:

- Build a Wordle-like game that reads settings from input files
- Use ANSI colors to highlight correct letters (green) and misplaced letters (yellow)
- Dynamically allocate a 2D array based on word size and guess limit from input file
- Initialize the array with underscores (" \_ ")
- Write game results to an output file specified via command line arguments
- Implement proper error handling for command line arguments and file operations

### GAME PLAY

1. Display initial game board showing word length and guess limit
2. Prompt for and validate guesses (correct length, letters only)
3. Update board with color-coded results
4. Repeat until correct guess or maximum attempts reached
5. Write final results to output file

### Input File Example:



```
word1 - Notepad
File Edit Format View Help
5 6
SMOKY
```

### Output File Examples:

```
game-result1 - Notepad
File Edit Format View Help
The solution was not found.
L E A S T
P O U N D
S O U N D
S T A T E
L A T E R
T O W E R
```

```
game-result2 - Notepad
File Edit Format View Help
The solution was found.
L E A S T
W O R D S
S H O C K
S M O K Y
- - - - -
- - - - -
```

Command Line Argument Errors:

```
C:\PROG2007\ASSIGN5\cmake-build-debug\ASSIGN5.exe
Invalid number of command line arguments.
Process finished with exit code 1

C:\PROG2007\ASSIGN5\cmake-build-debug\ASSIGN5.exe one two three four
Invalid command line argument usage.
Process finished with exit code 1
```

```
C:\PROG2007\ASSIGN5\cmake-build-debug\ASSIGN5.exe one two three
Invalid number of command line arguments.
Process finished with exit code 1
```

File Errors:

```
C:\PROG2007\ASSIGN5\cmake-build-debug\ASSIGN5.exe -i nonfile -o outfile
Cannot open nonfile for reading.
Process finished with exit code 1
```

```
C:\PROG2007\ASSIGN5\cmake-build-debug\ASSIGN5.exe -i word1.txt -o C:\nonfolder\out1.txt
Cannot open C:\nonfolder\out1.txt for writing.
Process finished with exit code 1
```

Game Play Examples:

```
C:\PROG2007\ASSIGN5\cmake-build-debug\ASSIGN5.exe -i word1.txt -o game_result1.txt
Welcome to C-Wordle!!

Current game state:
- - - - -
- - - - -
- - - - -
- - - - -
- - - - -

Please enter a 5-letter word: l a s t

Current game state:
L E A S T
- - - - -
- - - - -
- - - - -
- - - - -

Please enter a 5-letter word: w o r d s

Current game state:
L E A S T
W O R D S
- - - - -
- - - - -

Please enter a 5-letter word: s o u n d

Current game state:
L E A S T
P O U N D
S O U N D
S T A T E
L A T E R
- - - - -

Please enter a 5-letter word: t o w e r

Current game state:
L E A S T
P O U N D
S O U N D
S T A T E
L A T E R
T O W E R

You LOSE!!!
The game result was written to the game_result1.txt file.
Process finished with exit code 0
```

```
- - - - -
- - - - -

Please enter a 5-letter word: l a s t

Current game state:
L E A S T
W O R D S
S H O C K
- - - - -
- - - - -
- - - - -

Please enter a 5-letter word: s m o k y

Current game state:
L E A S T
W O R D S
S H O C K
S M O K Y
- - - - -
- - - - -

You WIN!!!
The game result was written to the game_result1.txt file.
Process finished with exit code 0
```

### Input Validation:

```
Please enter a 5-letter word:dog
Sorry, but you can only enter 5-letter words.

Please enter a 5-letter word:dogA
Sorry, but you can only enter 5-letter words.

Please enter a 5-letter word:dogA3
Sorry, but you can only enter 5-letter words.

Please enter a 5-letter word:dogAAA
Sorry, but you can only enter 5-letter words.

Please enter a 5-letter word:dogAAA
Sorry, but you can only enter 5-letter words.

Current game state:
B L A D E
- - - - -
- - - - -
- - - - -
- - - - -
- - - - -
- - - - -

Please enter a 5-letter word:
```

### Longer Word Example:

```
C:\PROG2007\ASSIGN5\cmake-build-debug\ASSIGN5.exe -o game_result2.txt -i word2.txt
Welcome to C-Wordle!!

Current game state:

_ _ _ _ _ 
_ _ _ _ _ 
_ _ _ _ _ 
_ _ _ _ _ 
_ _ _ _ _ 
_ _ _ _ _ 
_ _ _ _ _ 
_ _ _ _ _ 
_ _ _ _ _ 

Please enter a 6-letter word: STRONG

Current game state:
S T R O N G
_ _ _ _ _ 
_ _ _ _ _ 
```

## SUBMISSION INSTRUCTIONS

Submit via video recording demonstrating your working program as outlined in Brightspace.

