

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:

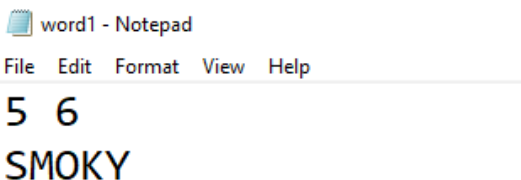
- Build a Wordle-like game that reads settings from input files
- Use ANSI colors to highlight correct letters (green) and misplaced letters (yellow)
- Dynamically allocate a 2D array based on word size and guess limit from input file
- Initialize the array with periods (".")
- Write game results to 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

NOTE: Your program should use periods (".") as a starting character, not underscores ("_")

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: word1

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

Please enter a 5-letter word: word2

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

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

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

Please enter a 5-letter word: word1

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

Please enter a 5-letter word: word2

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
```

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

Please enter a 5-letter word: word1

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: word2

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
```

Input Validation:

```

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

Please enter a 5-Letter word:43214
Sorry, but you can only enter 5-letter words.

Please enter a 5-Letter word:st0w2
Sorry, but you can only enter 5-letter words.

Please enter a 5-Letter word:567890
Sorry, but you can only enter 5-letter words.

Please enter a 5-Letter word:strow

Current game state:
B L A D E
- - - - -
- - - - -
- - - - -
- - - - -
- - - - -
Please enter a 5-Letter word:
```

SUBMISSION INSTRUCTIONS

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

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:strowg

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


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.

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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:

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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
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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

NOTE: Your program should use spaces (" ") as a starting character, not underscores ("_")

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: word1

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

Please enter a 5-letter word: word2

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

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

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

Please enter a 5-letter word: word1

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

Please enter a 5-letter word: word2

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.
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```

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

Please enter a 5-letter word: word1

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: word2

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
```

Input Validation:

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

Please enter a 5-Letter word:43214
Sorry, but you can only enter 5-letter words.

Please enter a 5-Letter word:st0w2
Sorry, but you can only enter 5-letter words.

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

Please enter a 5-Letter word:strow

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:strowg

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

SUBMISSION INSTRUCTIONS

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

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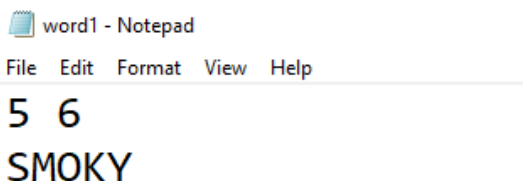
TASK REQUIREMENTS:

- 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 (" _ ")
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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:dog's
Sorry, but you can only enter 5-letter words.

Please enter a 5-letter word:slow2
Sorry, but you can only enter 5-letter words.

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

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

Please enter a 5-letter word:slowe
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
- - - - -
- - - - -
```

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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 asterisks ("**")
- 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

NOTE: Your program should use asterisks ("**") as a starting character, not underscores ("_")

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: word1

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

Please enter a 5-letter word: word2

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

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

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

Please enter a 5-letter word: word1

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

Please enter a 5-letter word: word2

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
```

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

Please enter a 5-letter word: word1

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: word2

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
```

Input Validation:

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

Please enter a 5-Letter word:12345
Sorry, but you can only enter 5-letter words.

Please enter a 5-Letter word:st0w2
Sorry, but you can only enter 5-letter words.

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

Please enter a 5-Letter word:strow

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:stroway

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

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