

Tennessee TECH

CSC1310: LAB 1



This Lab should be completed with your partner.

CONCEPTS

- Structures
- Header Files
- Pointers

DESCRIPTION

This lab is basically a review of structures & pointers that you learned at the end of CSC1300. Also, we will be using this lab as a starting point for Lab 2.

SPECIFICATIONS

Build a structure to handle strings and the functions described below.

STRING STRUCTURE

The structure tag should be **Text** and should be defined in **Text.h**

- `const char* textArray;` //A character string holding my "String"
- `int size;` //The size of my string

FUNCTIONS

Function prototypes should go in **Text.h** and function definitions should go in **Text.cpp**

`Text* createText(const char* text);`

Parameters: Send a pointer to a constant character array or a string literal to this function
Returns: A pointer to a new Text variable, which contains the c-string & the length of the string
Purpose: To create a new Text variable

`void destroyText(Text* myText);`

Parameters: Send a pointer to a Text variable, which contains a c-string & length of the string
Returns: nothing (void)
Purpose: release dynamically allocated memory that the pointer is pointing to.

```
void displayText(Text* myText);
```

Parameters: Send a pointer to a Text variable, which contains a c-string & length of the string

Returns: nothing (void)

Purpose: prints out the string (character array)

```
const char* getText(Text* myText);
```

Parameters: Send a pointer to a Text variable, which contains a c-string & length of the string

Returns: pointer to a constant character array

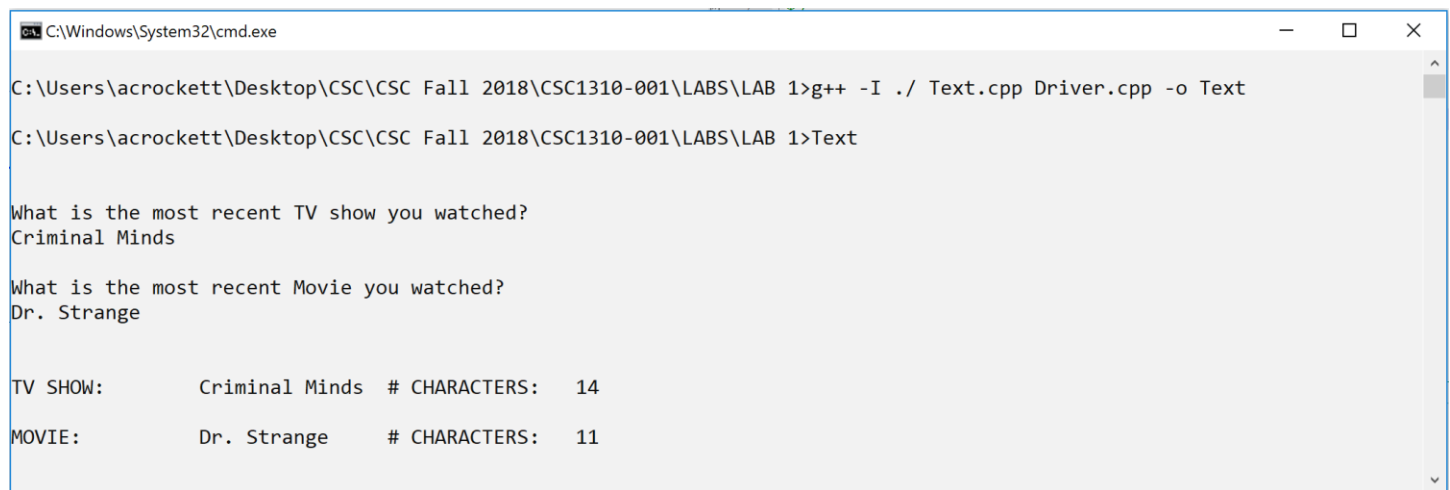
```
int getLength(Text* myText);
```

Parameters: Send a pointer to a Text variable, which contains a c-string & length of the string

Returns: the length of the string

DRIVER

Test your code with the provided driver.cpp to see if it works! You should get the same output as below!



```
C:\Windows\System32\cmd.exe
C:\Users\acrockett\Desktop\CSC\CSC Fall 2018\CSC1310-001\LABS\LAB 1>g++ -I ./ Text.cpp Driver.cpp -o Text
C:\Users\acrockett\Desktop\CSC\CSC Fall 2018\CSC1310-001\LABS\LAB 1>Text

What is the most recent TV show you watched?
Criminal Minds

What is the most recent Movie you watched?
Dr. Strange

TV SHOW:      Criminal Minds  # CHARACTERS:   14
MOVIE:        Dr. Strange    # CHARACTERS:   11
```

WHAT TO TURN IN

Zip all the following files and upload to ilearn.

- Driver.cpp
- Text.h
- Text.cpp