Emily Becher

CS161

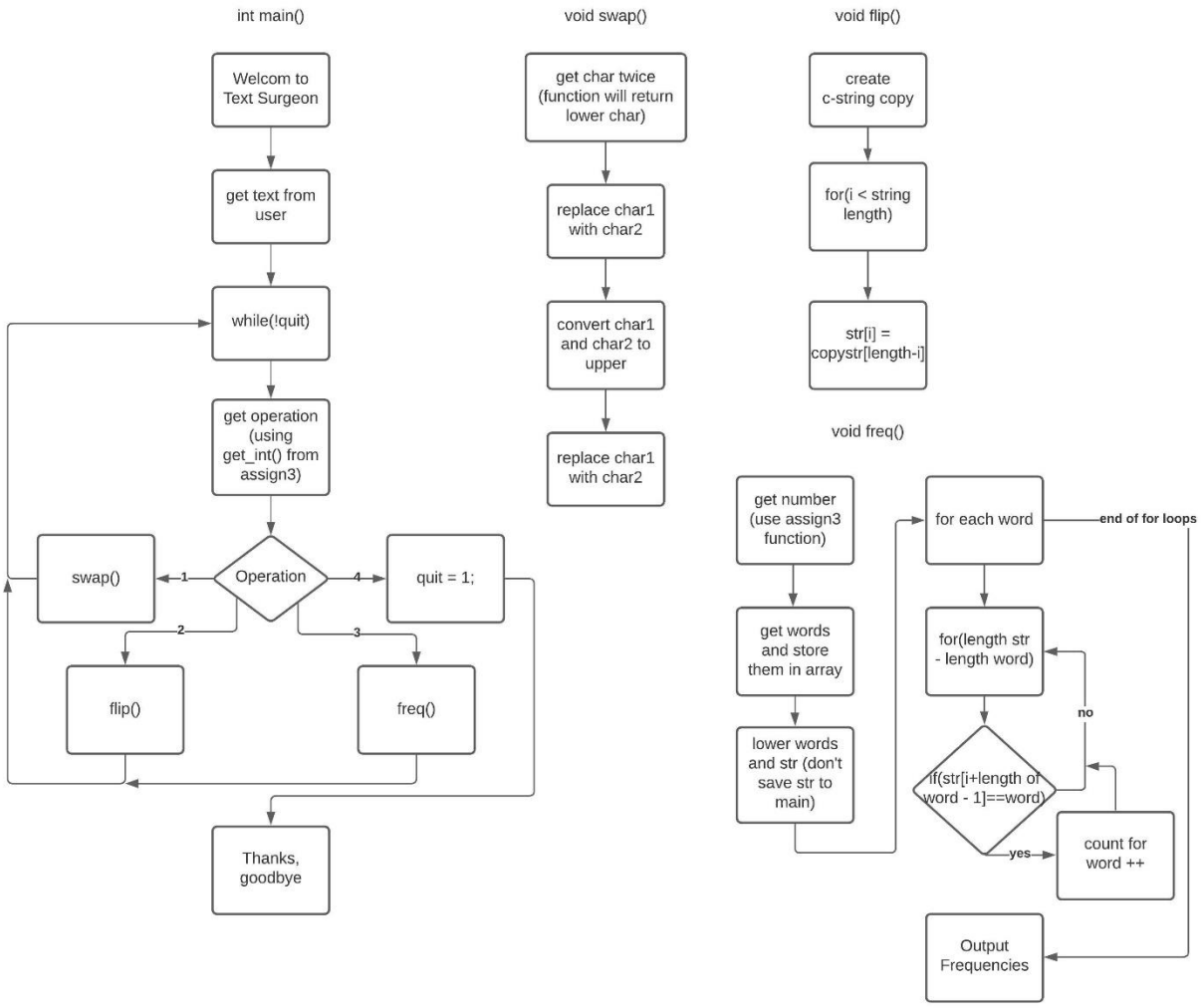
Text Surgeon

Problem Statement: Write a c++ program that takes in text from the user than gives the option of performing three different operations. These operations can replace one letter with another, reverse the text input, or count the appearances of given words. The subtasks for this program include:

- Making sure the user enters valid inputs.
- Replace one letter with another while preserving capitalization.
- Reverse the text input using c-style strings.
- Count the appearances of given words after getting all the words.

Understanding the Problem: The program must get inputs of text as a c-style string, char to replace, char replace with, int operation, int number of words, and strings of words to search for. The program must output clear instructions and the output of the desired operation. The program assumes that the text input is under 1024 characters. Constraints on the program include preventing memory leaks, not using C++ string objects, and using no more than twenty lines in each function.

Devising a Plan:



Testing:

Test Value (a test value that the user could input)	Expected Output (what I expect the program to output)	Match Expected (does plan match expected output)
This is a sentence- in the initial text input	Stores text as a string and continues with program	
Flip- in operation prompt	Invalid input, integer 1-4 expected	
1di- in operation prompt	Invalid input, integer 1-4 expected	
23- in letter prompt	Invalid input, one character expected	
Sd- in letter prompt	Invalid input, one character expected	
a- in letter prompt	Moves on to ask for next letter	
-1- in number of words	Invalid input, needs to be at least 0	
4- in number of words	Quits program	

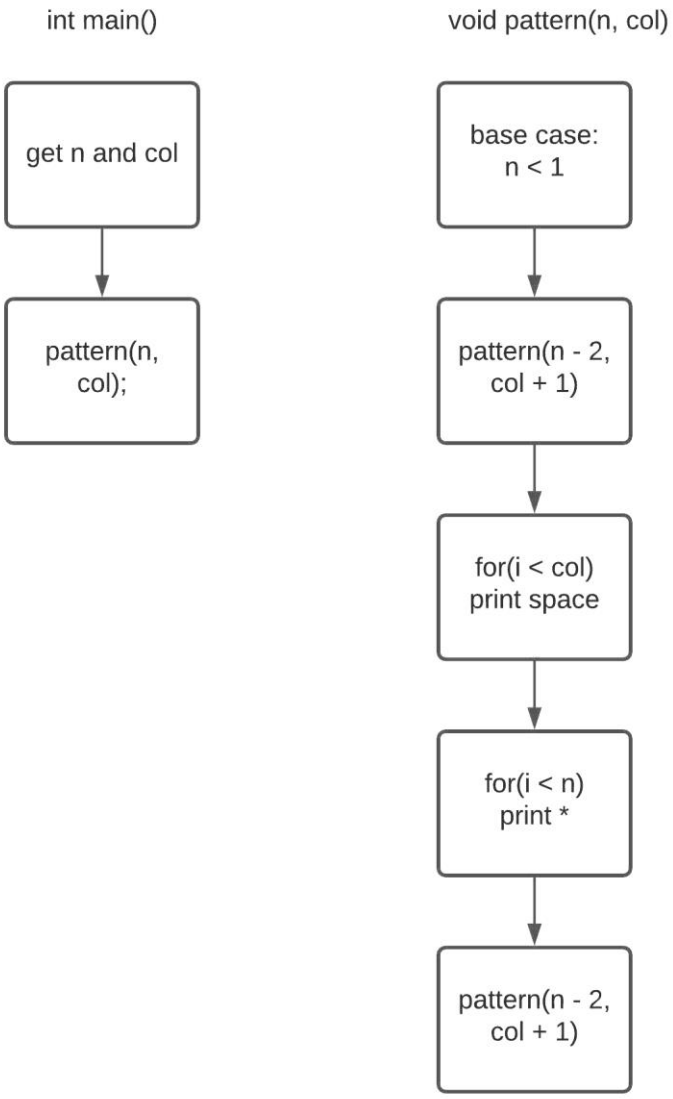
Recursive Fractals

Problem Statement: Write a c++ program that ouputs a fractal that has a midline the length of n and shifted over right col.

- Get n and col from user.
- Output fractal.

Understanding the Problem: The program must get inputs for the longest line in the fractal and the column offset. The program must output clear instructions and the fractal. The program assumes that the input for n is a positive odd integer and the input for col is a positive integer.

Devising a Plan:



Testing:

Test Value (a test value that the user could input)	Expected Output (what I expect the program to output)	Match Expected (does plan match expected output)
a- in n	Breaks the program	
4- in n	Outputs a fractal, but not the expected type	
-3- in col	Shifts the fractal off the screen	
5- in n	Outputs expected fractal	