Lab 3

Purpose:

The purpose of this assignment is to know more about stack and queues. Moreover, I should know about link lists and dynamic memory allocation. We use arrays to implement the data in stacks and use linked lists (head pointer/tail pointer)to implement the data in the queue. In this lab we read the text file or sentences to check them letter by letter that is palindrome or not. After that print all palindromes and not palindromes in alphabetized list. we will let the user save the data at the end.

Plan:

Since most of the functions we did an assignment in class with my group. we'll be reworking to fit them again and change them. Firstly, we are writing a function to clean text files or sentences and next step letter by letter we push them in a stack and also in a queue. Now we have all letters to stack and queue both. After that, we pop letter by letter to compare them together, in the stack list, the last letter coming first but in the queue normal places all letters.and then we compare them letter by letter if they are the same it will be palindromes. We will use a link list and add in order the letters to Create an alphabetized list which are palindromes and not palindromes of all the entries. We can test it with a sentence to make sure it works in addition to the main text file.

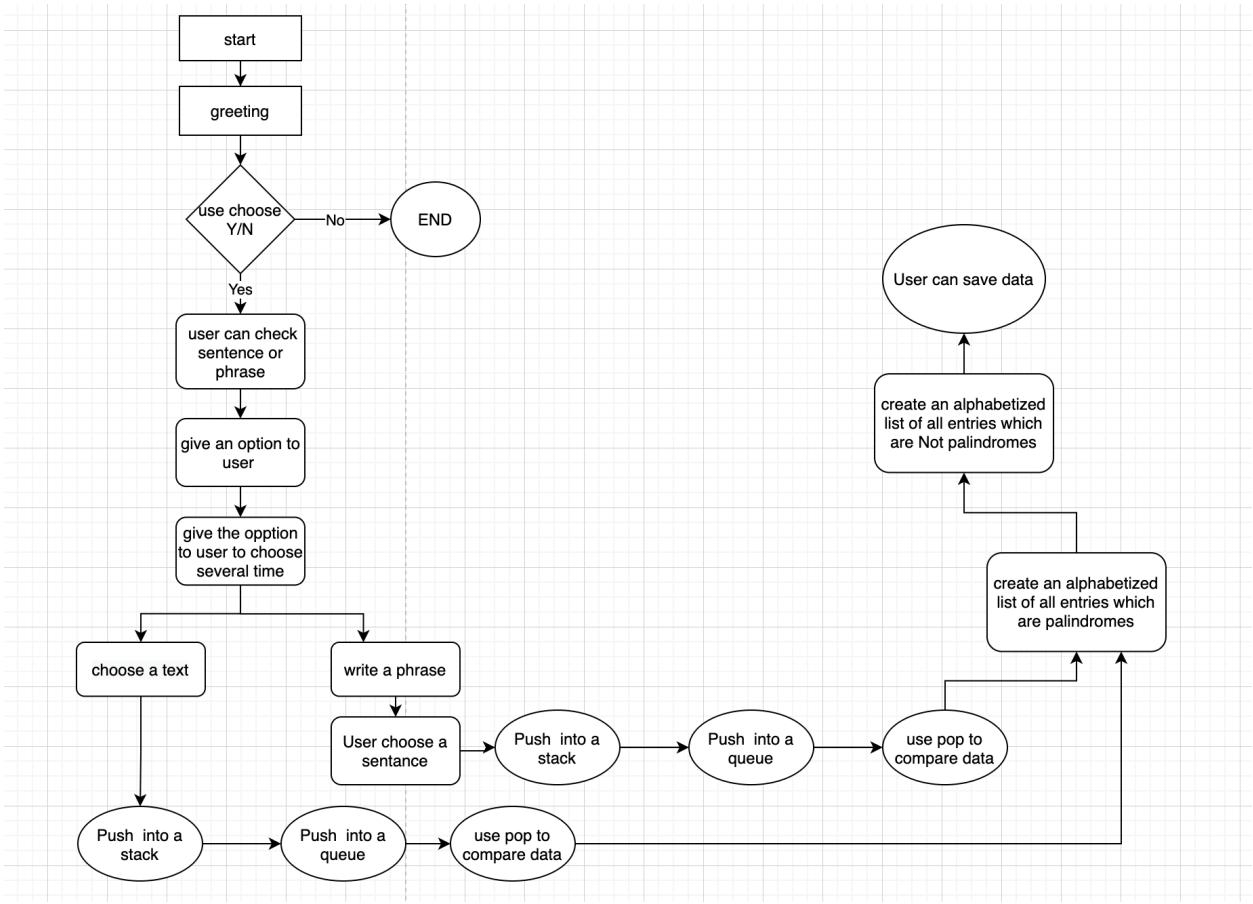
we should use valgrind to clean the memory at the end of the program. I have a plan to use this method in Raii.

Input:

1. Users choose he/she want to continue or not (Yes or No).
2. Users choose a text file or write a sentence several times.

Functions:

1. main: I will read one text file in the main function
2. parseText:and try to clean them(text file or sentences).
3. s.push : add at the begin of list into a stack.
4. q.push: add at the back of the list into a queue.
5. s.pop: remove at the begin of list into a stack.
6. q.pop: remove at the beginning of the list into a queue.
7. s.Pop: Create an alphabetized list which are palindromes.
8. s.Pop: Create an alphabetized list which are not palindromes.
9. void save: User can save the data.
10. valgrind : to clean the memory at the end of the program


start
greeting
use choose Y/N
No
END
Yes
user can check sentence or phrase
give an option to user
give the opption to user to choose several time
choose a text
write a phrase
User choose a sentance
Push into a stack
Push into a queue
use pop to compare data
Push into a stack
Push into a queue
use pop to compare data
create an alphabetized list of all entries which are palindromes
create an alphabetized list of all entries which are Not palindromes
User can save data