Lab 1
Part 2

1)

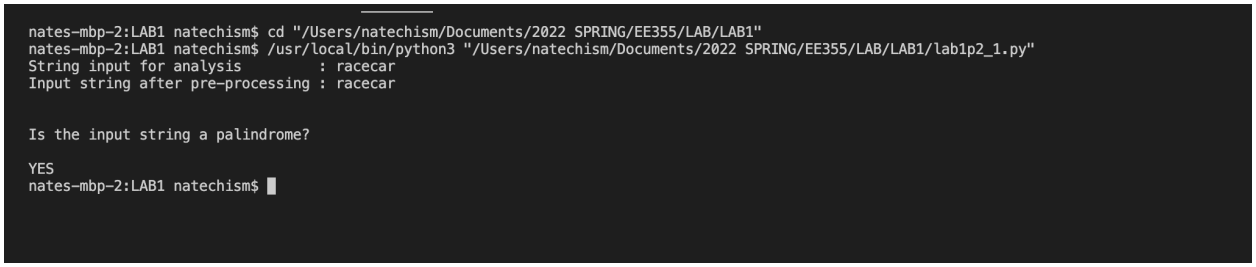
Write a script (lab1p2_1.py) that reads an input text file, in.txt (at most 500 words; words may include special characters and numbers).

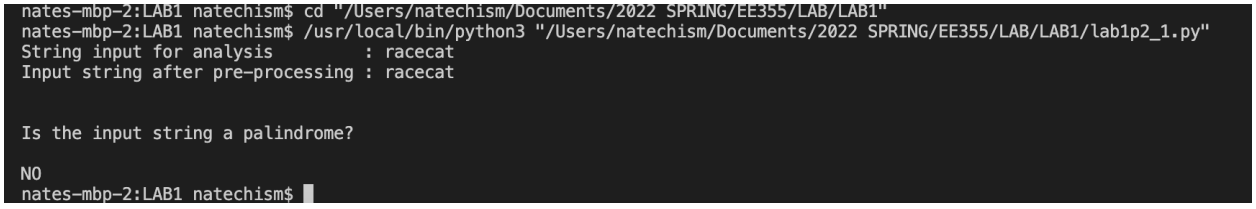
Your script then verify if the string read from the inputfile is a palindrome and print 'Yes' if it is, and 'No' otherwise. A phrase is a **palindrome** if, after converting all uppercase letters into lowercase letters and removing all non-alphanumeric characters, it reads the same forward and backward. Alphanumeric characters include letters and numbers.

lab1p2_1.py

For this part I used the main structure of comparison and iteration given in the lab powerpoint presentation.

I read an input string from a text file (‘in.txt’) and then converted all of the values to lowercase. I then compared each value to the opposite value on the string and if the two did no match, I set a flag. At the end of the file if the flag was set, the string was not a palindrome and if it was not set, the string was.





2)

lab1p2_2.py

For this part of the lab I used the same initial conditioning as (1). I read an input string from a text file (‘in.txt’) and then converted all of the values to lowercase. I then compared each value to the opposite value on the string and if the values matched I simply moved forward. If the values did not match I then checked four conditions. If the error was on either of the endcap positions then I would check if the next indexes in matched, if so I set the o_palFlag, which

indicated an error of only one position. If they did not, I increment the main error count and moved on. I then checked if the error had surrounding correct indexes (if the error was not on the end). If so, I increment the o_palFlag and the main error count. At the end of the string I checked if only an error had been made. If not I printed “YES”. If so I then checked if only one error had been made. If so, I printed “Yes if you delete _ and position _.”

```
nates-mbp-2:LAB1 natechism$ cd "/Users/natechism/Documents/2022 SPRING/EE355/LAB/LAB1"
nates-mbp-2:LAB1 natechism$ /usr/local/bin/python3 "/Users/natechism/Documents/2022 SPRING/EE355/LAB/LAB1/lab1p2_2.py"
racecat
Input string after pre-processing: racecat
Initialize two pointers at positions: 0 and 6.
Move pointers until they meet.


Is the input string a palindrome?

NO
nates-mbp-2:LAB1 natechism$
```

```
nates-mbp-2:LAB1 natechism$ cd "/Users/natechism/Documents/2022 SPRING/EE355/LAB/LAB1"
nates-mbp-2:LAB1 natechism$ /usr/local/bin/python3 "/Users/natechism/Documents/2022 SPRING/EE355/LAB/LAB1/lab1p2_2.py"
Aababaa
Input string after pre-processing: aababaa
Initialize two pointers at positions: 0 and 6.
Move pointers until they meet.


Is the input string a palindrome?

YES
nates-mbp-2:LAB1 natechism$
```

```
nates-mbp-2:LAB1 natechism$ cd "/Users/natechism/Documents/2022 SPRING/EE355/LAB/LAB1"
nates-mbp-2:LAB1 natechism$ /usr/local/bin/python3 "/Users/natechism/Documents/2022 SPRING/EE355/LAB/LAB1/lab1p2_2.py"
AABABAFA
Input string after pre-processing: aababafa
Initialize two pointers at positions: 0 and 7.
Move pointers until they meet.


Is the input string a palindrome?

YES. Delete  f  at position  6 .
nates-mbp-2:LAB1 natechism$
```