CSC3320 System Level Programming
Lab Assignment 10 - Post-Lab

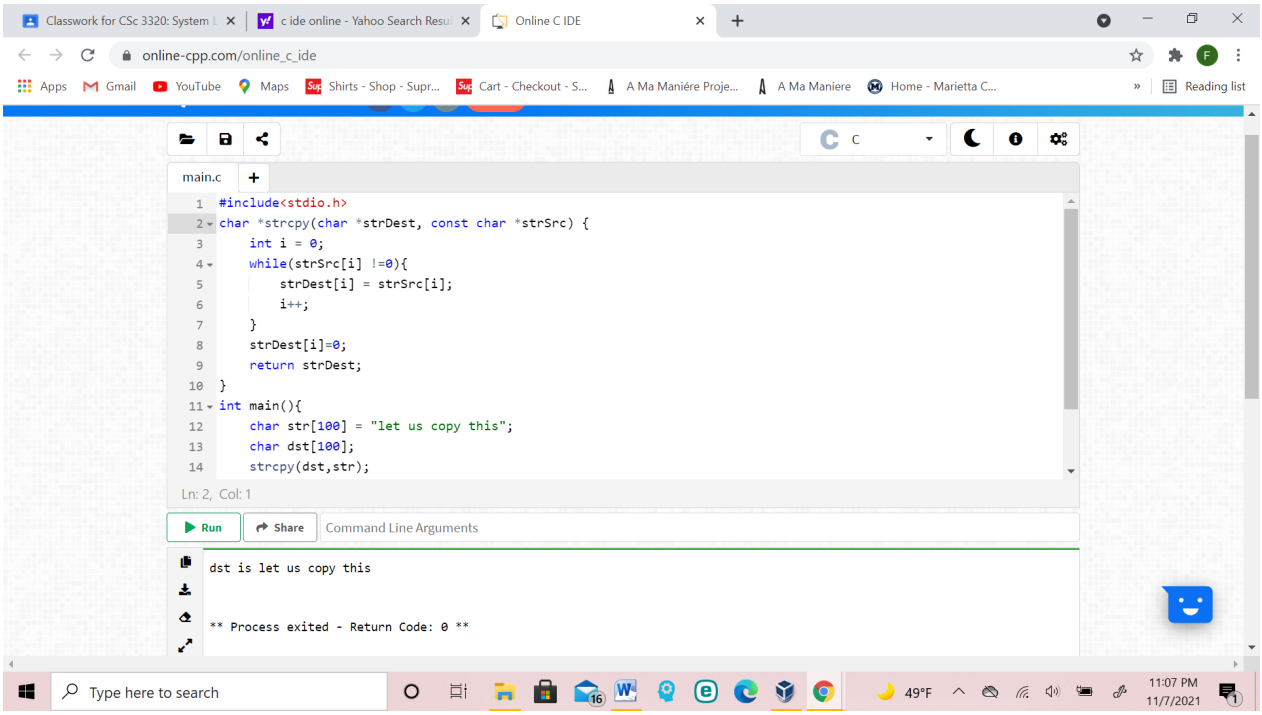
Due at 11:59 pm on Friday, April 02, 2021

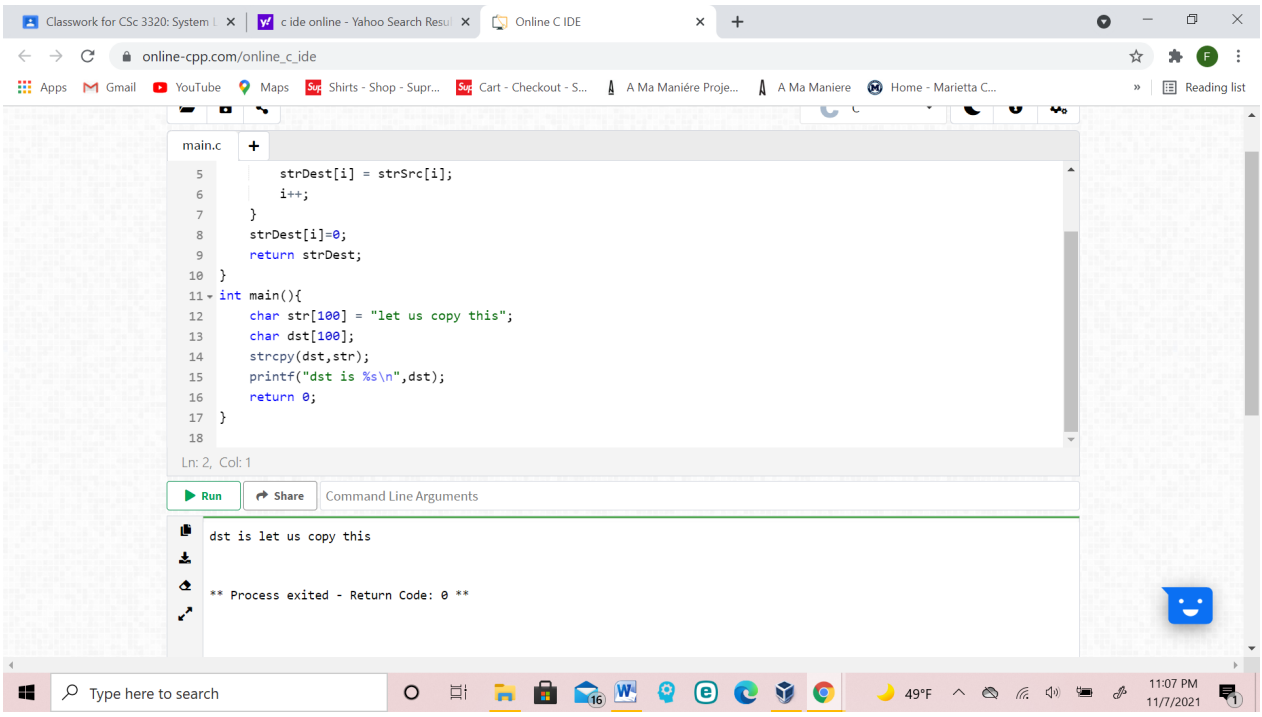
Purpose: Learn how to use the pointers to represent strings in C.

Lab Assignment 10, Faisal Musa, 002-39-6860

Part 1:

Write a function about string copy, the *strcpy* prototype "*char* strcpy (char* strDest, const char* strSrc*);". Here *strDest* is destination string, *strSrc* is source string.





1) Write the function *strcpy*, don't call C string library.

2) Here *strcpy* can copy *strSrc* to *strDest*, but why we use *char** as the return value of *strcpy*?

We can use char* as the return value of strcpy because the return type of the function was char* type and this address can be used by another variable to point to dst

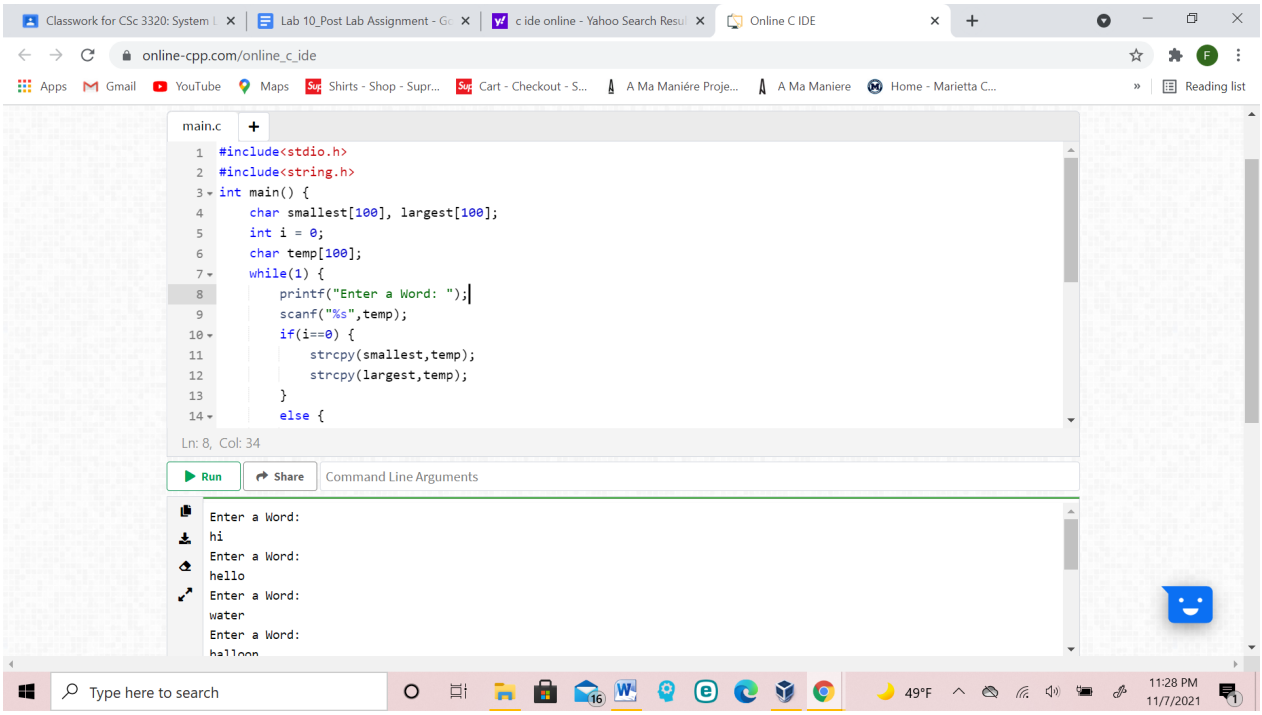
Part 2:

Write a program ***findStr.c*** that finds the "smallest" and "largest" in a series of words. After the user enters the words, the program will determine which words would come first and last if the words were listed in dictionary order. The program must stop accepting input when the user enters a four-letter word. Assume that no word is more than 20 letters long. An interactive session with the program might look like this:

```
Enter word: dog
Enter word: zebra
Enter word: rabbit
Enter word: catfish
Enter word: walrus
Enter word: cat
Enter word: fish

Smallest word: cat
Largest word: zebra
```

Hint: Use two strings named *smallest_word* and *largest_word* to keep track of the "smallest" and "largest" words entered so far. Each time the user enters a new word, use *strcmp* to compare it with *smallest_word*; if the new word is "smaller", use *strcpy* to save it in *smallest_word*. Do a similar comparison with *largest_word*. Use *strlen* to determine when the user has entered a four-letter word.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Reading list
main.c
1 #include<stdio.h>
2 #include<string.h>
3 int main() {
4 char smallest[100], largest[100];
5 int i = 0;
6 char temp[100];
7 while(1) {
8 printf("Enter a Word: ");
9 scanf("%s",temp);
10 if(i==0) {
11 strcpy(smallest,temp);
12 strcpy(largest,temp);
13 }
14 else {
Ln: 8, Col: 34
Run
Share
Command Line Arguments
Enter a Word:
hi
Enter a Word:
hello
Enter a Word:
water
Enter a Word:
Type here to search
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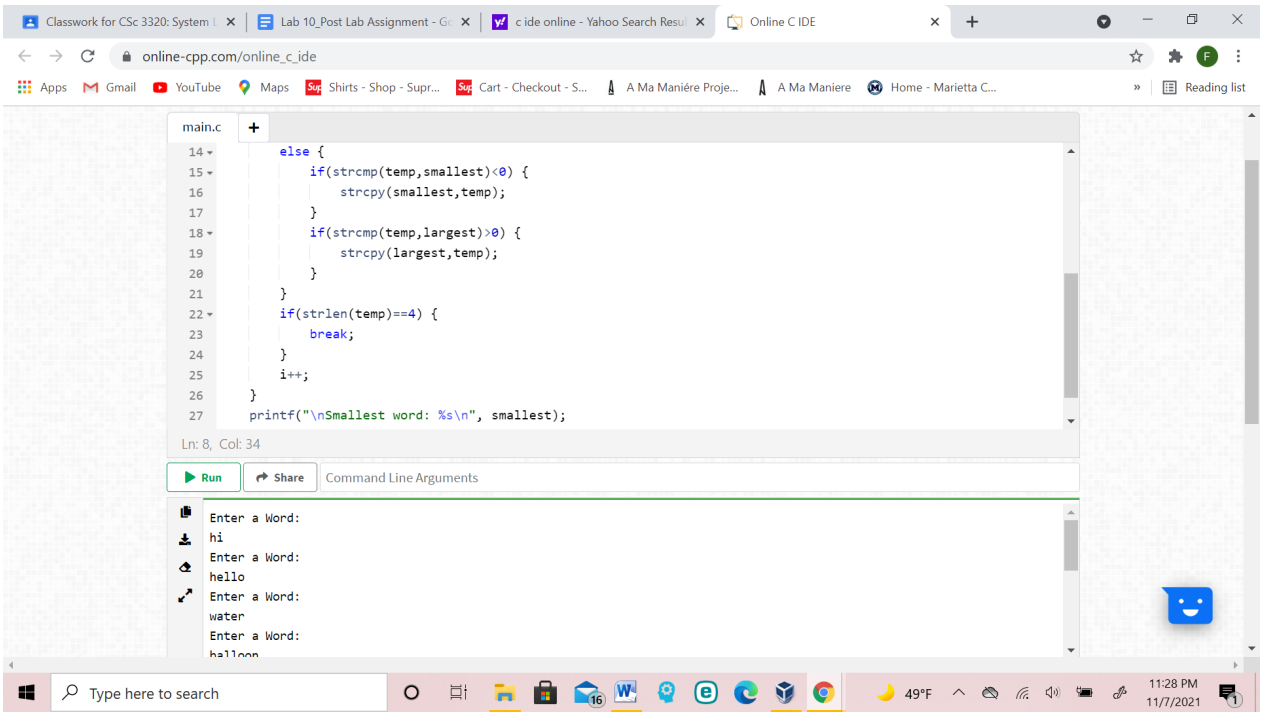
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Reading list
main.c
14 else {
15 if(strcmp(temp,smallest)<0) {
16 strcpy(smallest,temp);
17 }
18 if(strcmp(temp,largest)>0) {
19 strcpy(largest,temp);
20 }
21 }
22 if(strlen(temp)==4) {
23 break;
24 }
25 i++;
26 }
27 printf("\nSmallest word: %s\n", smallest);
Ln: 8, Col: 34
Run
Share
Command Line Arguments
Enter a Word:
hi
Enter a Word:
hello
Enter a Word:
water
Enter a Word:
Type here to search
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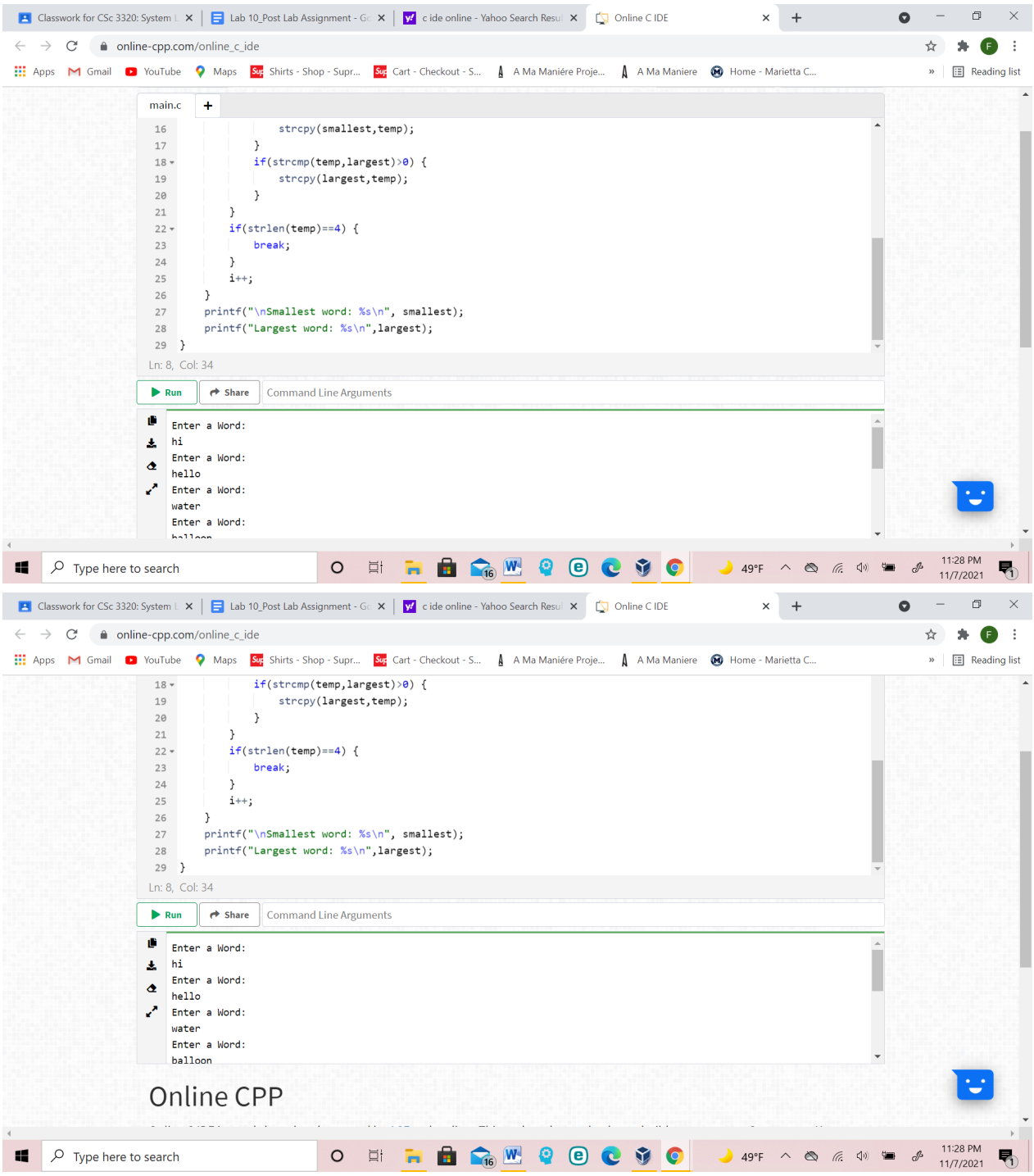
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Reading list
main.c
strcpy(smallest,temp);
}
if(strcmp(temp,largest)>0) {
strcpy(largest,temp);
}
}
if(strlen(temp)==4) {
break;
}
i++;
}
printf("\nSmallest word: %s\n", smallest);
printf("Largest word: %s\n",largest);
}
Ln: 8, Col: 34
Run
Share
Command Line Arguments
Enter a Word:
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Enter a Word:
hello
Enter a Word:
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Reading list
if(strcmp(temp,largest)>0) {
strcpy(largest,temp);
}
}
if(strlen(temp)==4) {
break;
}
i++;
}
printf("\nSmallest word: %s\n", smallest);
printf("Largest word: %s\n",largest);
}
Ln: 8, Col: 34
Run
Share
Command Line Arguments
Enter a Word:
hi
Enter a Word:
hello
Enter a Word:
water
Enter a Word:
balloon
Online CPP
Type here to search
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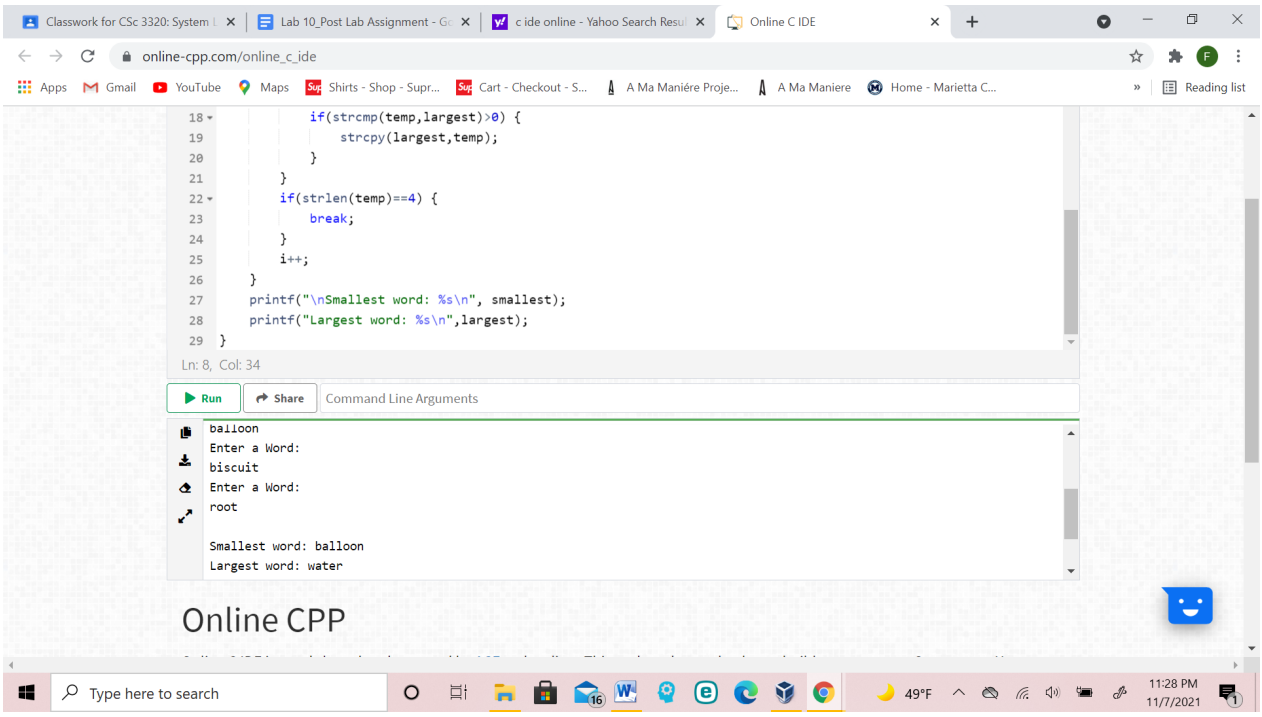
11/7/2021



Questions:

1) Attach the source code of your C program into the answer sheet.

2) Run the C program, attach a screenshot of the output in the answer sheet. 1

Submssion:

- Please follow the instructions below step by step, and then write a report by answering the questions and upload the report (named as Lab10_FirstNameLastName.pdf or Lab10_FirstNameLastName.doc) to Google Classroom, under the rubric Lab 10 – Post Lab Assignment.
- Upload the C files findStr.c to the folder named "Lab 10 – Post Lab" in Google Classroom.
- Please add the lab assignment NUMBER and your NAME at the top of your filesheet.