

COL100 Lab 7

I semester 2016-17

Week 7, 2016

Objective

To be able to write C programs involving floating point precision and introduction to strings.

Instructions

1. After 1 hour 45 minutes have passed, your code will be checked. Whatever you have completed till this point will be recorded. Anything that you complete later will not be recorded.
2. If you complete an assignment later, you can ask the TAs of your lab session any problems and doubts that you face. There is no need to show the TA your code, if there is no problem in it.
3. You cannot attend any lab session other than your allotted session, without informing the TAs of the session you are attending. This too is permitted only for genuine reasons.
4. Also, you will not get attendance, if you do not attend your own lab session, nor will your performance be noted. (Even if you fill in the attendance sheet, it will not be uploaded later.)

Programs

- Press Ctrl + Alt + T to open a terminal.
- cd to the directory COL100.
- In this directory, create another folder, called as lab7.
- cd to lab7.

1. Write a program that inputs N floating point numbers, places them into an array and calculates the average of the numbers entered. (Precision should be 2 places after decimal)
2. Write a program that has a string input and prints out the lexicographically largest character in that string and also prints its ASCII code in Hexadecimal representation.
3. Write a program to find the frequency of a particular character in a string entered by the user. The character whose frequency is to be found out should also be taken from the user.
4. Write a program which has a string input and checks whether it is a palindrome or not. (Hint: First find the length of the string)

Optional Programs

1. Write a program that has two inputs n and k. Take n numbers as an input and output the kth largest number out of the n numbers entered.
2. Write a program to find the number of vowels, consonants, digits and white space in a string entered by the user.

Useful Commands in Linux

1. Open terminal: Ctrl + Alt + T
2. Terminate current Linux command: Ctrl + C
3. Make a new directory: `mkdir dirname`
4. Copy: `cp src dest`
5. Rename: `mv originalname newname`
6. Delete: `rm filename`
7. Change working directory: `cd path`
8. List contents of a folder: `ls`

9. List contents of a folder including hidden files: `ls -a`
10. Print current directory: `pwd`

Points to Remember

1. To set proxy: Open an internet browser and set the Automatic proxy configuration url to `http://www.cc.iitd.ernet.in/cgi-bin/proxy.btech` (or `proxy.dual` if you are a Dual Degree student).
(For Firefox, open Options > Advanced > Network Tab > (Connection) Settings > Choose “Automatic proxy configuration” and set the URL)

Optional : Use vim editor

1. Open a file: `vim filename.txt`
2. Insert in a file: `i` (insert mode) (Use Esc to come out of the insert mode)
3. Navigation: arrow keys
4. Undo `u`
5. Redo `Ctrl+R`
6. Saving a file `:w`
7. Closing a file without saving `:q!`
8. Saving and closing a file `:wq`
9. Deleting a line `dd`
10. Copying a line `yy`
11. Pasting a line `p`