
CS110: Computing Laboratory

Regular Lab Session (1 Questions, 10 Points)

Time: 14:00–16:00 (2.0 hours.) Pages: 2

IIT Guwahati

25 Mar 2019 (Mon) Lab session: AL1

Question 1: (10 points)

Write a C program for the problem given below:

Declaration and input reading Declare a character array of size 1024 elements. Read the given text into the declared array till you get \$. Declare a function `count_newlines()` which accepts a *character pointer* and an `int` standing for *length of array* as argument. This function must return an `int` data type.

Problem Statement The function `count_newlines` must compute *number of new line characters* '\n' in the given input. You must use the `strlen` version 1 logic to achieve the output of this program. The `strlen` version 1 is given in lecture 24, slide #55 to slide #106.

Sample Input and Output:

Input 1:

This is line 1

This is line 2

This is line 3

This is line 4

This is line 5

\$

Output 1: 5

Input 2:

This is line 1

This is line 2

This is line 3

This is line 4

This is line 5

This is line 6

This is line 7

This is line 8

This is line 9

This is line 10

\$ Output 2: 10

Note: If you use arrays to perform the count of new line computation 0 marks will be awarded.

Marking Scheme

1 Mark Declaration of character array

2 Marks Correct input arguments to the function `count_newlines`

1 Mark Correct output type from the function `count_newlines`

1 Mark Reading input from given file using redirection operation

1 Mark Counting number of new lines

2 Marks Performed pointer arithmetic to compute number of new lines

2 Marks Correct output

Instructions:

- Name the C file as your roll number.c
- Place your C file in /home/guest directory
- Save your file frequently
- Saved file is subject to evaluation. **A file not in saved state will not be evaluated.**
- After 16:00 hours you cannot edit your files. Therefore plan your tasks within this time
- Do not re-boot the system. Rebooting leads to loss of data.

Important Notice

No Mobile Phones In case you are found with mobile phone you will be asked to leave the same outside the lab

No pendrive/CD/DVD/other relevant electronic medium You should voluntarily keep these items outside the lab

Attempt Correct Problem You should attempt problem that belong to current date and current lab session. Any other efforts will result in **no marks**