Assignment 1
Intro to System Calls
Computer Systems Engineering 1
Monsoon 2019

Deadline: 10th August, 11:55 PM. There will be no deadline extension.

Part 1:

Given a file, you need to reverse the contents of the file and store the result in a new file in the directory named “Assignment”. The percentage of the file written should be printed on the console during file writing. The directory created should have read, write and execute permissions for the user who created it. The new file created should have the read and write permissions for the user who created it. Program will be tested on **LARGE (> 1GB)** files.

Example:

Input:
‘A.txt’ -> “My name is abcd”
Output:
‘Assignment/A.txt’ -> “dcba si eman yM”

Note: During execution, the percentage of the file written should be overwritten each time (shouldn’t write multiple times).

Part 2:

Write a program to

1. Check the permissions for the two files and the directory.
2. Check whether the contents in the new file are the reverse of the old file.

The input to this program has paths for newfile, oldfile and the directory.

Example:

Directory is created: Yes
Whether file contents are reversed in newfile: Yes

User has read permissions on newfile: Yes

User has write permission on newfile: Yes
User has execute permission on newfile: No

Group has read permissions on newfile: No
Group has write permission on newfile: No
Group has execute permission on newfile: No

Others has read permissions on newfile: No
Others has write permission on newfile: No
Others has execute permission on newfile: No
Note: The above 9 should be printed for the directory and the old file also.

Guidelines:

1. **All Programs must use system calls only**. Use of printf and scanf are restricted.
2. Useful commands: read, write, lseek, stat, fflush.
3. Use man pages exclusively.
4. Assignment should be coded in C. Indent your codes.
5. Add a Readme File.
6. Submission_format: RollNo_Assignment1.tar.gz.
7. Submission by email to TAs will not be accepted.
8. Any copy cases found will lead to serious consequences.