Operating Systems
PG
Assignment 1

1. Install Linux

Download Ubuntu iso file from

64 Bit (Recommended):
http://ss1.iiit.ac.in/softwares/OperatingSystems/Linux/Ubuntu/Ubuntu12/x86_64/ubuntu-12.10-desktop-amd64.iso

32 Bit :
http://ss1.iiit.ac.in/softwares/OperatingSystems/Linux/Ubuntu/Ubuntu12/x86/ubuntu-12.10-desktop-i386.iso

Instructions for creating bootable USB disk for installing Ubuntu
http://www.ubuntu.com/download/help/create-a-usb-stick-on-windows

2. Assignment

Given a file name as argument, your program should reverse the contents of the file. For example, if the contents of a file are 'abc', the contents of output should be 'cba'.

INPUT: The name of input file given as argument to the program

OUTPUT: The contents of input file reversed. The name of output file should be "reverse_" appended to name of the input file. So, if your input file is called "input.txt", the output should be in "reverse_input.txt".

You should ONLY use system calls to achieve this. See the man pages of open(2), read(2), write(2), close(2) and lseek(2). Please don't use file handling functions like fopen and fseek.

open(2) means that the man page of "open" is in section 2 of man pages. So "man 2 open" brings up the required man page.

IMPLEMENTATION
The assignment solution should be split across 2 source files (As described below) and linux makefile should be used to compile the code. Tutorial about make file can be found at
http://capone.mtsu.edu/csdept/FacilitiesAndResources/make.htm

Source File 1 : Only main() method. main() should not be more than 5 lines.
Source File 2 : All logic to reverse the content.

TESTING CORRECTNESS OF OUTPUT: Please go through the man page of "diff" command. If an input file is reversed twice, the output should be the original input file. So, the contents of "input.txt" and "reverse_reverse_input.txt" should be identical and this will be checked with diff command.

GENERAL GUIDELINES:
- Indent the code properly. Comment the code properly.
- Your name and roll number should be included as comments at the beginning of code.
- Due credit will be given to modularity of code.

NOTE: Section 2 of man pages contains help for system calls. If a function's man page is found in section 2, then the function is a system call. DO NOT COPY the assignment from your friends.