Assignment on System Calls and files

1. Write a C program in Linux that opens an input file for reading and an output file for writing. The names of the files should be command line arguments.
2. Implement a function that uses the C standard I/O library (stdio) functions getc and putc to copy the input file to the output file one character at a time
3. Implement a C program that uses lseek system call to copy the contents of one file into another file at position 100.
4. Develop a program using file system calls (open, create, read, link, write, lseek, close, unlink) that determines the length of a file without using a loop in the code
5. Implement ls and ls -l command in linux using directory system calls (opendir, readdir, closedir).
6. Implement cat and mv commands in linux using system calls.
7. Write a C program to list for every file in a directory, its inode number and file name.
8. Write a C program that redirects standard output to a file. Hint: ls > file
9. Write a C program which scans the directory and prints the directory listing except regular files and directories. (Prints special files).
10. Write a C program for creating symbolic link and hard links to a file and identify the difference between them.
11. Write a C program for calculating the total amount of time taken by that process.
12. Write a C program for deleting the directory by using rmdir().
13. Write a program to demonstrates the usage of dup2 system call. If we read through the duplicated file descriptor, we will continue from the previous update in file pointer.
14. Write a program demonstrates the usage of fstat system call to retrieve the details of file.
15. Write a program demonstrates the usage of stat ( ) system call, to print different attributes of a file which includes size, inode number, whether it is a regular file or directory etc..