Department of Computer Science & Engineering

Subject Code:	CSL67	TERM: Feb-June 2024	
Subject Name:	Unix System Programming & Compiler Design Laboratory	Faculty In-charge:	CP/PN/SB
Credits:	0:0:1	Semester :	VI

Exercise Number	Problem Statements
1.	a) Write a C program to display the file content in reverse order using lseek system call. b) Write a C program to create a child process and show how parent and child processes will share the text file and justify that both parent and child shares the same file offset.
2.	a) Write a C program to display various details of a file using stat structure (Atleast 5 fields). b) Write a C program that takes the file descriptor as an argument and prints the description of selected file flags for that descriptor.
3.	a) Write a C program to simulate system function. b) Write a C program to implement ls –li command which list the files in a specified directory. Your program should Print 5 attributes of files.

4.	a) Write a C program to demonstrate the creation of soft links and the various properties of hard links.
	b) Write a C program to
	   i. To create a child process.
	   ii. Child should execute an interpreter file by passing few arguments and some environment variables.
	   iii. Parent should execute an interpreter file by passing few arguments
	   iv. Create an interpreter file that has the path of echoall.c file
	   v. Create echoall.c file which prints the arguments and environment variables received through parent and child process

5.	a) Write a program to copy access and modification time of a file to another file using utime function. b) Write a C program using sigaction system call which calls a signal handler on SIGINT signal and then reset the default action of the SIGINT signal.

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6.	a) Write a C program to remove empty files from the given directory. b) Consider the last 100 bytes as a region. Write a C program to check whether the region is locked or not. If the region is locked, print pid of the process which has locked. If the region is not locked, lock the region with an exclusive lock, read the last 50 bytes and unlock the region.
7.	a) Write a C program to illustrate the effect of setjmp and longjmp functions on register and volatile variables. b) C program to simulate copy command by accepting the filenames from command line. Report all errors.

8.	a) Write a C program to remove empty files from the given directory.
	 b) Write a C program to perform the following operations
	    i. To create a child process
	    ii. The child process should execute a program to show the use of the access function
	    iii. Parent process should wait for the child process to exit
	    iv. Also print the necessary process IDs

9.	a) Write a C programs to demonstrate usage of umask and chmod functions.
	 b) Write a C program
	    i. To read first 20 characters from a file
	    ii. seek to 10th byte from the beginning and display 20 characters from there
	    iii. seek 10 bytes ahead from the current file offset and display 20 characters
	    iv. Display the file size

10.	a) Write a C program such that it initializes itself as a Daemon Process. b) Demonstrate the working of wait and waitpid system calls with a program

Marks Distribution

Conduction and Result	Write-up	Execution	Viva	Change of Program
Part A	4M	17M	7M	-5
Part B	4M	18M		-5