Experiment 2

To familiarize and understand the use and functioning of System Calls used for Operating system and network programming in Linux.

Some system calls of Linux operating systems

1. Ps

This command tells which all processes are running on the system when ps runs.

ps -ef

UID	PID	PPID	C	STIME TTY	TIME	CMD
root	1	0	0	13:55 ?	00:00:01	/sbin/init
root	2	0	0	13:55 ?	00:00:00	[kthreadd]
root	3	2	0	13:55 ?	00:00:00	[ksoftirqd/0]
root	4	2	0	13:55 ?	00:00:01	[kworker/0:0]
Root	5	2	0	13:55 ?	00:00:00	[kworker/0:0H]
root	7	2	0	13:55 ?	00:00:00	[rcu_sched]
root	8	2	0	13:55 ?	00:00:00	[rcuos/0]

This command gives processes running on the system, the owners of the processes and the names of the processes. The above result is an abridged version of the output.

2. fork

This system call is used to create a new process. When a process makes a fork system call, a new a process is created which is identical to the process creating it. The process which calls fork is called the parent process and the process that is created is called the child process. The child and parent processes are identical, i.e, the child gets a copy of the parent's data space, heap and stack, but have different physical address spaces. Both processes start execution from the line next to the fork. Fork returns the process id of the child in the parent process and returns 0 in the child process.