

## **CE208 Operating Systems**

### **Homework-1**

Save the first program as YourStudentId\_prog1.c (ex: 1x155xxx\_prog1.c) and the second program as YourStudentId\_prog2.c (ex: 1x155xxx\_prog2.c) and upload to the corresponding link at Moodle.

1. Write a C program using the fork() system call that creates a parent process and four child processes from the same parent process. The processes will terminate at the order child-4, child-3, child-2, child-1 and parent.

A sample output (process id will be different for every execution):

```
child-4 id: 19396 parent id: 19392
child-3 id: 19395 parent id: 19392
child-2 id: 19394 parent id: 19392
child-1 id: 19393 parent id: 19392
parent id: 19392
```

2. Write a C program using fork() system call that spawns four child processes, first child process will create a directory named "sampledir" using mkdir command, the second child process will create a file named samplefile1.txt under sampledir using touch command, the third child process will open the file "samplefile1.txt" and write your student id name and surname into the file using C file operations, and the fourth child process will display the content of the samplefile1.txt using cat command.

Hint: use exec() family of functions for linux commands.