Name : Siri N Shetty
SRN : PES2UG22CS556
Section : J

Exercise #1
Create the following program using system calls learnt in class such as fork, exec, wait, etc.
1. Write a program to create a child process which lists all the executing user processes. (Avoid creation of zombie process)

Program:

```c
#include <stdio.h>
#include <sys/types.h>
#include <sys/wait.h>
#include <unistd.h>

int main() {
    pid_t pid;
    pid = fork();
    if (pid < 0) {
        fprintf(stderr, "Fork Failed");
        return 1;
    } else if (pid == 0) {
        execlp("/bin/ps", "ps", NULL);
    } else {
        wait(NULL);
        printf("Child Complete\n");
    }

    return 0;
}
```

Output:

```
siri@DESKTOP-F9UMPJU: ~
siri@DESKTOP-F9UMPJU:~$ gcc Q1.c
siri@DESKTOP-F9UMPJU:~$ ./a.out
   PID TTY          TIME CMD
  2076 pts/0    00:00:00 bash
  2096 pts/0    00:00:00 a.out
  2097 pts/0    00:00:00 ps
Child Complete
siri@DESKTOP-F9UMPJU:~$ ps -u
USER         PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
siri         531  0.0  0.0   6120  4960 pts/2    S+   21:29   0:00 -bash
siri        2076  0.0  0.0   6216  5048 pts/0    Ss   22:03   0:00 -bash
siri        2098  0.0  0.0   7484  3196 pts/0    R+   22:03   0:00 ps -u
siri@DESKTOP-F9UMPJU:~$
```