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Lab 1 – Description of Testing

In order determine the validity of the program, the ps command was used. This command lists running processes in the linux environment. The following arguments were passed alongside the ps command to format the output to match that of the program:

$$ps\ -Ao\ pid, fname, stat, uid, gid$$

Where,

-A lists all running processes.

-o specifies a user defined output and is followed by the order of the process information

Figure 1 (refer to Appendix) shows the expected output while Figure 2 (refer to Appendix) depicts the output of the program. These figures were obtained by using the script command. The output from the program matches the expected output with the exception of the running processes (lab1 / ps). This is justified as the expected output runs the ps process while the program runs the lab1 process. Therefore, the program works as expected.

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Appendix

```
Script started on Fri 27 Sep 2019 07:45:59 PM EDT
student@ELEC377-Student:~/E377-Wed-49/lab1$ ps -Ao pid,fname,stat,uid,gid
  PID COMMAND  STAT   UID   GID
    1 init     S        0     0
    2 keventd  S        0     0
    3 ksoftirq SN       0     0
    4 kswapd   S        0     0
    5 bdflush  S        0     0
    6 kupdated S        0     0
   10 mdrecove S<       0     0
   11 kjournal S        0     0
   59 syslogd  Ss       0     0
   62 klogd    Ss       0     0
  167 dhcpcd   Ss       0     0
 1545 khubd    S        0     0
 1568 inetd    Ss       0     0
 1575 crond    S        0     0
 1578 sendmail Ss       0    25
 1581 sendmail Ss      25    25
 1585 bash     Ss    1000   100
 1586 agetty   Ss+      0     0
 1587 agetty   Ss+      0     0
 1588 agetty   Ss+      0     0
 1589 agetty   Ss+      0     0
 1590 agetty   Ss+      0     0
 1816 script   S+    1000   100
 1817 script   R+    1000   100
 1818 bash     Rs    1000   100
 1819 ps       R+    1000   100
```

Figure 1 - Expected output from the ps command

```
student@ELEC377-Student:~/E377-Wed-49/lab1$ ps ./lab1
PID                   Name                  Status                User                  Group
------------------------------------------------------------------------------------------------------------
1                     init                  S (sleeping)          0                     0
2                     keventd               S (sleeping)          0                     0
3                     ksoftirqd_CPU0        S (sleeping)          0                     0
4                     kswapd                S (sleeping)          0                     0
5                     bdflush               S (sleeping)          0                     0
6                     kupdated              S (sleeping)          0                     0
10                    mdrecoveryd           S (sleeping)          0                     0
11                    kjournald             S (sleeping)          0                     0
59                    syslogd               S (sleeping)          0                     0
62                    klogd                 S (sleeping)          0                     0
167                   dhcpcd                S (sleeping)          0                     0
1545                  khubd                 S (sleeping)          0                     0
1568                  inetd                 S (sleeping)          0                     0
1575                  crond                 S (sleeping)          0                     0
1578                  sendmail              S (sleeping)          0                     25
1581                  sendmail              S (sleeping)          25                    25
1585                  bash                  S (sleeping)          1000                  100
1586                  agetty                S (sleeping)          0                     0
1587                  agetty                S (sleeping)          0                     0
1588                  agetty                S (sleeping)          0                     0
1589                  agetty                S (sleeping)          0                     0
1590                  agetty                S (sleeping)          0                     0
1816                  script                S (sleeping)          1000                  100
1817                  script                R (running)           1000                  100
1818                  bash                  S (sleeping)          1000                  100
1820                  lab1                  R (running)           1000                  100

student@ELEC377-Student:~/E377-Wed-49/lab1$ exit
Script done on Fri 27 Sep 2019 07:46:30 PM EDT
```

Figure 2 - Output from the program