

Test Case 1: ps -aef

```
osh>ps -aef
F S  UID      PID  PPID  C  PRI  NI  ADDR  SZ  WCHAN  TTY      TIME CMD
4 S   0         1      0  0  80   0   -   5839  -    ?           00:00:01 systemd
1 S   0         2      0  0  80   0   -    0  -    ?           00:00:00 kthreadd
1 S   0         3      2  0  80   0   -    0  -    ?           00:00:00 pool_workqueue_release
1 I   0         4      2  0  60  -20  -    0  -    ?           00:00:00 kworker/R-rcu_gp
1 I   0         5      2  0  60  -20  -    0  -    ?           00:00:00 kworker/R-sync_wq
1 I   0         6      2  0  60  -20  -    0  -    ?           00:00:00 kworker/R-kvfree_rcu_reclaim
```

Test Case 2: !!

```
osh>ls
HW2Solution.odt  shell  shell.c
osh>!!
ls
HW2Solution.odt  shell  shell.c
osh>
```

Test Case 3: ls > output.txt

```
osh>ls
HW2Solution.odt  shell  shell.c
osh>ls > output.txt
osh>cat output.txt
HW2Solution.odt
output.txt
shell
shell.c
osh>
```

Test Case 4: sort < input.txt

```
osh>cat input.txt
zebra
apple
banana
monkey
osh>sort input.txt
apple
banana
monkey
zebra
osh>
```

Test Case 5: ls -l | grep shell

```
osh>ls -l
total 80
-rw-r--r-- 1 grant grant 43351 Feb 13 12:57 HW2Solution.odt
-rw-r--r-- 1 grant grant   26 Feb 13 13:03 input.txt
-rw-r--r-- 1 grant grant   41 Feb 13 13:01 output.txt
-rwxr-xr-x 1 grant grant 16944 Feb 13 12:52 shell
-rw-r--r-- 1 grant grant  4685 Feb 13 12:46 shell.c
osh>ls -l | grep shell
-rwxr-xr-x 1 grant grant 16944 Feb 13 12:52 shell
-rw-r--r-- 1 grant grant  4685 Feb 13 12:46 shell.c
osh>
```