

Test Case 1: ps -ael

```
osh>ps -ael
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
Edit View Insert Format Styles
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>
```