PS5_1

1.1

```
[ese-wangy1@login03 ~]$ ln -s data_demo/ data_demo2
[ese-wangy1@login03 ~]$ ln data_demo2 data_demo_link
[ese-wangy1@login03 ~]$ ls
data_demo  data_demo2  data_demo_link  err.log  exam  job.log  job.sh  mpi_demo  result.log  t1.py
[ese-wangy1@login03 ~]$
```

```
" ==============================================================
" Netrw Directory Listing                        (netrw v149)
"   /work/ese-wangy1/data_demo_link
"   Sorted by      name
"   Sort sequence: [\/]$,\<core\%(\.\d\+\)\=\>,\.h$,\.c$,\.cpp$,\~\=\*$,*,\.o$,\.obj$,\.info$,\.swp$,\.bak$,\~$
"   Quick Help: <F1>:help  -:go up dir  D:delete  R:rename  s:sort-by  x:exec
" ==============================================================
../
./
creatures/
data/
molecules/
north-pacific-gyre/
writing/
notes*
pizza.cfg*
solar.pdf*
log1
log2
.swp
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
"data_demo_link" is a directory
```

1.2

```
[ese-wangy1@login03 ~]$ echo ~
/work/ese-wangy1
[ese-wangy1@login03 ~]$
```

1.3

```
[ese-wangy1@login03 ~]$ cd data_demo/molecules/
[ese-wangy1@login03 molecules]$ touch test.pdb
[ese-wangy1@login03 molecules]$ ls
cubane.pdb  ethane.pdb  methane.pdb  octane.pdb  pentane.pdb  propane.pdb  test.pdb
[ese-wangy1@login03 molecules]$
```

1.4

```
[ese-wangy1@login03 ~]$ find data_demo/data/elements/* | wc
    103     103    3179
[ese-wangy1@login03 ~]$
```

1.5

```
[ese-wangy1@login03 ~]$ diff data_demo/data/pdb/ethane.pdb data_demo/data/pdb/ethanol.pdb
1,11c1,12
< COMPND      ETHANE
< AUTHOR      DAVE WOODCOCK  95 12 18
< ATOM      1  C           1      -0.752   0.001  -0.141  1.00  0.00
< ATOM      2  C           1       0.752  -0.001   0.141  1.00  0.00
< ATOM      3  H           1      -1.158   0.991   0.070  1.00  0.00
< ATOM      4  H           1      -1.240  -0.737   0.496  1.00  0.00
< ATOM      5  H           1      -0.924  -0.249  -1.188  1.00  0.00
< ATOM      6  H           1       1.158  -0.991  -0.070  1.00  0.00
< ATOM      7  H           1       0.924   0.249   1.188  1.00  0.00
< ATOM      8  H           1       1.240   0.737  -0.496  1.00  0.00
< TER       9               1
---
> COMPND      ETHANOL
> AUTHOR      DAVE WOODCOCK  96 01 03
> ATOM      1  C           1      -0.426  -0.115  -0.147  1.00  0.00
> ATOM      2  O           1      -0.599   1.244  -0.481  1.00  0.00
> ATOM      3  H           1      -0.750  -0.738  -0.981  1.00  0.00
> ATOM      4  H           1      -1.022  -0.351   0.735  1.00  0.00
> ATOM      5  H           1      -1.642   1.434  -0.689  1.00  0.00
> ATOM      6  C           1       1.047  -0.383   0.147  1.00  0.00
> ATOM      7  H           1       1.370   0.240   0.981  1.00  0.00
> ATOM      8  H           1       1.642  -0.147  -0.735  1.00  0.00
> ATOM      9  H           1       1.180  -1.434   0.405  1.00  0.00
> TER      10               1
[ese-wangy1@login03 ~]$
```

1.6

```
[ese-wangy1@login03 ~]$ grep 'But she' data_demo/writing/data/LittleWomen.txt
"Oh, bless you, no!  But she let old Belsham rest, and when I ran back
small quaver in her voice, "I came to thank you, sir, for..." But she
than she went.  But she begged so hard, and Sallie had promised to take
    But she does not hunt as our darling did,
    But she only spits at the dogs our pet
    But she is not fair to see,
queer thing for her to do, she doesn't act a bit like herself.  But she
aspirant for fame, with philosophic composure. But she made a wry face
her.  But she can pet and comfort him after I'm gone, and so cure him
to see signs of hope in the faint color on Beth's cheeks.  But she
But she did not get it, for though he joined her and answered all her
sketchbook.  But she tucked it under her arm with a sharp...
Amy did any of these fond and foolish things.  But she certainly did
But she did show something better than brilliancy or skill, for she
grasshopper.  But she would have consented if he had proposed to sing a
[ese-wangy1@login03 ~]$ grep 'But she' data_demo/writing/data/LittleWomen.txt | wc
     15      188      969
[ese-wangy1@login03 ~]$
```

1.7

```
[ese-wangy1@login03 ~]$ du -c -b data_demo/data/
100717   data_demo/data/pdb
35594    data_demo/data/elements
4251     data_demo/data/animal-counts
228435   data_demo/data/
228435   total
[ese-wangy1@login03 ~]$
```

1.8

```
[ese-wangy1@login03 ~]$ cp -r data_demo/writing/ data_demo/writing_new/
```

```
[ese-wangy1@login03 ~]$ zip -r data_demo/writing_new.zip data_demo/writing_new
  adding: data_demo/writing_new/ (stored 0%)
  adding: data_demo/writing_new/haiku.txt (deflated 29%)
  adding: data_demo/writing_new/tools/ (stored 0%)
  adding: data_demo/writing_new/tools/stats (stored 0%)
  adding: data_demo/writing_new/tools/old/ (stored 0%)
  adding: data_demo/writing_new/tools/old/oldtool (stored 0%)
  adding: data_demo/writing_new/tools/format (deflated 13%)
  adding: data_demo/writing_new/data/ (stored 0%)
  adding: data_demo/writing_new/data/one.txt (deflated 53%)
  adding: data_demo/writing_new/data/LittleWomen.txt (deflated 61%)
  adding: data_demo/writing_new/data/two.txt (deflated 59%)
  adding: data_demo/writing_new/thesis/ (stored 0%)
  adding: data_demo/writing_new/thesis/empty-draft.md (stored 0%)
```

```
[ese-wangy1@login03 data_demo]$ ls
creatures  data  log1  log2  molecules  north-pacific-gyre  notes  pizza.cfg  solar.pdf  writing  writing_new  writing_new.zip
[ese-wangy1@login03 data_demo]$
```

```
[ese-wangy1@login03 ~]$ unzip -o data_demo/writing_new.zip
Archive:  data_demo/writing_new.zip
  inflating: data_demo/writing_new/haiku.txt
 extracting: data_demo/writing_new/tools/stats
 extracting: data_demo/writing_new/tools/old/oldtool
  inflating: data_demo/writing_new/tools/format
  inflating: data_demo/writing_new/data/one.txt
  inflating: data_demo/writing_new/data/LittleWomen.txt
  inflating: data_demo/writing_new/data/two.txt
 extracting: data_demo/writing_new/thesis/empty-draft.md
[ese-wangy1@login03 ~]$ cd data_demo
[ese-wangy1@login03 data_demo]$ ls
creatures  data  log1  log2  molecules  north-pacific-gyre  notes  pizza.cfg  solar.pdf  writing  writing_new  writing_new.zip
[ese-wangy1@login03 data_demo]$
```

1.9

```
[ese-wangy1@login03 data_demo]$ ll
total 645
drwxr-xr-x 2 ese-wangy1 ese-ouycc   4096 Nov 24 19:20 creatures
drwxr-xr-x 5 ese-wangy1 ese-ouycc   4096 Nov 24 19:20 data
-rw-r--r-- 1 ese-wangy1 ese-ouycc    100 Dec  3 16:28 log1
-rw-r--r-- 1 ese-wangy1 ese-ouycc    200 Dec  3 16:28 log2
drwxr-xr-x 2 ese-wangy1 ese-ouycc   4096 Dec  3 20:26 molecules
drwxr-xr-x 3 ese-wangy1 ese-ouycc   4096 Nov 24 19:20 north-pacific-gyre
-rwxr-xr-x 1 ese-wangy1 ese-ouycc     69 Nov 24 19:20 notes
-rwxr-xr-x 1 ese-wangy1 ese-ouycc     32 Nov 24 19:20 pizza.cfg
-rwxr-xr-x 1 ese-wangy1 ese-ouycc  21583 Nov 24 19:20 solar.pdf
drwxr-xr-x 5 ese-wangy1 ese-ouycc   4096 Nov 24 19:20 writing
drwxr-xr-x 5 ese-wangy1 ese-ouycc   4096 Dec  3 21:06 writing_new
-rw-r--r-- 1 ese-wangy1 ese-ouycc 422844 Dec  3 21:01 writing_new.zip
```

```
[ese-wangy1@login03 data_demo]$ chmod 750 writing_new
[ese-wangy1@login03 data_demo]$ ll
total 645
drwxr-xr-x 2 ese-wangy1 ese-ouycc   4096 Nov 24 19:20 creatures
drwxr-xr-x 5 ese-wangy1 ese-ouycc   4096 Nov 24 19:20 data
-rw-r--r-- 1 ese-wangy1 ese-ouycc    100 Dec  3 16:28 log1
-rw-r--r-- 1 ese-wangy1 ese-ouycc    200 Dec  3 16:28 log2
drwxr-xr-x 2 ese-wangy1 ese-ouycc   4096 Dec  3 20:26 molecules
drwxr-xr-x 3 ese-wangy1 ese-ouycc   4096 Nov 24 19:20 north-pacific-gyre
-rwxr-xr-x 1 ese-wangy1 ese-ouycc     69 Nov 24 19:20 notes
-rwxr-xr-x 1 ese-wangy1 ese-ouycc     32 Nov 24 19:20 pizza.cfg
-rwxr-xr-x 1 ese-wangy1 ese-ouycc  21583 Nov 24 19:20 solar.pdf
drwxr-xr-x 5 ese-wangy1 ese-ouycc   4096 Nov 24 19:20 writing
drwxr-x--- 5 ese-wangy1 ese-ouycc   4096 Dec  3 21:06 writing_new
-rw-r--r-- 1 ese-wangy1 ese-ouycc 422844 Dec  3 21:01 writing_new.zip
[ese-wangy1@login03 data_demo]$
```

1.10

```
[ese-wangy1@login03 data_demo]$ history 30
  290  rm writing_new/
  291  rm writing_new.zip
  292  ls
  293  cd ~
  294  cp -r data_demo/writing/ data_demo/writing_new/
  295  zip -r writing_new.zip data_demo/writing_new
  296  ls
  297  rm writing_new.zip
  298  zip -r data_demo/writing_new.zip data_demo/writing_new
  299  ls
  300  cd data_demo
  301  ls
  302  cd ~
  303  unzip data_demo/writing_new.zip -d ~
  304  cd data_demo
  305  ls
  306  cd ~
```

PS5_2

```
[ese-wangy1@login03 data_demo]$ nano loop.sh
```

```
  GNU nano 2.3.1

for i in data/pdb/*.pdb
do
 du -b $i
done
```

```
[ese-wangy1@login03 data_demo]$ chmod 750 loop.sh
```

```
[ese-wangy1@login03 data_demo]$ ./loop.sh
1516     data/pdb/aldrin.pdb
306      data/pdb/ammonia.pdb
1444     data/pdb/ascorbic-acid.pdb
1030     data/pdb/benzaldehyde.pdb
1830     data/pdb/camphene.pdb
5049     data/pdb/cholesterol.pdb
1090     data/pdb/cinnamaldehyde.pdb
1694     data/pdb/citronellal.pdb
2452     data/pdb/codeine.pdb
1158     data/pdb/cubane.pdb
895      data/pdb/cyclobutane.pdb
1384     data/pdb/cyclohexanol.pdb
695      data/pdb/cyclopropane.pdb
622      data/pdb/ethane.pdb
690      data/pdb/ethanol.pdb
2396     data/pdb/ethylcyclohexane.pdb
765      data/pdb/glycol.pdb
4209     data/pdb/heme.pdb
1064     data/pdb/lactic-acid.pdb
2562     data/pdb/lactose.pdb
11193    data/pdb/lanoxin.pdb
3395     data/pdb/lsd.pdb
2562     data/pdb/maltose.pdb
2164     data/pdb/menthol.pdb
422      data/pdb/methane.pdb
490      data/pdb/methanol.pdb
1869     data/pdb/mint.pdb
2288     data/pdb/morphine.pdb
2123     data/pdb/mustard.pdb
1680     data/pdb/nerol.pdb
2729     data/pdb/norethindrone.pdb
1828     data/pdb/octane.pdb
1226     data/pdb/pentane.pdb
2287     data/pdb/piperine.pdb
825      data/pdb/propane.pdb
1256     data/pdb/pyridoxal.pdb
3303     data/pdb/quinine.pdb
2675     data/pdb/strychnine.pdb
1159     data/pdb/styrene.pdb
2562     data/pdb/sucrose.pdb
```