GONG Guoqing (龚国庆)'s TA report for assignment05
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Github: https://github.com/Gong001/ESE5023_Assignments_12132198
Responsible TA: HUANG Hao
Grade: 30

Assignment 05

Good job!

12132198 Gong Guoqing

1. More Linux Commands

In this exercise, we will learn a few more Linux commands. For each command, please use `man` to learn what it does and how to use it correctly. First, change your directory to `~`.

```
[ese-gonggq@login02 ~]$ ls
data_demo  err.log  exam  job.sh  mpi_demo  result.log  t1.py
```

1.1 **[2 points]** Make a link called `data_demo_link` to `data_demo` folder using `ln`.

```
[ese-gonggq@login02 ~]$ ln -s data_demo data_demo_link
[ese-gonggq@login02 ~]$ ls
data_demo  data_demo_link  err.log  exam  job.sh  mpi_demo  result.log  t1.py
```

1.2 **[2 points]** Print your home directory using `echo`.

```
[ese-gonggq@login02 ~]$ echo $HOME
/work/ese-gonggq
```

1.3 **[2 points]** Go to `data_demo/molecules/`, make an empty file `test.pdb` with `touch`.

```
[ese-gonggq@login02 ~]$ cd data_demo/molecules/
[ese-gonggq@login02 molecules]$ touch test.pdb
[ese-gonggq@login02 molecules]$ ls
cubane.pdb  methane.pdb  pentane.pdb  test.pdb
ethane.pdb  octane.pdb   propane.pdb
```

1.4 **[3 points]** Find how many files in `data_demo/data/elements/` using `find`.

```
[ese-gonggq@login02 ~]$ find data_demo/data/elements/ -name "*.*" | wc -l
103
```

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1.5 **[2 points]** Compare `data_demo/data/pdb/ethane.pdb` and `data_demo/data/pdb/ethanol.pdb` with `diff`.

```
[ese-gonggq@login02 ~]$ 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
```

1.6 **[3 points]** Count how many `But she` string appears in `data_demo/writing/data/LittleWomen.txt` with `grep`.

```
[ese-gonggq@login02 ~]$ grep "But she" data_demo/writing/data/LittleWomen.txt -o | wc -l
15
```

1.7 **[2 points]** Check the total file size of the `data_demo/data/` folder using `du`.

```
[ese-gonggq@login02 ~]$ du data_demo/data/ -c
409     data_demo/data/pdb
52      data_demo/data/elements
1       data_demo/data/animal-counts
720     data_demo/data/
720     总用量
```

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1.8 **[3 points]** Copy the `data_demo/writing/` folder to `data_demo/writing_new/`, compress `data_demo/writing_new/` using `zip`, and decompress the `.zip` file with `unzip`.

```
[ese-gonggq@login02 ~]$ cp -f -r data_demo/writing data_demo/writing_new/
[ese-gonggq@login02 ~]$ cp data_demo
cp: 在"data_demo" 后缺少了要操作的目标文件
Try 'cp --help' for more information.
[ese-gonggq@login02 ~]$ cp data_demo/
cp: 在"data_demo/" 后缺少了要操作的目标文件
Try 'cp --help' for more information.
[ese-gonggq@login02 ~]$ cd data_demo
[ese-gonggq@login02 data_demo]$ ls
creatures  data  log1  log2  molecules  north-pacific-gyre  notes  pizza.cfg  solar.pdf  writing  writing_new
```

```
[ese-gonggq@login02 data_demo]$ zip -r -q zipfile.zip writing_new
[ese-gonggq@login02 data_demo]$ ls
creatures  log1  molecules          notes      solar.pdf  writing_new
data       log2  north-pacific-gyre  pizza.cfg  writing    zipfile.zip
[ese-gonggq@login02 data_demo]$ rm -r writing_new
[ese-gonggq@login02 data_demo]$ ls
creatures  data  log1  log2  molecules  north-pacific-gyre  notes  pizza.cfg  solar.pdf  writing  zipfile.zip
```

```
[ese-gonggq@login02 data_demo]$ unzip -q zipfile.zip
[ese-gonggq@login02 data_demo]$ ls
creatures  log1  molecules          notes      solar.pdf  writing_new
data       log2  north-pacific-gyre  pizza.cfg  writing    zipfile.zip
```

1.9 **[3 points]** Change the file permissions flags on `writing_new` to `drwxr-x---` using `chmod`.

```
[ese-gonggq@login02 data_demo]$ chmod 750 writing_new/
[ese-gonggq@login02 data_demo]$ ll
总用量 645
drwxr-xr-x 2 ese-gonggq ese-ouycc   4096 11月 24 19:18 creatures
drwxr-xr-x 5 ese-gonggq ese-ouycc   4096 11月 24 19:18 data
-rw-r--r-- 1 ese-gonggq ese-ouycc      0 12月  3 16:34 log1
-rw-r--r-- 1 ese-gonggq ese-ouycc    100 12月  3 16:33 log2
drwxr-xr-x 2 ese-gonggq ese-ouycc   4096 12月  7 08:37 molecules
drwxr-xr-x 3 ese-gonggq ese-ouycc   4096 11月 24 19:18 north-pacific-gyre
-rwxr-xr-x 1 ese-gonggq ese-ouycc     69 11月 24 19:52 notes
-rwxr-xr-x 1 ese-gonggq ese-ouycc     32 11月 24 19:52 pizza.cfg
-rwxr-xr-x 1 ese-gonggq ese-ouycc  21583 11月 24 19:52 solar.pdf
drwxr-xr-x 5 ese-gonggq ese-ouycc   4096 11月 24 19:18 writing
drwxr-x--- 5 ese-gonggq ese-ouycc   4096 12月  7 09:13 writing_new
-rw-r--r-- 1 ese-gonggq ese-ouycc 422584 12月  7 09:15 zipfile.zip
```

1.10 **[3 points]** Print the last `10` commands you made using `history`

```
[ese-gonggq@login02 data_demo]$ history | tail -10
  278  ls
  279  rm -r writing_new
  280  ls
  281  unzip -q zipfile.zip
  282  ls
  283  chmod 750 writing_new/
  284  ll
  285  history | tali -10
  286  history | tail-10
  287  history | tail -10
[ese-gonggq@login02 data_demo]$
```

2. BASH `for` Loop

The general syntax of a BASH loop goes like:

```
for thing in list_of_things
do
    operation_using $thing
done
```

[5 points] Write a shell script to print file size (in bytes) of each `*.pdb` file in `data_demo/data/pdb/`, line by line.

```
[ese-gonggq@login02 ~]$ vi loop.sh
```

```
ssh
for file in data_demo/data/pdb/*.pdb
do
    du -b $file
done

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-- 插入 --                                                    5,1          全部
```

```
ssh
[ese-gonggq@login02 ~]$ ls
data_demo       err.log  job.sh   mpi_demo    t1.py
data_demo_link  exam     loop.sh  result.log
[ese-gonggq@login02 ~]$ ./loop.sh
1516    data_demo/data/pdb/aldrin.pdb
306     data_demo/data/pdb/ammonia.pdb
1444    data_demo/data/pdb/ascorbic-acid.pdb
1030    data_demo/data/pdb/benzaldehyde.pdb
1830    data_demo/data/pdb/camphene.pdb
5049    data_demo/data/pdb/cholesterol.pdb
1090    data_demo/data/pdb/cinnamaldehyde.pdb
1694    data_demo/data/pdb/citronellal.pdb
```

loop.sh code reference to chen penghan

thanks penghan

Clear reference