

# HW2

## Problem

### 1.man ls

```
1 hadoop103 x +
LS(1) User Commands LS(1)

NAME
    ls - list directory contents

SYNOPSIS
    ls [OPTION]... [FILE]...

DESCRIPTION
    List information about the FILES (the current directory by default). Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

    Mandatory arguments to long options are mandatory for short options too.

    -a, --all
        do not ignore entries starting with .

    -A, --almost-all
        do not list implied . and ..

    --author
        with -l, print the author of each file

    -b, --escape
        print C-style escapes for nongraphic characters

    --block-size=SIZE
        scale sizes by SIZE before printing them; e.g., '--block-size=M' prints sizes in units of 1,048,576 bytes; see SIZE format below

    -B, --ignore-backups
        do not list implied entries ending with ~

    -c
        with -lt: sort by, and show, ctime (time of last modification of file status information); with -l: show ctime and sort by name; otherwise: sort by ctime, newest first

    -C
        list entries by columns

    --color[=WHEN]
        colorize the output; WHEN can be 'never', 'auto', or 'always' (the default); more info below

    -d, --directory
        list directories themselves, not their contents

    -D, --dired
        generate output designed for Emacs' dired mode

    -f
        do not sort, enable -aU, disable -ls --color

    -F, --classify
        append indicator (one of */=>@|) to entries

    --file-type
        likewise, except do not append '*'

    --format=WORD
        across -x, commas -m, horizontal -x, long -l, single-column -l, verbose -l, vertical -C

Manual page ls(1) line 1 (press h for help or q to quit)
```

(1) ls -a

-a, --all

do not ignore entries starting with .

```
[terence@hadoop103 software]$ ls -a
.   fsimage.xml          jdk-8u212-linux-x64.tar.gz  zookeeper-3.6.3-bin.tar.gz
..  hadoop-3.1.3.tar.gz  kafka_2.13-2.8.0.tgz
```

(2) ls -alh

-h, --human-readable

with -l, print sizes in human readable format (e.g., 1K 234M 2G)

```
[terence@hadoop103 software]$ ls -alh
total 589M
drwxr-xr-x. 2 terence terence 148 May 15 14:43 .
drwxr-xr-x. 5 root     root    46 May  3 16:14 ..
-rwxr-xr-x. 1 terence terence 11K May  7 17:49 fsimage.xml
-rwxr-xr-x. 1 terence terence 323M May  3 17:24 hadoop-3.1.3.tar.gz
-rwxr-xr-x. 1 terence terence 186M May  3 17:24 jdk-8u212-linux-x64.tar.gz
-rwxrwxrwx. 1 terence terence 69M May 15 10:29 kafka_2.13-2.8.0.tgz
-rwxr-xr-x. 1 terence terence 12M May 15 13:35 zookeeper-3.6.3-bin.tar.gz
[terence@hadoop103 software]$
```

(3) ls -alht

-t sort by modification time, newest first

```
[terence@hadoop103 software]$ ls -alht
total 589M
drwxr-xr-x. 2 terence terence 148 May 15 14:43 .
-rwxr-xr-x. 1 terence terence 12M May 15 13:35 zookeeper-3.6.3-bin.tar.gz
-rwxrwxrwx. 1 terence terence 69M May 15 10:29 kafka_2.13-2.8.0.tgz
-rwxr-xr-x. 1 terence terence 11K May  7 17:49 fsimage.xml
-rwxr-xr-x. 1 terence terence 323M May  3 17:24 hadoop-3.1.3.tar.gz
-rwxr-xr-x. 1 terence terence 186M May  3 17:24 jdk-8u212-linux-x64.tar.gz
drwxr-xr-x. 5 root     root    46 May  3 16:14 ..
```

(4) ls -alht --color

--color[=WHEN]

colorize the output; WHEN can be 'never', 'auto', or 'always' (the default); more info below

```
[terence@hadoop103 software]$ ls -alht
total 589M
drwxr-xr-x. 2 terence terence 148 May 15 14:43 .
-rwxr-xr-x. 1 terence terence 12M May 15 13:35 zookeeper-3.6.3-bin.tar.gz
-rwxrwxrwx. 1 terence terence 69M May 15 10:29 kafka_2.13-2.8.0.tgz
-rwxr-xr-x. 1 terence terence 11K May  7 17:49 fsimage.xml
-rwxr-xr-x. 1 terence terence 323M May  3 17:24 hadoop-3.1.3.tar.gz
-rwxr-xr-x. 1 terence terence 186M May  3 17:24 jdk-8u212-linux-x64.tar.gz
drwxr-xr-x. 5 root     root    46 May  3 16:14 ..
```

## 2.marco.sh:

```
1  #!/bin/bash
2
3  macro () {
4      current="$(pwd)"          #pwd - print name of current/working
      directory
5      echo "$current saved to cache"  #echo - display a line of text
6  }
7
8  polo () {
9      cd "$current"            #goto directory saved by marco
10     echo "jump to $current"    #echo - display a line of text
11 }
```

```

[terence@hadoop103 bin]$ cd /opt/module/
[terence@hadoop103 module]$ ll
total 0
drwxr-xr-x. 13 terence terence 243 May  4 20:26 hadoop-3.1.3
drwxrwxr-x.  9 terence terence 211 May 16 21:37 hbase-2.3.5
drwxr-xr-x.  7 terence terence 245 May  3 20:01 jdk1.8.0_212
drwxr-xr-x.  8 terence terence 117 May 15 11:12 kafka_2.13-2.8.0
drwxrwxr-x.  6 terence terence  79 May 17 17:48 scala-2.13.6
drwxrwxr-x.  9 terence terence 171 May 15 23:53 zookeeper-3.6.3-bin
[terence@hadoop103 module]$ marco
/opt/module is saved to cache
[terence@hadoop103 module]$ cd /opt/software/
[terence@hadoop103 software]$ ll
total 602568
-rwxr-xr-x. 1 terence terence      10688 May  7 17:49 fsimage.xml
-rwxr-xr-x. 1 terence terence 338075860 May  3 17:24 hadoop-3.1.3.tar.gz
-rwxr-xr-x. 1 terence terence 195013152 May  3 17:24 jdk-8u212-linux-x64.tar.gz
-rwxrwxrwx. 1 terence terence  71403603 May 15 10:29 kafka_2.13-2.8.0.tgz
-rwxr-xr-x. 1 terence terence 12516362 May 15 13:35 zookeeper-3.6.3-bin.tar.gz
[terence@hadoop103 software]$ polo
jump to /opt/module
[terence@hadoop103 module]$ pwd
/opt/module
[terence@hadoop103 module]$

```

### 3.capture.sh

```

1  #!/bin/bash
2
3  count=0
4  while true; do
5      n=$((RANDOM % 100))
6
7      if [[ n -eq 42 ]]; then
8          #if n = 42 then print "Something went wrong" and "The error was using
magic numbers"
9              echo "Something went wrong"
10             echo ">&2 "The error was using magic numbers"
11             #print "Program successfully ran $count times\n"
12             echo "Program successfully ran $count times\n"
13
14             #Exit code 0          Success
15             #Exit code 1          General errors, Miscellaneous errors
16             #Exit code 2          Misuse of shell builtins
17             exit 1
18         fi
19
20         #each time ran successfully count++ and print "Everything went according
to plan"
21         ((count += 1))
22         echo "Everything went according to plan"
23     done

```

[illegible]

#### 4.a single command

```
1 find *.html | xargs --delimiter="\n" zip test.zip
2 #find file end with ".html"
3 #delimiter = "\n" actually " "
4 #zip name = test.zip
```

```
[terence@hadoop103 bin]$ find *.html | xargs --delimiter="\n" zip test.zip
  adding: te_st.html (deflated 80%)
  adding: test.html (stored 0%)
[terence@hadoop103 bin]$ ll
total 88
-rwxrwxr--. 1 terence terence   332 May 24 23:13 capture.sh
-rwxrwxr--. 1 terence terence   136 May  4 17:21 jpsall
-rwxrwxr--. 1 terence terence   122 May 24 22:54 marco.sh
-rwxrwxr--. 1 terence terence  2025 May  9 09:18 myhadoop.sh
-rwxrwxr--. 1 terence terence   519 May 16 23:29 myhbase.sh
-rwxrwxr--. 1 terence terence   941 May 16 00:23 myzk.sh
-rw-r--r--. 1 terence terence 48649 May 24 23:40 te_st.html
-rw-rw-r--. 1 terence terence     0 May 24 23:41 test.html
-rw-rw-r--. 1 terence terence 10042 May 24 23:46 test.zip
-rwxrwxr--. 1 terence terence  1098 May  3 21:09 xsync
[terence@hadoop103 bin]$
```

## 5.myfile.sh

```
1  #!/bin/bash
2
3  head=10
4  #default input head is 10
5
6  if [ $# -lt 1 ]
7  then
8      echo "No Args Input..."
9      exit ;
10 fi
11 #if input args is less than 1, then print "No Args Input..."
12
13 if [ $# -eq 2 ]
14 then
15     let head=$2
16 fi
17 #if input args equal 1, then head = the second input
18
19 case $1 in
20 "access")
21     echo last access $head:
22     find . -type f -print0 | xargs -0 stat --format '%x :%n' | sort -nr | head -
23     n$head
24 ;;
25 "modify")
26     echo last modify:
27     find . -type f -print0 | xargs -0 stat --format '%y :%n' | sort -nr | head -
28     n$head
29 ;;
30 "change")
31     echo last change:
32     find . -type f -print0 | xargs -0 stat --format '%z :%n' | sort -nr | head -
33     n$head
34 ;;
35 *)
36     echo "Input args: access|modify|change"
37 ;;
38 esac
```

```

36 # %w time of file birth, human-readable; - if unknown
37 # %W time of file birth, seconds since Epoch; 0 if unknown
38 # %x time of last access, human-readable
39 # %X time of last access, seconds since Epoch
40 # %y time of last modification, human-readable
41 # %Y time of last modification, seconds since Epoch
42 # %z time of last change, human-readable
43 # %Z time of last change, seconds since Epoch
44 # %n file name
45 # STEP: 1.find local files 2.using xargs and stat reformat 3.sort -n
--numeric-sort compare according to string numerical value, -r, --reverse
reverse the result of comparisons 4.head -n -n, --lines=[-]K print the
first K lines instead of the first 10; with the leading '-', print all
but the last K lines of each file

```

```

[terence@hadoop103 bin]$ myfile.sh access
last access 10:
2021-05-25 20:41:16.756849438 +0800 ../myfile.sh
2021-05-25 20:06:14.366833774 +0800 ../myhadoop.sh
2021-05-25 19:12:46.743809875 +0800 ../jpsall
2021-05-24 23:13:30.922273763 +0800 ../capture.sh
2021-05-24 22:54:08.839265104 +0800 ../marco.sh
2021-05-24 22:22:18.468250871 +0800 ../myhbase.sh
2021-05-24 22:21:53.219250683 +0800 ../xsync
2021-05-16 00:25:48.125307152 +0800 ../myzk.sh
[terence@hadoop103 bin]$ myfile.sh access 2
last access 2:
2021-05-25 20:41:16.756849438 +0800 ../myfile.sh
2021-05-25 20:06:14.366833774 +0800 ../myhadoop.sh
[terence@hadoop103 bin]$ myfile.sh change
last change 10:
2021-05-25 20:41:13.362849413 +0800 ../myfile.sh
2021-05-24 23:13:28.907273748 +0800 ../capture.sh
2021-05-24 22:54:07.235265092 +0800 ../marco.sh
2021-05-23 17:34:47.507074103 +0800 ../myzk.sh
2021-05-16 23:34:20.151478008 +0800 ../myhbase.sh
2021-05-09 11:36:23.879417022 +0800 ../myhadoop.sh
2021-05-04 21:27:34.485606985 +0800 ../jpsall
2021-05-03 21:12:02.243202342 +0800 ../xsync
[terence@hadoop103 bin]$ myfile.sh modify
last modify 10:
2021-05-25 20:41:13.362849413 +0800 ../myfile.sh
2021-05-24 23:13:28.907273748 +0800 ../capture.sh
2021-05-24 22:54:07.234265092 +0800 ../marco.sh
2021-05-16 23:29:44.367458948 +0800 ../myhbase.sh
2021-05-16 00:23:44.072907195 +0800 ../myzk.sh
2021-05-09 09:18:23.558874635 +0800 ../myhadoop.sh
2021-05-04 17:21:04.373423826 +0800 ../jpsall
2021-05-03 21:09:54.547223697 +0800 ../xsync
[terence@hadoop103 bin]$ █

```