

第二周学习报告

目录树

ls 查看该目录下所有的文稿文件

pwd 当前工作目录

```
donghengxu -- zsh -- 80x24
Last login: Sat Mar 15 13:38:41 on console
(base) donghengxu@donghengxudeMacBook-Air ~ % ls
Applications      Parallels
Desktop           Public
Documents         Visual Studio Code.app
Downloads         Visual Studio Code的副本.app
Library           brew-install
Movies            repo
Music             拼音.txt
(base) donghengxu@donghengxudeMacBook-Air ~ % pwd
/Users/donghengxu
(base) donghengxu@donghengxudeMacBook-Air ~ %
```

cd 改变目录 cd ..改变上一级文件夹

```
(base) donghengxu@donghengxudeMacBook-Air Desktop % cat abc.txt
????pre?vppt6R\O&?zP[??
(base) donghengxu@donghengxudeMacBook-Air Desktop % cat abc.txt
????pre?vppt6R\O&?zP[??
hello
(base) donghengxu@donghengxudeMacBook-Air Desktop % cat abc.txt
????pre?vppt6R\O&?zP[??
hello
good
(base) donghengxu@donghengxudeMacBook-Air Desktop % cd ..
(base) donghengxu@donghengxudeMacBook-Air ~ % ls
Applications      Parallels
Desktop           Public
Documents         Visual Studio Code.app
Downloads         Visual Studio Code的副本.app
Library           brew-install
Movies            repo
Music             拼音.txt
(base) donghengxu@donghengxudeMacBook-Air ~ %
```

cat 获取文本文件内容

```
/Users/donghengxu/Desktop
(base) donghengxu@donghengxudeMacBook-Air Desktop % ls
$RECYCLE.BIN      截屏 2025-03-10 下午 9.00.54.png
2022年竣工商3班  截屏 2025-03-12 上午 9.33.48.png
Scripts           截屏 2025-03-15 下午 2.30.44.png
Thumbs.db         截屏 2025-03-15 下午 2.46.00.png
abc               截屏 2025-03-15 下午 2.46.00.png
desktop.ini       夸克网盘.lnk
作业             百度网盘.lnk
实习             第一周学习报告.wps
托福
(base) donghengxu@donghengxudeMacBook-Air Desktop % ls
$RECYCLE.BIN      截屏 2025-03-10 下午 9.00.54.png
2022年竣工商3班  截屏 2025-03-12 上午 9.33.48.png
Scripts           截屏 2025-03-15 下午 2.30.44.png
Thumbs.db         截屏 2025-03-15 下午 2.46.00.png
abc.txt           截屏 2025-03-15 下午 2.46.00.png
desktop.ini       夸克网盘.lnk
作业             百度网盘.lnk
实习             第一周学习报告.wps
托福
(base) donghengxu@donghengxudeMacBook-Air Desktop % cat abc.txt
????pre?vppt6R\O&?zP[??
(base) donghengxu@donghengxudeMacBook-Air Desktop %
```

根目录: / cd 回车即可回到用户主目录

```
good
(base) donghengxu@donghengxudeMacBook-Air Documents % pwd
/Users/donghengxu/Documents
(base) donghengxu@donghengxudeMacBook-Air Documents % cd /
(base) donghengxu@donghengxudeMacBook-Air / % ls
AppleInternal  Users      dev         private    var
Applications   Volumes   etc         sbin
Library        bin        home        tmp
System         cores     opt         usr
(base) donghengxu@donghengxudeMacBook-Air / %
```

路径: 绝对路径 (/Users/donghengxu/Documents/abc.txt)、相对路径 (abc.txt)

```
system      cores      opt         usr
(base) donghengxu@donghengxudeMacBook-Air / % cat abc.txt
cat: abc.txt: No such file or directory
(base) donghengxu@donghengxudeMacBook-Air / % cat /Users/donghengxu/Documents
(base) donghengxu@donghengxudeMacBook-Air / % cat /Users/donghengxu/Documents/abc.txt
????pre?vppt6R\O&?zP[??
hello
good
(base) donghengxu@donghengxudeMacBook-Air / %
```

```
下载 — zsh — 80x24
Last login: Sat Mar 15 14:23:43 on ttys000
[(base) donghengxu@donghengxudeMacBook-Air ~ % cd Downloas
cd: no such file or directory: Downloas
[(base) donghengxu@donghengxudeMacBook-Air ~ % cd Downloads
[(base) donghengxu@donghengxudeMacBook-Air Downloads % cat Desktop/abc.txt
cat: Desktop/abc.txt: No such file or directory
[(base) donghengxu@donghengxudeMacBook-Air Downloads % cat ../Desktop/abc.txt
????pre?vppt6R\0&?zP[??
hello
good
(base) donghengxu@donghengxudeMacBook-Air Downloads %
```

Unix 路径: /

Windows 路径: 反斜杠 \ (没有根目录的概念)

Shell (Bash、Zsh) 的基本语法结构 (空格分隔、短选项、长选项、参数)

空格分隔: cat , ls ,

参数 : cat **anaconda3** (即为参数) ls ..

```
donghengxu — less ◀ man ls — 80x24
LS(1)                                General Commands Manual                                LS(1)

NAME
    ls - list directory contents

SYNOPSIS
    ls [-@ABCFGHILOPRSTUWabcfgihiklmnopqrstuvwxy1%,] [--color=when]
        [-D format] [file ...]

DESCRIPTION
    For each operand that names a file of a type other than directory, ls
    displays its name as well as any requested, associated information.  For
    each operand that names a file of type directory, ls displays the names of
    files contained within that directory, as well as any requested, associated
    information.

    If no operands are given, the contents of the current directory are
    displayed.  If more than one operand is given, non-directory operands are
    displayed first; directory and non-directory operands are sorted separately
    and in lexicographical order.

    The following options are available:
```

```
donghengxu — zsh — 80x24
(base) donghengxu@donghengxudeMacBook-Air ~ % man ls
(base) donghengxu@donghengxudeMacBook-Air ~ % man ls
(base) donghengxu@donghengxudeMacBook-Air ~ % ls -a
.                  .zprofile
..                 .zsh_history
.CFUserTextEncoding .zsh_sessions
.DS_Store          .zshrc
.Trash             Applications
.anaconda          Applications (Parallels)
.bash_profile      Desktop
.conda             Documents
.condarc           Downloads
.config           Library
.continuum         Movies
.cups             Music
.gitconfig        Parallels
.ipython          Pictures
.python_history   Public
.ssh              Visual Studio Code.app
.tcshrc           Visual Studio Code的副本.app
.viminfo          brew-install
.vscode           repo
.xonshrc
(base) donghengxu@donghengxudeMacBook-Air ~ %
```

```
donghengxu — zsh — 80x24
.python_history    Public
.ssh               Visual Studio Code.app
.tcshrc            Visual Studio Code的副本.app
.viminfo           brew-install
.vscode            repo
.xonshrc
(base) donghengxu@donghengxudeMacBook-Air ~ % ls -l
total 16
drwx-----@ 6 donghengxu  staff  192  3  9 14:10 Applications
drwxr-xr-x@  5 donghengxu  staff  160  3 12 08:44 Applications (Parallels)
drwxr--r--+ 17 donghengxu  staff  544  3 15 15:20 Desktop
drwx-----+ 30 donghengxu  staff  960  3 15 15:19 Documents
drwx-----+ 72 donghengxu  staff 2304  3 12 08:37 Downloads
drwx-----@ 87 donghengxu  staff 2784  3 10 15:29 Library
drwx----- 14 donghengxu  staff  448  2 23 2024 Movies
drwx-----+  7 donghengxu  staff  224 11 26 2022 Music
drwx-----  4 donghengxu  staff  128 11 26 2022 Parallels
drwx-----+  7 donghengxu  staff  224 11 26 2022 Pictures
drwxr-xr-x+  4 donghengxu  staff  128  6 27 2022 Public
-rw-r--r--@  1 donghengxu  staff  788  3  9 11:37 Visual Studio Code.app
-rw-r--r--@  1 donghengxu  staff  788  3  9 11:37 Visual Studio Code的副本.app
drwxr-xr-x 11 donghengxu  staff  352  3  8 15:35 brew-install
drwxr-xr-x  5 donghengxu  staff  160  3 10 21:02 repo
(base) donghengxu@donghengxudeMacBook-Air ~ %
```

d: 文件夹

-: 普通文件

l: 符号链接

rwX: 权限: 读、写、执行。分为三组: 所有者 owner 的权限, 用户所在的组的权限, 其他人的权限。

第五列数字: 文件大小

日期

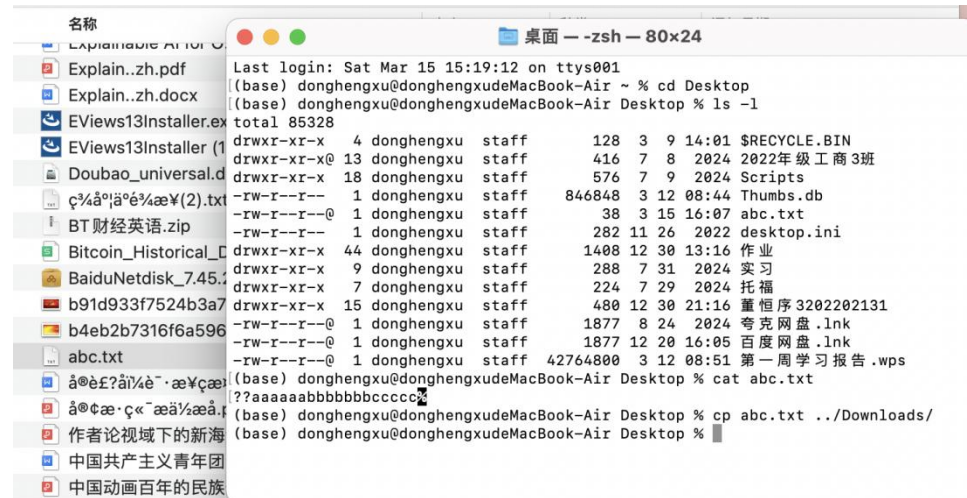
第二列数字; 硬连接

```
donghengxu - zsh - 80x24
drwx-----+ 51 donghengxu staff 1.6K 3 15 15:20 .Trash
drwxr-xr-x 4 donghengxu staff 128B 3 9 11:56 .anaconda
-rw-r--r-- 1 root staff 551B 3 9 14:13 .bash_profile
drwxr-xr-x 4 donghengxu staff 128B 3 10 20:10 .conda
-rw-r--r-- 1 donghengxu staff 100B 3 9 11:56 .condarc
drwxr-xr-x 3 root staff 96B 3 8 17:19 .config
drwxr-xr-x 3 donghengxu staff 96B 3 9 11:56 .continuum
drwx----- 3 donghengxu staff 96B 8 31 2022 .cups
-rw-r--r-- 1 donghengxu staff 66B 3 10 20:40 .gitconfig
drwxr-xr-x 3 donghengxu staff 96B 3 10 15:15 .ipython
-rw----- 1 donghengxu staff 22B 3 10 15:21 .python_history
drwx----- 5 donghengxu staff 160B 3 10 20:06 .ssh
-rw-r--r-- 1 root staff 359B 3 9 14:13 .tcshrc
-rw----- 1 donghengxu staff 900B 3 10 21:11 .viminfo
drwxr-xr-x 5 donghengxu staff 160B 3 8 14:48 .vscode
-rw-r--r-- 1 root staff 739B 3 9 14:13 .xonshrc
-rw-r--r-- 1 donghengxu staff 572B 3 8 16:16 .zprofile
-rw----- 1 donghengxu staff 4.6K 3 15 15:19 .zsh_history
drwx----- 66 donghengxu staff 2.1K 3 15 15:19 .zsh_sessions
-rw-r--r-- 1 root staff 550B 3 9 14:13 .zshrc
drwx-----@ 6 donghengxu staff 192B 3 9 14:10 Applications
drwxr-xr-x@ 5 donghengxu staff 160B 3 12 08:44 Applications (Parallels)
drwxr--r--+ 17 donghengxu staff 544B 3 15 15:20 Desktop
drwx-----+ 30 donghengxu staff 960B 3 15 15:19 Documents
```

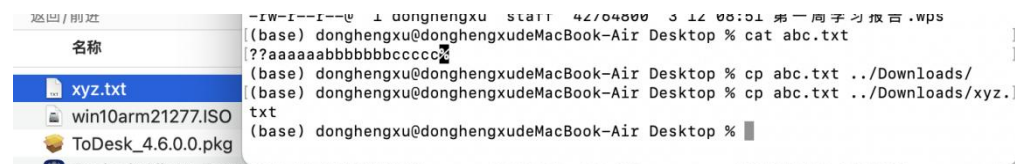
ls -alhS 按文件大小排序 ls -alht 按时间排序

```
donghengxu - zsh - 80x24
(base) donghengxu@donghengxudeMacBook-Air ~ % ls -alhS
total 144
-rw-r--r--@ 1 donghengxu staff 12292 3 15 15:19 .DS_Store
-rw----- 1 donghengxu staff 4672 3 15 15:19 .zsh_history
drwx-----@ 87 donghengxu staff 2784 3 10 15:29 Library
drwx-----+ 72 donghengxu staff 2304 3 12 08:37 Downloads
drwx----- 66 donghengxu staff 2112 3 15 15:19 .zsh_sessions
drwx-----+ 51 donghengxu staff 1632 3 15 15:20 .Trash
drwxr-xr-x+ 39 donghengxu staff 1248 3 15 15:19 .
drwx-----+ 30 donghengxu staff 960 3 15 15:19 Documents
-rw----- 1 donghengxu staff 900 3 10 21:11 .viminfo
-rw-r--r--@ 1 donghengxu staff 788 3 9 11:37 Visual Studio Code.app
-rw-r--r--@ 1 donghengxu staff 788 3 9 11:37 Visual Studio Code的副本.ap
-rw-r--r-- 1 root staff 739 3 9 14:13 .xonshrc
-rw-r--r-- 1 donghengxu staff 572 3 8 16:16 .zprofile
-rw-r--r-- 1 root staff 551 3 9 14:13 .bash_profile
-rw-r--r-- 1 root staff 550 3 9 14:13 .zshrc
drwxr--r--+ 17 donghengxu staff 544 3 15 15:20 Desktop
drwx----- 14 donghengxu staff 448 2 23 2024 Movies
-rw-r--r-- 1 root staff 359 3 9 14:13 .tcshrc
drwxr-xr-x 11 donghengxu staff 352 3 8 15:35 brew-install
drwx-----+ 7 donghengxu staff 224 11 26 2022 Music
drwx-----+ 7 donghengxu staff 224 11 26 2022 Pictures
drwx-----@ 6 donghengxu staff 192 3 9 14:10 Applications
```

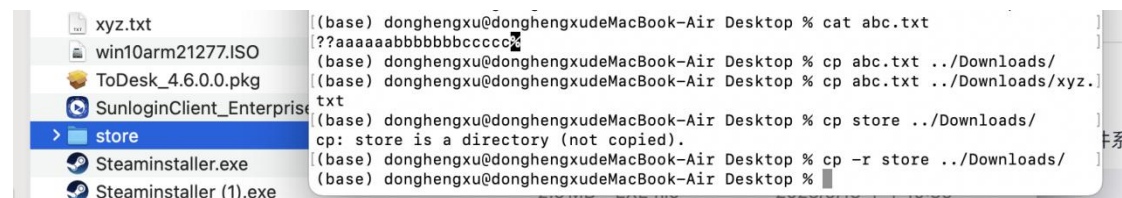

cp:复制文件



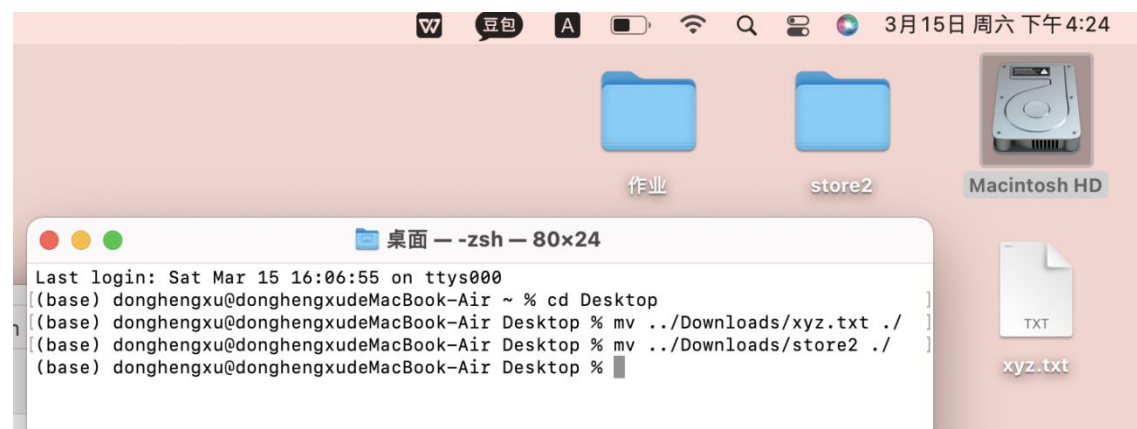
更改文件名



复制文件夹



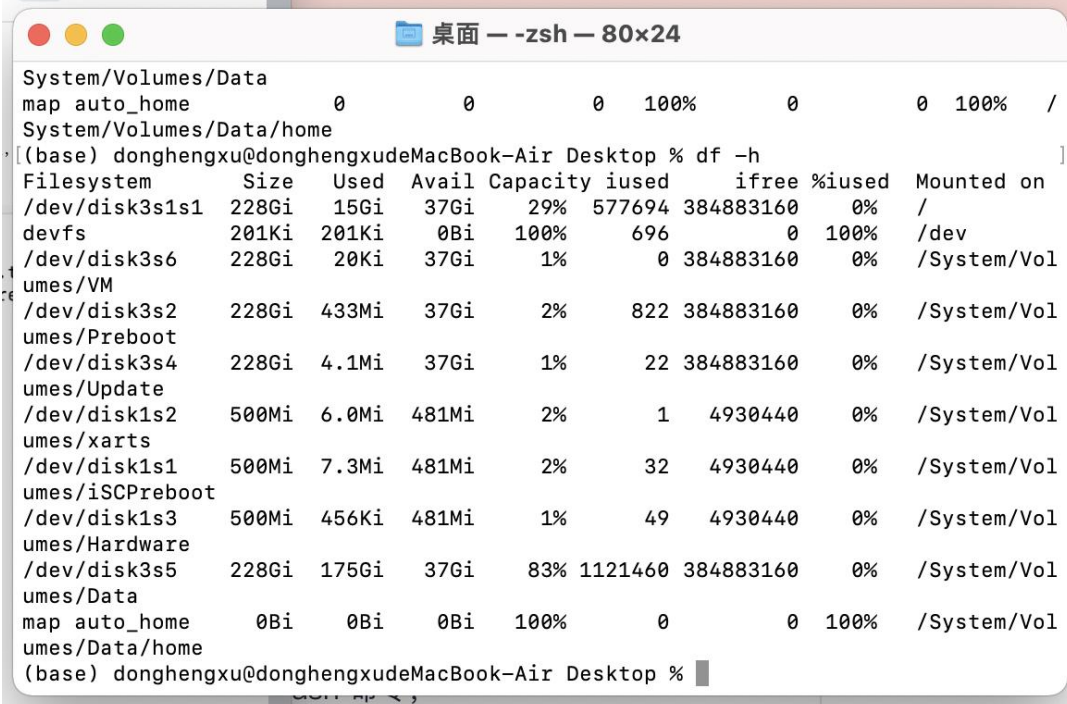
mv: 移动文件



mkdir: 在桌面创建 **myproject** 的一个新的文件夹，并将一些文件复制到该文件夹，利用 **ls** 命令查看，并用 **rm** 命令删除 (**rm -rf** 强制删除)

```
Last login: Sat Mar 15 16:06:55 on ttys000
(base) donghengxu@donghengxudeMacBook-Air ~ % cd Desktop
(base) donghengxu@donghengxudeMacBook-Air Desktop % mv ../Downloads/xyz.txt ./
(base) donghengxu@donghengxudeMacBook-Air Desktop % mv ../Downloads/store2 ./
(base) donghengxu@donghengxudeMacBook-Air Desktop % mkdir myproject
(base) donghengxu@donghengxudeMacBook-Air Desktop % ls-alh myproject/
zsh: command not found: ls-alh
(base) donghengxu@donghengxudeMacBook-Air Desktop % ls -alh myproject/
total 8
drwxr-xr-x  4 donghengxu  staff   128B  3 15 16:27 .
drwxr--r--+ 20 donghengxu  staff   640B  3 15 16:27 ..
drwxr-xr-x@  3 donghengxu  staff    96B  3 15 16:17 store2的副本
-rw-r--r--@  1 donghengxu  staff    38B  3 15 16:12 xyz的副本.txt
(base) donghengxu@donghengxudeMacBook-Air Desktop % rm xyz.txt
(base) donghengxu@donghengxudeMacBook-Air Desktop % rm -r myproject/
(base) donghengxu@donghengxudeMacBook-Air Desktop %
```

df: 查看磁盘剩余空间



桌面 — zsh — 80x24

```
System/Volumes/Data
map auto_home          0          0          0 100%          0          0 100% /
System/Volumes/Data/home
(base) donghengxu@donghengxudeMacBook-Air Desktop % df -h

```

Filesystem	Size	Used	Avail	Capacity	iused	ifree	%iused	Mounted on
/dev/disk3s1s1	228Gi	15Gi	37Gi	29%	577694	384883160	0%	/
devfs	201Ki	201Ki	0Bi	100%	696	0	100%	/dev
/dev/disk3s6	228Gi	20Ki	37Gi	1%	0	384883160	0%	/System/Vol
umes/VM								
/dev/disk3s2	228Gi	433Mi	37Gi	2%	822	384883160	0%	/System/Vol
umes/Preboot								
/dev/disk3s4	228Gi	4.1Mi	37Gi	1%	22	384883160	0%	/System/Vol
umes/Update								
/dev/disk1s2	500Mi	6.0Mi	481Mi	2%	1	4930440	0%	/System/Vol
umes/xarts								
/dev/disk1s1	500Mi	7.3Mi	481Mi	2%	32	4930440	0%	/System/Vol
umes/iSCPreboot								
/dev/disk1s3	500Mi	456Ki	481Mi	1%	49	4930440	0%	/System/Vol
umes/Hardware								
/dev/disk3s5	228Gi	175Gi	37Gi	83%	1121460	384883160	0%	/System/Vol
umes/Data								
map auto_home	0Bi	0Bi	0Bi	100%	0	0	100%	/System/Vol
umes/Data/home								

```
(base) donghengxu@donghengxudeMacBook-Air Desktop %
```

du: 查看文件夹所占空间

```
anaconda3 — zsh — 80x24
[(base) donghengxu@donghengxudeMacBook-Air store % cd .. ]
[(base) donghengxu@donghengxudeMacBook-Air Desktop % cd anaconda3 ]
[(base) donghengxu@donghengxudeMacBook-Air anaconda3 % du -d 1 . ]
2136  ./man
27896 ./conda-meta
8     ./condabin
576   ./ssl
45264 ./qml
24    ./cmake
565616 ./bin
37968 ./plugins
24    ./shell
5264  ./libexec
615120 ./include
29512 ./resources
3168  ./sbin
144   ./etc
48    ./python.app
8582336 ./pkgs
32    ./mysql
277232 ./lib
0     ./doc
8     ./mkspecs
0     ./envs
```

利用豆包解释命令:

1. `du -s *`

- **du 命令:** du 是 disk usage 的缩写，用于估算文件和目录的磁盘使用空间。
- **-s 选项:** -s 即 --summarize，该选项的作用是只显示每个参数的总计，也就是仅显示每个文件或目录的总大小，而不显示其内部子目录和文件的详细大小信息。
- *****: 这是一个通配符，代表当前目录下的所有文件和目录。

因此，`du -s *` 会统计当前目录下每个文件和目录占用磁盘空间的总量，并输出结果。每行包含两个字段，第一个字段是磁盘使用量（以块为单位，通常是 1KB），第二个字段是对应的文件或目录名。

2. `|` (管道符号)

管道符号 `|` 用于将前一个命令的标准输出作为后一个命令的标准输入。在这个命令中，`du -s *` 的输出会作为 `sort -nr` 的输入。

3. `sort -nr`

- **sort 命令:** 用于对文本行进行排序。
- **-n 选项:** -n 即 --numeric-sort，表示按照数值大小进行排序，而不是按照字典顺序排序。因为 du 输出的第一列是磁盘使用量，是数值类型，使用 -n 可以按照磁盘使用量的大小进行排序。
- **-r 选项:** -r 即 --reverse，表示反向排序，也就是降序排序。结合 -n 选项，`sort -nr` 会将输入的行按照

- **-r 选项:** -r 即 --reverse，表示反向排序，也就是降序排序。结合 -n 选项，`sort -nr` 会将输入的行按照数值大小进行降序排序。

4. `> ~/report.txt`

- **> 重定向符号:** 用于将命令的标准输出重定向到一个文件中。如果文件不存在，则会创建该文件；如果文件已经存在，则会覆盖其原有内容。
- **~/report.txt:** ~ 代表用户的主目录，~/report.txt 表示主目录下的 report.txt 文件。因此，`> ~/report.txt` 会将 `sort -nr` 的输出结果保存到用户主目录下的 report.txt 文件中。

示例

假设当前目录下有三个文件和一个目录，分别是 file1.txt、file2.txt、file3.txt 和 dir1，执行 `du -s * | sort -nr > ~/report.txt` 后，~/report.txt 文件的内容可能如下：

```
plaintext ^
4096  dir1
2048  file3.txt
1024  file2.txt
512   file1.txt
```

应用:

```
report.txt
5260144 lib
3197024 pkgs
615120 include
565616 bin
508968 mysql-test
67392 _conda
27896 conda-meta
13880 Anaconda-Navigator.app
6280 mkspecs
5264 libexec
2136 man
1560 sbin
1440 share
1408 doc
144 mysql
144 etc
48 python.app
24 cmake
8 shell
8 condabin
0 translations
0 ssl
0 resources
0 qml
0 plugins
0 envs

Last login: Sat Mar 15 16:20:56 on tty001
donghengxu@donghengxudeMacBook-Air ~ % cd repo
donghengxu@donghengxudeMacBook-Air repo % git clone git@gitcode.com:hengxudong/mywork.git
Cloning into 'mywork'...
Enter passphrase for key '/Users/donghengxu/.ssh/id_ed25519':
warning: You appear to have cloned an empty repository.
donghengxu@donghengxudeMacBook-Air repo % ls -l
total 8
drwxr-xr-x  3 donghengxu  staff   96  3 16 00:40 mywork
-rw-r--r--  1 donghengxu  staff  386  3 10 19:43 script1.py
drwxr-xr-x  7 donghengxu  staff  224  3 12 08:51 week01
donghengxu@donghengxudeMacBook-Air repo % cd mywork/
donghengxu@donghengxudeMacBook-Air mywork % ls -l
total 8
donghengxu@donghengxudeMacBook-Air mywork % git log
fatal: your current branch 'master' does not have any commits yet
donghengxu@donghengxudeMacBook-Air mywork % cp -f ./abc.txt ./
cp: /Users/donghengxu/abc.txt: No such file or directory
donghengxu@donghengxudeMacBook-Air mywork % cp -f ./abc.txt ./
donghengxu@donghengxudeMacBook-Air mywork % ls -al
total 8
drwxr-xr-x  4 donghengxu  staff  128  3 16 00:44 .
drwxr-xr-x  6 donghengxu  staff  192  3 16 00:40 ..
drwxr-xr-x  9 donghengxu  staff  288  3 16 00:40 .git
-rw-r--r--@ 1 donghengxu  staff   38  3 16 00:44 abc.txt
donghengxu@donghengxudeMacBook-Air mywork % git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
      abc.txt

nothing added to commit but untracked files present (use "git add" to track)
donghengxu@donghengxudeMacBook-Air mywork % git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
      new file:   abc.txt

donghengxu@donghengxudeMacBook-Air mywork % git commit -m 'add some files for test'
[master (root-commit) 5242221] add some files for test
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 abc.txt
donghengxu@donghengxudeMacBook-Air mywork % git log
commit 52422215d4e4a7f8b9977083a97bb3b6a60b (HEAD -> master)
Author: hengxudong <hengxudong@noreply.gitcode.com>
Date:   Sun Mar 16 00:49:53 2025 +0800

    add some files for test
donghengxu@donghengxudeMacBook-Air mywork % git push
Enter passphrase for key '/Users/donghengxu/.ssh/id_ed25519':
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 233 bytes | 233.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote: Start Git Hooks Checking
To gitcode.com:hengxudong/mywork.git
```