

# HW #4

Wednesday, February 16, 2022 2:50 PM

```
1) tyc6175@asen4057:~$ cd /
tyc6175@asen4057:/$ ls
bin  cdrom  etc  lib  lib64  lost+found  mnt  proc  run  snap  sys  usr
boot  dev  home  lib32  libx32  media  opt  root  sbin  srv  tmp  var
```

```
2) tyc6175@asen4057:/$ ls -al
total 76
drwxr-xr-x  20 root root  4096 Nov 15 18:48 .
drwxr-xr-x  20 root root  4096 Nov 15 18:48 ..
lrwxrwxrwx  1 root root    7 Aug 24 08:41 bin -> usr/bin
drwxr-xr-x  5 root root  4096 Feb 16 06:39 boot
drwxr-xr-x  2 root root  4096 Oct  8 06:36 cdrom
drwxr-xr-x 19 root root 4080 Jan 24 17:17 dev
drwxr-xr-x 111 root root 4096 Feb 16 06:39 etc
drwxr-xr-x 31 root root 4096 Feb 16 21:45 home
lrwxrwxrwx  1 root root    7 Aug 24 08:41 lib -> usr/lib
lrwxrwxrwx  1 root root    9 Aug 24 08:41 lib32 -> usr/lib32
lrwxrwxrwx  1 root root    9 Aug 24 08:41 lib64 -> usr/lib64
lrwxrwxrwx  1 root root   10 Aug 24 08:41 libx32 -> usr/libx32
drwx----- 2 root root 16384 Oct  8 06:35 lost+found
drwxr-xr-x  2 root root  4096 Aug 24 08:42 media
drwxr-xr-x  2 root root  4096 Aug 24 08:42 mnt
drwxr-xr-x  2 root root  4096 Aug 24 08:42 opt
dr-xr-xr-x 271 root root    0 Nov 15 19:06 proc
drwx----- 8 root root  4096 Nov 17 03:52 root
drwxr-xr-x 31 root root 1020 Feb 16 07:00 run
lrwxrwxrwx  1 root root    8 Aug 24 08:41 sbin -> usr/sbin
drwxr-xr-x  7 root root  4096 Nov 16 01:21 snap
drwxr-xr-x  2 root root  4096 Aug 24 08:42 srv
dr-xr-xr-x 13 root root    0 Nov 15 19:06 sys
drwxrwxrwt 13 root root  4096 Feb 16 21:51 tmp
drwxr-xr-x 15 root root  4096 Aug 24 08:46 usr
drwxr-xr-x 13 root root  4096 Aug 24 08:47 var
```

- 3) The first ten characters in this format are an indication of the permissions associated with the files

4) tyca6175@asen4057:/\$ df

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	4028636	0	4028636	0%	/dev
tmpfs	814764	1992	812772	1%	/run
/dev/mapper/ubuntu-root	128945348	5004076	118640360	5%	/
tmpfs	4073804	0	4073804	0%	/dev/shm
tmpfs	5120	0	5120	0%	/run/lock
tmpfs	4073804	0	4073804	0%	/sys/fs/cgroup
/dev/vda2	999320	315248	615260	34%	/boot
/dev/vda1	1046512	5356	1041156	1%	/boot/efi
/dev/loop1	72064	72064	0	100%	/snap/lxd/21029
/dev/loop6	68864	68864	0	100%	/snap/lxd/21835
/dev/loop8	56832	56832	0	100%	/snap/core18/2253
/dev/loop2	63488	63488	0	100%	/snap/core20/1270
/dev/loop10	56960	56960	0	100%	/snap/core18/2284
/dev/loop0	63488	63488	0	100%	/snap/core20/1328
/dev/loop7	44672	44672	0	100%	/snap/snapd/14978
tmpfs	814760	0	814760	0%	/run/user/426758606
tmpfs	814760	0	814760	0%	/run/user/942090790
tmpfs	814760	0	814760	0%	/run/user/942078614
tmpfs	814760	0	814760	0%	/run/user/942143761
tmpfs	814760	0	814760	0%	/run/user/942097475
tmpfs	814760	0	814760	0%	/run/user/942140788
tmpfs	814760	0	814760	0%	/run/user/942020085
tmpfs	814760	0	814760	0%	/run/user/942103666
tmpfs	814760	0	814760	0%	/run/user/942156406
tmpfs	814760	0	814760	0%	/run/user/942090762
tmpfs	814760	0	814760	0%	/run/user/942147591
tmpfs	814760	0	814760	0%	/run/user/1788153979
tmpfs	814760	0	814760	0%	/run/user/942090843

5) Using the man command here is five commands and what they do

```
UNIQ(1)                               User Commands                               UNIQ(1)

NAME
    uniq - report or omit repeated lines

SYNOPSIS
    uniq [OPTION]... [INPUT [OUTPUT]]

DESCRIPTION
    Filter adjacent matching lines from INPUT (or standard input), writing
    to OUTPUT (or standard output).

    With no options, matching lines are merged to the first occurrence.

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

    -c, --count
        prefix lines by the number of occurrences

    -d, --repeated
        only print duplicate lines, one for each group

    -D      print all duplicate lines

    --all-repeated[=METHOD]
        like -D, but allow separating groups with an empty line;
        Manual page unia(1) line 1 (press h for help or q to quit)
```

WALL(1)	User Commands	WALL(1)
<b>NAME</b>		
wall - write a message to all users		
<b>SYNOPSIS</b>		
wall [-n] [-t <u>timeout</u> ] [-g <u>group</u> ] [ <u>message</u>   <u>file</u> ]		
<b>DESCRIPTION</b>		
wall displays a <u>message</u> , or the contents of a <u>file</u> , or otherwise its standard input, on the terminals of all currently logged in users. The command will wrap lines that are longer than 79 characters. Short lines are whitespace padded to have 79 characters. The command will always put a carriage return and new line at the end of each line.		
Only the superuser can write on the terminals of users who have chosen to deny messages or are using a program which automatically denies messages.		
Reading from a <u>file</u> is refused when the invoker is not superuser and the program is set-user-ID or set-group-ID.		
<b>OPTIONS</b>		
-n, --nobanner Suppress the banner.		
-t, --timeout <u>timeout</u>		
Manual page wall(1) line 1 (press h for help or q to quit)		

LN(1)	User Commands	LN(1)
<b>NAME</b>		
ln - make links between files		
<b>SYNOPSIS</b>		
ln [OPTION]... [-T] TARGET <u>LINK NAME</u> ln [OPTION]... TARGET ln [OPTION]... TARGET... DIRECTORY ln [OPTION]... -t DIRECTORY TARGET...		
<b>DESCRIPTION</b>		
In the 1st form, create a link to TARGET with the name LINK_NAME. In the 2nd form, create a link to TARGET in the current directory. In the 3rd and 4th forms, create links to each TARGET in DIRECTORY. Create hard links by default, symbolic links with --symbolic. By default, each destination (name of new link) should not already exist. When creating hard links, each TARGET must exist. Symbolic links can hold arbitrary text; if later resolved, a relative link is interpreted in relation to its parent directory.		
Mandatory arguments to long options are mandatory for short options too.		
--backup[=CONTROL] make a backup of each existing destination file		
Manual page ln(1) line 1 (press h for help or q to quit)		

TR(1)	User Commands	TR(1)
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```
TR(1)                               User Commands                         TR(1)

NAME
    tr - translate or delete characters

SYNOPSIS
    tr [OPTION]... SET1 [SET2]

DESCRIPTION
    Translate, squeeze, and/or delete characters from standard input, writing to standard output.

    -c, -C, --complement
        use the complement of SET1

    -d, --delete
        delete characters in SET1, do not translate

    -s, --squeeze-repeats
        replace each sequence of a repeated character that is listed in the last specified SET, with a single occurrence of that character

    -t, --truncate-set1
        first truncate SET1 to length of SET2

    --help display this help and exit
Manual page tr(1) line 1 (press h for help or q to quit)
```

```
MT(1)                               GNU CPIO                           MT(1)

NAME
    mt - control magnetic tape drive operation

SYNOPSIS
    mt [-V] [-f device] [--file=device] [--rsh-command=command] [--version]
operation [count]

DESCRIPTION
    This manual page documents the GNU version of mt. mt performs the given operation, which must be one of the tape operations listed below, on a tape drive.

    The default tape device to operate on is taken from the file /usr/include/sys/mtio.h when mt is compiled. It can be overridden by giving a device file name in the environment variable TAPE or by a command line option (see below), which also overrides the environment variable.

    The device must be either a character special file or a remote tape drive. To use a tape drive on another machine as the archive, use a filename that starts with `HOSTNAME:'. The hostname can be preceded by a username and an '@' to access the remote tape drive as that user, if you have permission to do so (typically an entry in that user's `~/.rhosts' file).

    The available operations are listed below. Unique abbreviations are
```

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

6) tyca6175@asen4057:/bin\$ cd  
tyca6175@asen4057:~\$ mkdir ASEN4057

6) tyca6175@asen4057:/bin\$ cd  
tyca6175@asen4057:~\$ mkdir ASEN4057  
tyca6175@asen4057:~\$ ls  
**ASEN4057**

```
tyca6175@asen4057:~$ ls  
ASEN4057 asen4057test.txt  
tyca6175@asen4057:~$ cat asen4057test.txt  
Name: Tyler Candler  
Year: Junior  
Favorite Movie: Power Rangers  
Favorite Video Game: Roblox  
tyca6175@asen4057:~$ █
```

```
tyca6175@asen4057:~$ chmod u+r+w+x asen4057test.txt  
tyca6175@asen4057:~$ █
```

```
tyca6175@asen4057:~/ASEN4057$ ls -al  
total 12  
drwxr-xr-x 2 tyca6175 domain users 4096 Feb 16 23:24 .  
drwxr-xr-x 4 tyca6175 domain users 4096 Feb 16 23:24 ..  
-rw-r--r-- 1 tyca6175 domain users 92 Feb 16 22:36 asen4057test.txt  
tyca6175@asen4057:~/ASEN4057$ █
```

```
tyca6175@asen4057:~/ASEN4057$ cat asen4057test.txt  
Name: Tyler Candler  
Year: Junior  
Favorite Movie: Power Rangers  
Favorite Video Game: Roblox  
tyca6175@asen4057:~/ASEN4057$ █
```

```
tyca6175@asen4057:~/ASEN4057$ mv asen4057test.txt asen4057.txt  
tyca6175@asen4057:~/ASEN4057$ ls  
asen4057.txt  
tyca6175@asen4057:~/ASEN4057$ █
```

```
tyca6175@asen4057:~/ASEN4057$ rm asen4057.txt  
tyca6175@asen4057:~/ASEN4057$ ls  
tyca6175@asen4057:~/ASEN4057$ █
```

7)

```
tyca6175@asen4057:~/ASEN4057$ mkdir hellow_world  
tyca6175@asen4057:~/ASEN4057$ ls  
hellow_world  
tyca6175@asen4057:~/ASEN4057$ █
```

```

\*
\*
* File: hello_world.c
* Author: Tyler Candler
* \/
    * include preprocessor directives */
#include <stdio.h>
#include <stdlib.h>
int main(int argc, char** argv)
{ // print "Hello World" to terminal
    printf("Hello World!\n");
    return (EXIT_SUCCESS);
}
~
```

```

tyca6175@asen4057:~/ASEN4057/hellow_world$ vi hello_world.c
tyca6175@asen4057:~/ASEN4057/hellow_world$ gcc hello_world.c -o hello_world
tyca6175@asen4057:~/ASEN4057/hellow_world$ ls
hello_world  hello_world.c
tyca6175@asen4057:~/ASEN4057/hellow_world$ chmod u+w+r+x hello_world
tyca6175@asen4057:~/ASEN4057/hellow_world$ ./hello_world
Hello World!
```

8) The gcc command is located in `/usr/bin`, which is why you can use it without using the full pathname

9) The bash shell searches in your current directory

10) `ls /bin /usr/bin | sort > usefulprograms.txt`

11) The default terminal is in `/bin/bash`

```

tyca6175@asen4057:~/CANDLER$ echo "$SHELL"
/bin/bash
```

12) `tyca6175@asen4057:~/ASEN4057$ update-alternatives --config editor`  
 There are 4 choices for the alternative editor (providing `/usr/bin/editor`) .

Selection	Path	Priority	Status
<hr/>			
* 0	/bin/nano	40	auto mode
1	/bin/ed	-100	manual mode
2	/bin/nano	40	manual mode
3	/usr/bin/vim.basic	30	manual mode
4	/usr/bin/vim.tiny	15	manual mode

Press `<enter>` to keep the current choice[\*], or type selection number: [ ]

Changed the default editor by assigning nano as the editor