

Introduction to UNIX Commands

Waseda University

Basic UNIX commands

man	display the manual page of each command
pwd	display the working directory name
cd	change the working directory
ls	list directory contents
mkdir	make directories
rmdir	remove directories
history	display the history commands
cp	copy files
mv	move files, rename the file
rm	remove directory entries
less	display file contents
chmod	change file modes

UNIX command **【man】**

man: (manual) display the manual page of each command

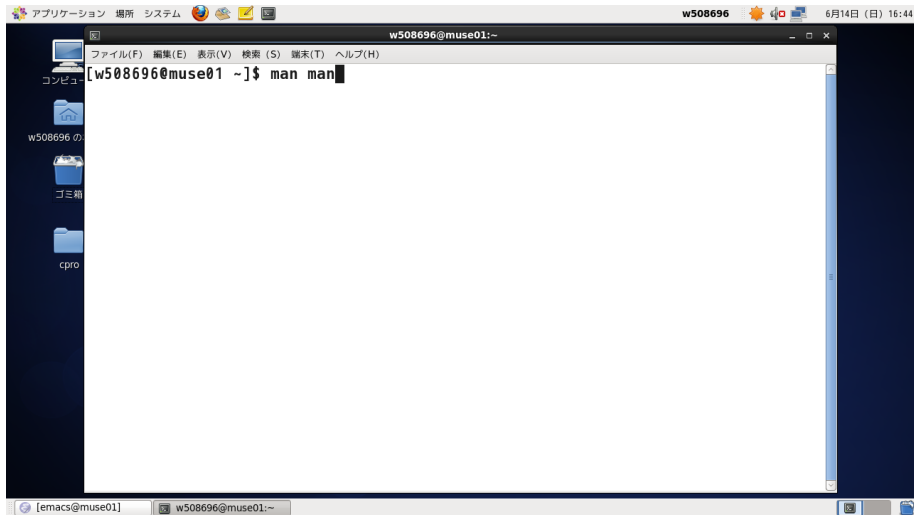
display the manual page of the command _____

```
$ man 【command】
```

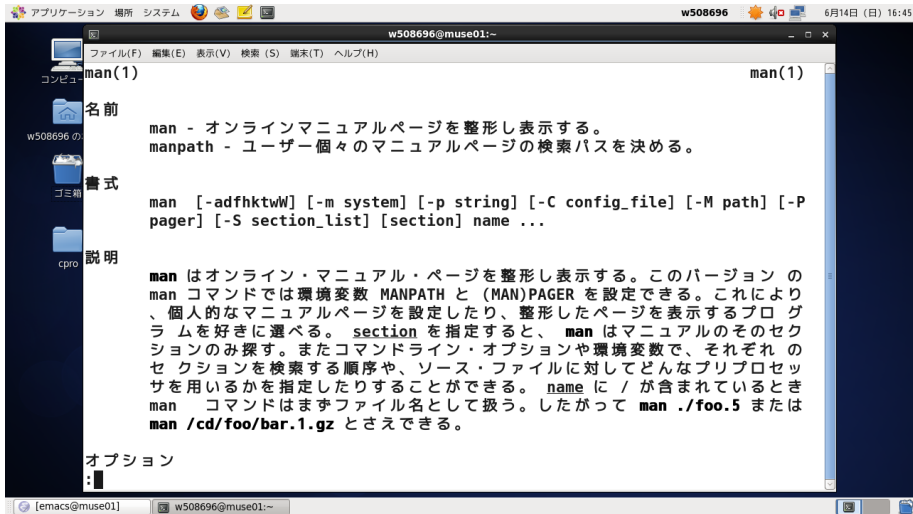
- The **【man】** command uses the **【less】** command by default

Commands	Meaning
↑ or ↓	Forward or backward one line
f	Forward one window
b	Backward one window
/	Search forward
q	Quit

UNIX command **【man】**



UNIX command 【man】



The screenshot shows a Linux desktop environment with a terminal window titled "w508696@muse01:~" displaying the help page for the "man" command. The desktop background is dark blue with icons for "コンピュータ" (Computer), "w508696 のゴミ箱" (w508696's Trash), and "cpro" folder. The terminal window has a menu bar with "ファイル(F)", "編集(E)", "表示(V)", "検索(S)", "端末(T)", and "ヘルプ(H)". The terminal content is as follows:

```
man(1) man(1)
名前
man - オンラインマニュアルページを整形し表示する。
manpath - ユーザー個々のマニュアルページの検索パスを決める。
書式
man [-adfhtkW] [-m system] [-p string] [-C config_file] [-M path] [-P pager] [-S section_list] [section] name ...
説明
man はオンライン・マニュアル・ページを整形し表示する。このバージョンの
man コマンドでは環境変数 MANPATH と (MAN)PAGER を設定できる。これにより、
個人的なマニュアルページを設定したり、整形したページを表示するプログラ
ムを好きに選べる。section を指定すると、man はマニュアルのそのセク
ションのみ探す。またコマンドライン・オプションや環境変数で、それぞれの
セクションを検索する順序や、ソース・ファイルに対してどんなプリプロセッ
サを用いるかを指定したりすることができる。name に / が含まれているとき
man コマンドはまずファイル名として扱う。したがって man ./foo.5 または
man /cd/foo/bar.1.gz とさえできる。
オプション
:
```

UNIX command 【pwd】

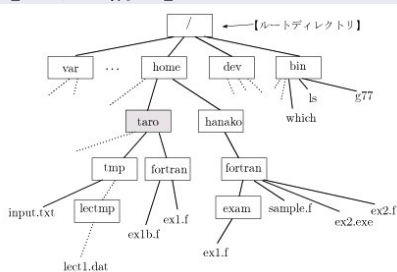
pwd: (print working directory) display the working directory name

display the working directory name

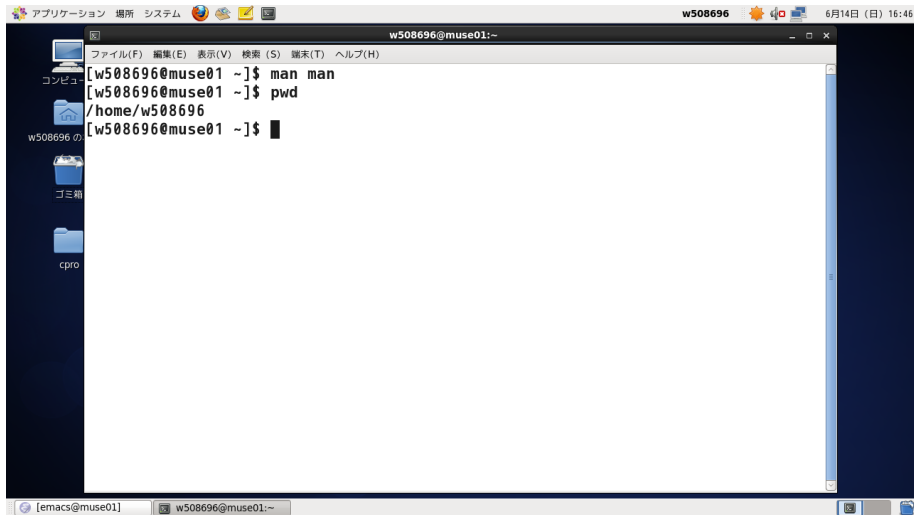
[~]\$ pwd

- Directory has a **tree structure**.
- Each directory contains files.
- When the terminal is started, it starts in the **home directory**.

【ツリー構造】



UNIX command -pwd-



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~". The terminal output shows the following commands and their results:

```
w508696@muse01 ~]$ man man  
w508696@muse01 ~]$ pwd  
/home/w508696  
w508696@muse01 ~]$ █
```

The desktop background is dark blue. On the left side, there are icons for "コンピュータ" (Computer), "w508696 の" (w508696's), "ゴミ箱" (Trash), and "cpro". The top panel shows the application menu, system tray, and the date "6月14日 (日) 16:46". The bottom panel shows the taskbar with the terminal window and a window titled "[emacs@muse01]".

directory : absolute path vs. relative path

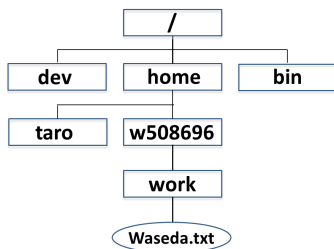
absolute path

- An absolute path is the location of a file or a directory from the root directory(/)
- `/home/w508696/work/waseda.txt`

relative path

- A relative path is the location of a file or a directory from the current directory
- `./work/waseda.txt`

※ The single dot(.) means the current directory. The double dot(..) means the parent directory.



UNIX command **ls**

ls: (list) list contents of the current directory

display contents of the directory

```
[~] $ ls
```

※ Display contents of your current directory: **ls**

UNIX command **ls**

The following commands are available:

display details of the content

```
[~] $ ls -al
```

include all directory entries

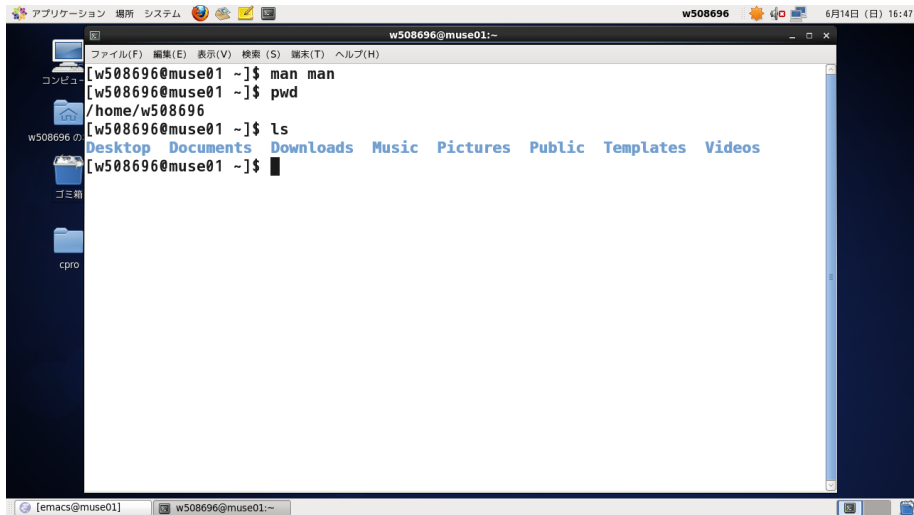
```
[~] $ ls -a
```

list contents of "Desktop" directory

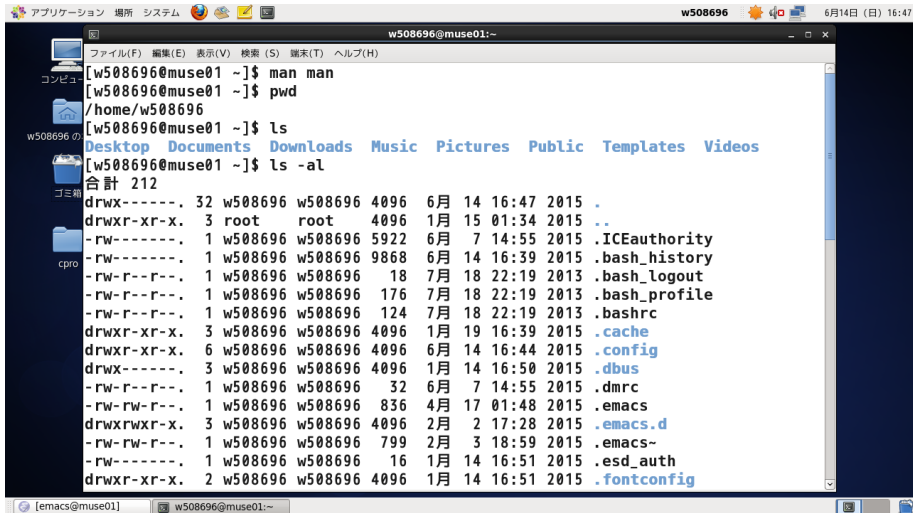
```
[~] $ ls Desktop
```

※ Look up other options by the command: **man ls**

UNIX command 【ls】



UNIX command 【ls】



The screenshot shows a Linux desktop environment with a terminal window open. The terminal displays the following commands and their outputs:

```
w508696@muse01:~  
[w508696@muse01 ~]$ man man  
[w508696@muse01 ~]$ pwd  
/home/w508696  
[w508696@muse01 ~]$ ls  
Desktop Documents Downloads Music Pictures Public Templates Videos  
[w508696@muse01 ~]$ ls -al  
合計 212  
drwx-----. 32 w508696 w508696 4096 6月 14 16:47 2015 .  
drwxr-xr-x. 3 root root 4096 1月 15 01:34 2015 ..  
-rw-----. 1 w508696 w508696 5922 6月 7 14:55 2015 .ICEAuthority  
-rw-----. 1 w508696 w508696 9868 6月 14 16:39 2015 .bash_history  
-rw-r--r--. 1 w508696 w508696 18 7月 18 22:19 2013 .bash_logout  
-rw-r--r--. 1 w508696 w508696 176 7月 18 22:19 2013 .bash_profile  
-rw-r--r--. 1 w508696 w508696 124 7月 18 22:19 2013 .bashrc  
drwxr-xr-x. 3 w508696 w508696 4096 1月 19 16:39 2015 .cache  
drwxr-xr-x. 6 w508696 w508696 4096 6月 14 16:44 2015 .config  
drwx-----. 3 w508696 w508696 4096 1月 14 16:50 2015 .dbus  
-rw-r--r--. 1 w508696 w508696 32 6月 7 14:55 2015 .dmrc  
-rw-rw-r--. 1 w508696 w508696 836 4月 17 01:48 2015 .emacs  
drwxrwxr-x. 3 w508696 w508696 4096 2月 2 17:28 2015 .emacs.d  
-rw-rw-r--. 1 w508696 w508696 799 2月 3 18:59 2015 .emacs~  
-rw-----. 1 w508696 w508696 16 1月 14 16:51 2015 .esd_auth  
drwxr-xr-x. 2 w508696 w508696 4096 1月 14 16:51 2015 .fontconfig
```

UNIX command **【mkdir】**

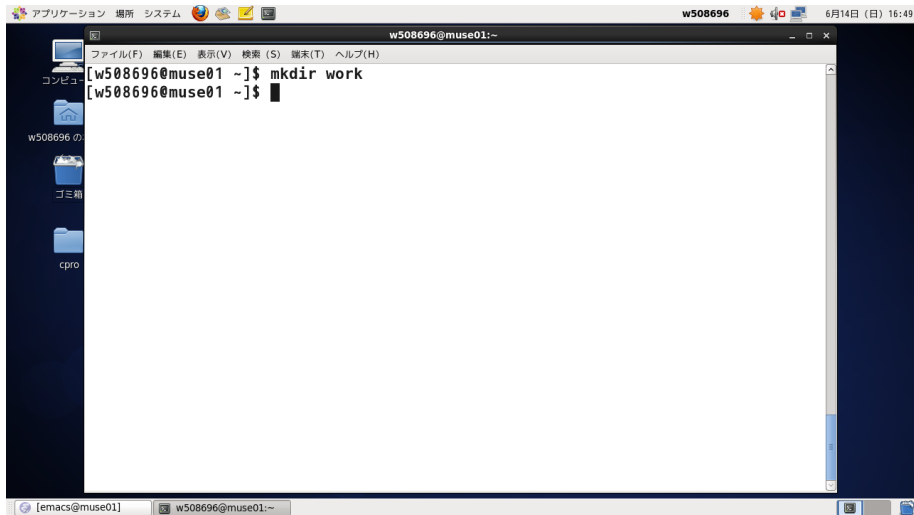
mkdir: (make directory) make directories

make the directory named “work”

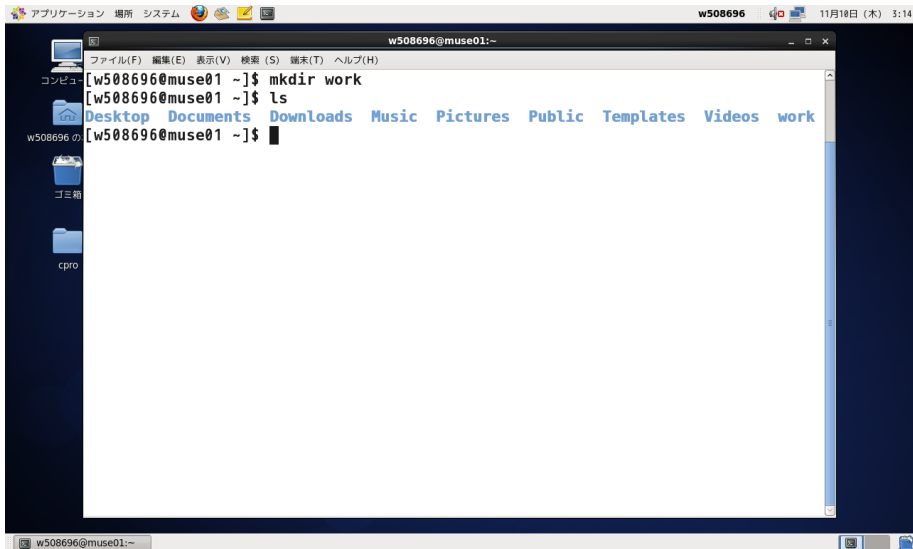
```
[~] $ mkdir work
```

※ Check by the command **ls** that the directory work was successfully created

UNIX command 【mkdir】



UNIX command 【mkdir】



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~". The terminal output shows the following commands and their results:

```
w508696@muse01 ~]$ mkdir work
w508696@muse01 ~]$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos work
w508696@muse01 ~]$
```

The desktop background is dark blue. On the left side, there is a sidebar with icons for "コンピュータ" (Computer), "w508696 の" (w508696's), "ゴミ箱" (Trash), and "cpro". The top panel shows the system tray with icons for "アプリケーション" (Applications), "場所" (Places), "システム" (System), and the system clock displaying "11月10日 (木) 3:14".

UNIX command 【rmdir】

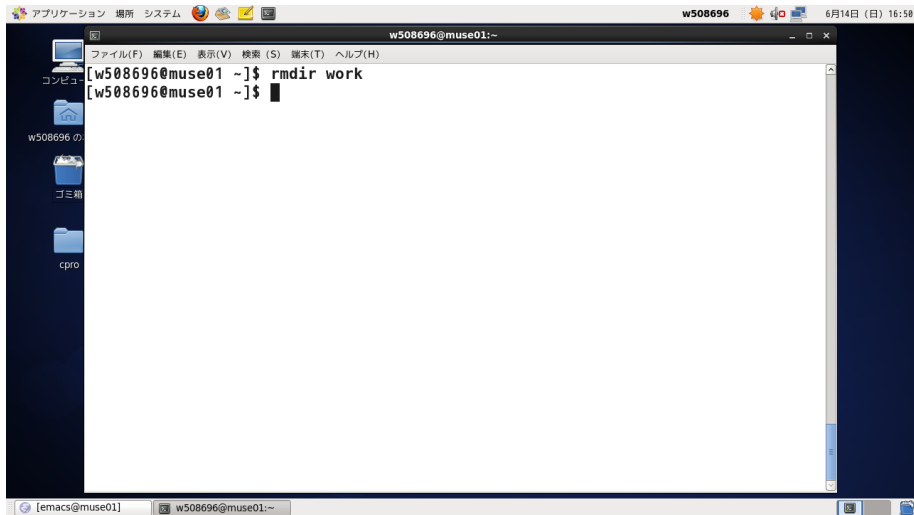
rmdir: (remove directory) remove directories

remove the work directory

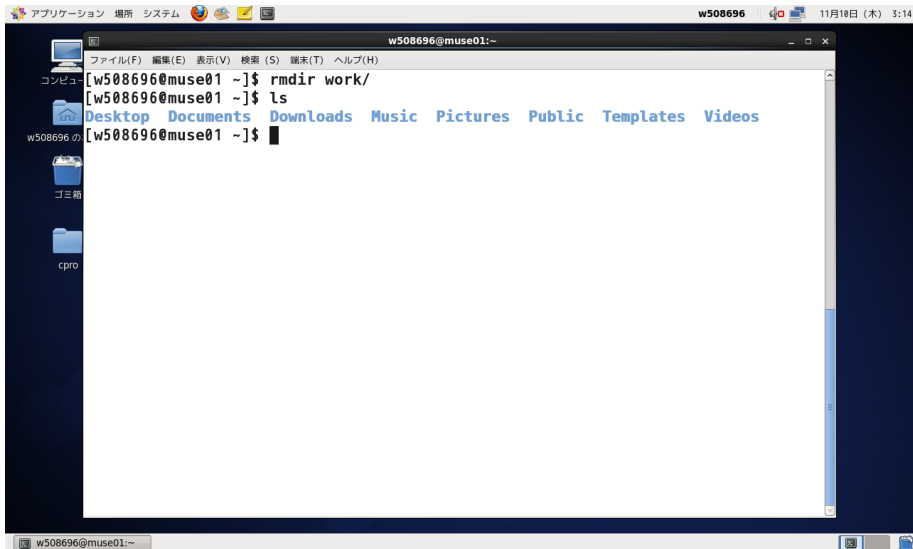
```
[~] $ rmdir work
```

※ Check by the command **ls** that the directory work was removed.

UNIX command **【rm -r work】**



UNIX command 【rmdir】



UNIX command **history** and **!**

history : Display the command history

Display the command history with line numbers

```
[~] $ history
```

! : Refer to command line *n*

Refer to command line 20

```
[~] $ !20
```

UNIX command **【!!】** and **【!string】**

!! : Refer to the previous command

Refer to the previous command

[~] \$!!

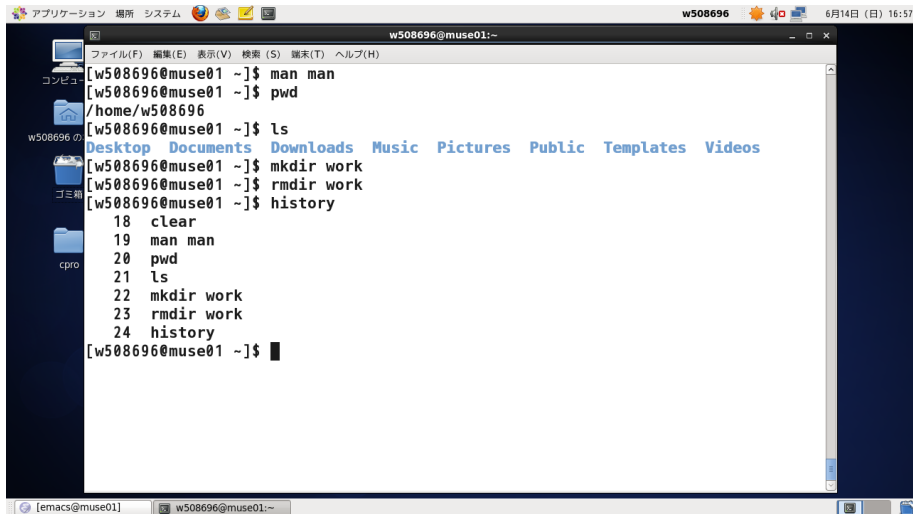
!string : Refer to the most recent command starting with string

Refer to the most recent command starting with m

[~] \$!m

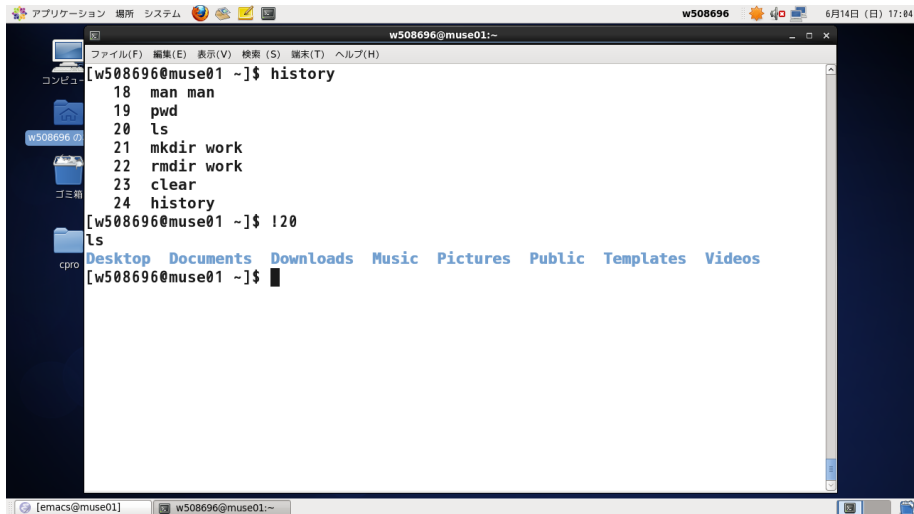
※ **【!m】** ' will recall **【mkdir work】**

UNIX command -history-



```
w508696@muse01:~  
[w508696@muse01 ~]$ man man  
[w508696@muse01 ~]$ pwd  
/home/w508696  
[w508696@muse01 ~]$ ls  
Desktop Documents Downloads Music Pictures Public Templates Videos  
[w508696@muse01 ~]$ mkdir work  
[w508696@muse01 ~]$ rmdir work  
[w508696@muse01 ~]$ history  
18 clear  
19 man man  
20 pwd  
21 ls  
22 mkdir work  
23 rmdir work  
24 history  
[w508696@muse01 ~]$
```

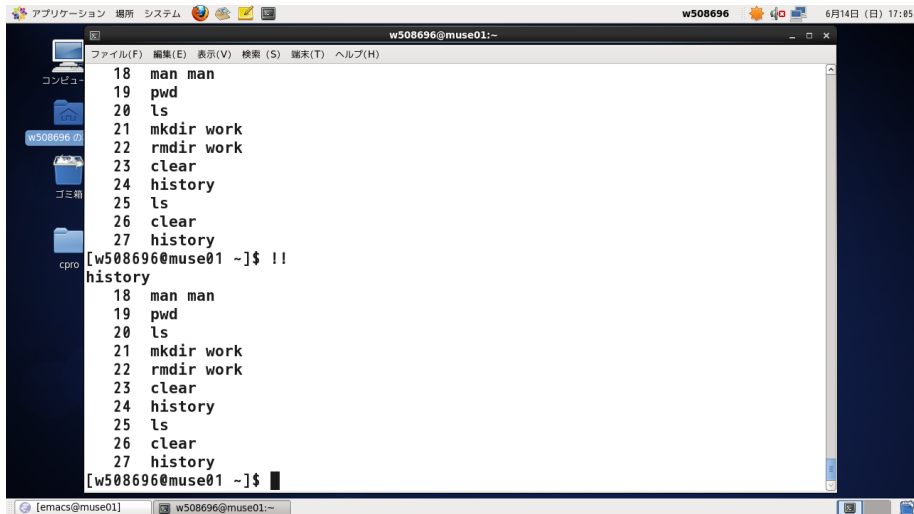
UNIX command 【history】



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~". The terminal output shows the command "history" being executed, which lists the last 6 commands entered: "man man", "pwd", "ls", "mkdir work", "rmdir work", "clear", and "history". The terminal prompt is "[w508696@muse01 ~]\$". Below the terminal window, the desktop environment is visible, including a sidebar with icons for "コンピュータ" (Computer), "w508696 の" (w508696's), "ゴミ箱" (Trash), and "cpro". The desktop background is dark blue. The system tray at the bottom shows the date and time as "6月14日 (日) 17:04".

```
w508696@muse01:~  
ファイル(F) 編集(E) 表示(V) 検索(S) 端末(T) ヘルプ(H)  
[w508696@muse01 ~]$ history  
18 man man  
19 pwd  
20 ls  
21 mkdir work  
22 rmdir work  
23 clear  
24 history  
[w508696@muse01 ~]$ !20  
ls  
Desktop Documents Downloads Music Pictures Public Templates Videos  
[w508696@muse01 ~]$ █
```

UNIX command 【history】

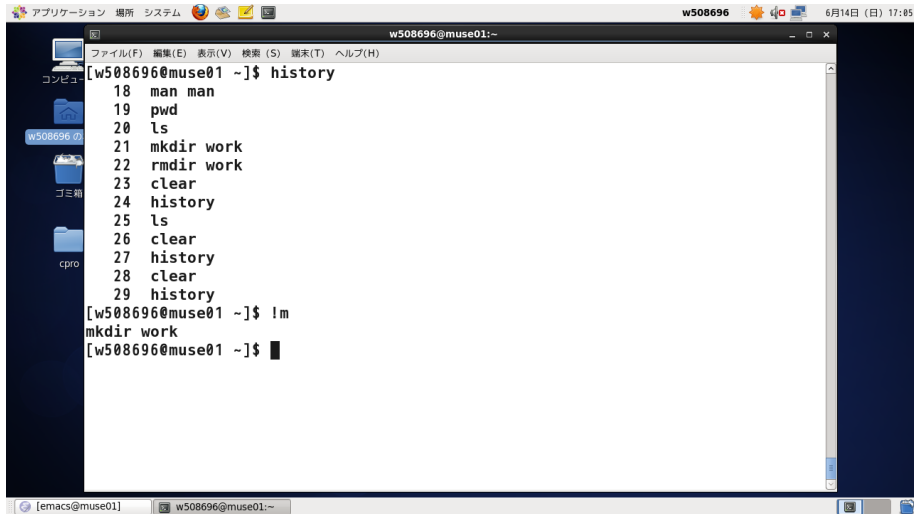


The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~". The terminal output shows the following commands and their results:

```
18 man man
19 pwd
20 ls
21 mkdir work
22 rmdir work
23 clear
24 history
25 ls
26 clear
27 history
[w508696@muse01 ~]$ !!
history
18 man man
19 pwd
20 ls
21 mkdir work
22 rmdir work
23 clear
24 history
25 ls
26 clear
27 history
[w508696@muse01 ~]$
```

The desktop environment includes a sidebar with icons for "コンピュータ" (Computer), "w508696 の" (w508696's), "ゴミ箱" (Trash), and "cpro". The top panel shows the system menu, network status, and the date "6月14日 (日) 17:05". The bottom panel shows the taskbar with icons for "emacs@muse01" and "w508696@muse01:~".

UNIX command 【history】



The screenshot shows a terminal window titled "w508696@muse01:~" with a menu bar containing "ファイル(F)", "編集(E)", "表示(V)", "検索(S)", "端末(T)", and "ヘルプ(H)". The terminal displays the output of the "history" command, which lists the last 11 commands entered, each with a line number. The commands are: "man man", "pwd", "ls", "mkdir work", "rmdir work", "clear", "history", "ls", "clear", "history", and "clear". The prompt "[w508696@muse01 ~]\$!" is shown, followed by the command "mkdir work" and the prompt "[w508696@muse01 ~]\$".

```
w508696@muse01:~  
[w508696@muse01 ~]$ history  
18 man man  
19 pwd  
20 ls  
21 mkdir work  
22 rmdir work  
23 clear  
24 history  
25 ls  
26 clear  
27 history  
28 clear  
29 history  
[w508696@muse01 ~]$ !m  
mkdir work  
[w508696@muse01 ~]$
```


UNIX command 【↑】

【↑】 : input previous commands

recall the history command

[~] \$ 【↑】 (“history” is also available.)

※ Display a history of commands: **history**

UNIX command **【Tab】**

【Tab】 : auto completion of a file name or a directory name

display the contents on Desktop

```
[~] $ ls De 【Tab】
```

- If you press the **【Tab】** key when you type the directory name, there is no need to type all.
- The file name, directory name is case-sensitive.

UNIX command **【cd】**

cd: (change directory) change the working directory

change the current directory to the work directory

```
[~] $ cd work
```

```
[~/work] $
```

※ Display the working directory name by the command: **pwd**

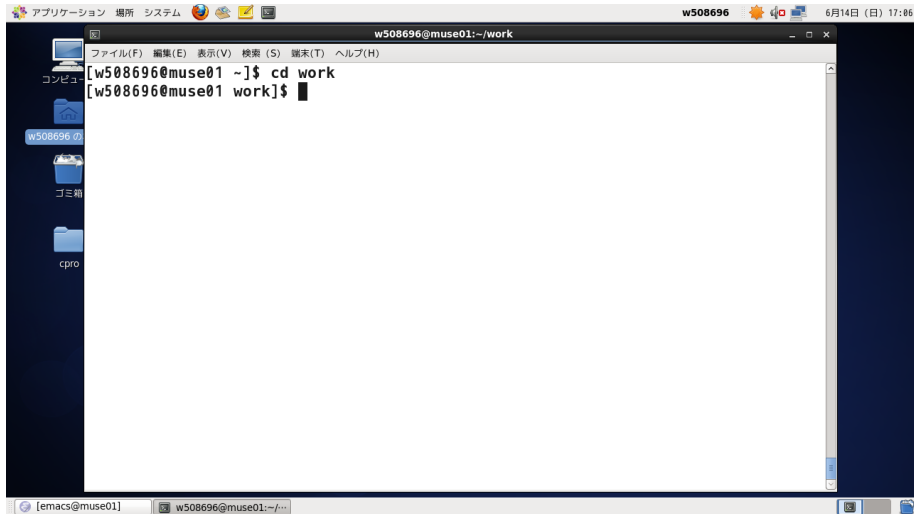
UNIX command **【cd】**

change the current directory to the parent directory

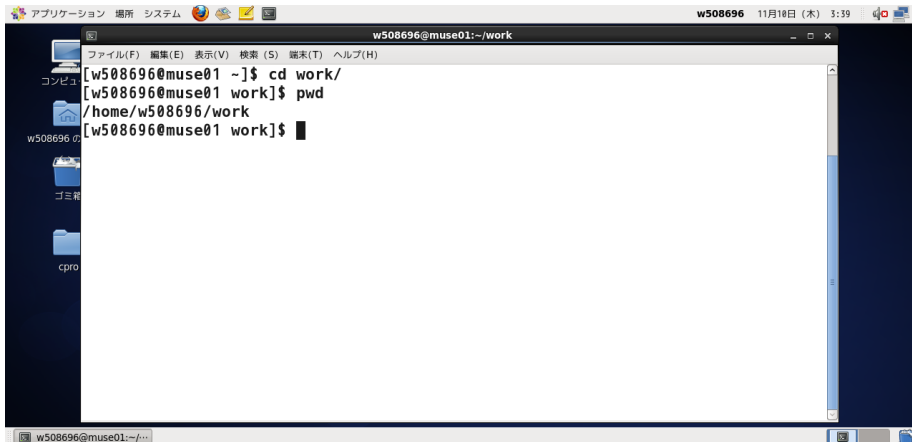
```
[~/work] $ cd ..
```

- **【..】** denotes the parent directory.
- **【~】** denotes the home directory.
- A space is needed after the cd command.

UNIX command 【cd】



UNIX command 【cd】

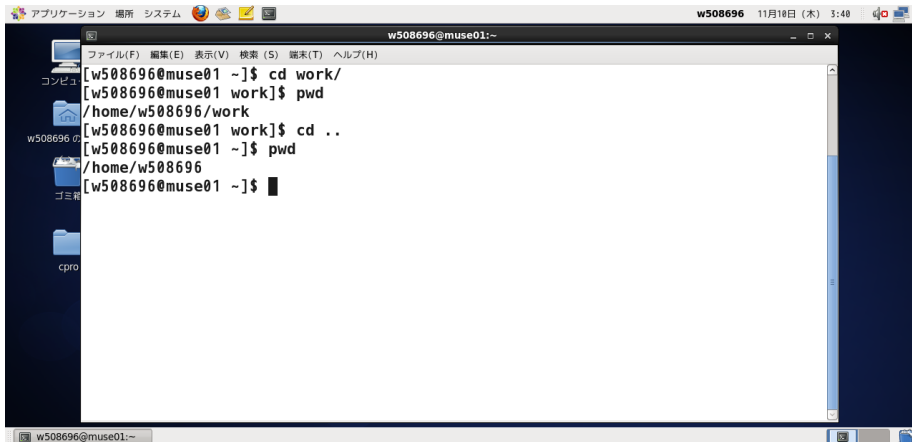


The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~/work". The terminal output is as follows:

```
ファイル(F) 編集(E) 表示(V) 検索(S) 端末(T) ヘルプ(H)
[w508696@muse01 ~]$ cd work/
[w508696@muse01 work]$ pwd
/home/w508696/work
[w508696@muse01 work]$ █
```

The desktop background is dark blue. On the left side, there are icons for "コンピュータ" (Computer), "ホーム" (Home), "ゴミ箱" (Trash), and "cpro". The top panel shows the system menu with "アプリケーション" (Applications), "場所" (Places), and "システム" (System) options, along with the system clock showing "w508696 11月10日 (木) 3:39". The bottom panel shows the terminal window title and system tray icons.

UNIX command 【cd】



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~". The terminal output shows the following sequence of commands and their results:

```
ファイル(F) 編集(E) 表示(V) 検索(S) 端末(T) ヘルプ(H)
[w508696@muse01 ~]$ cd work/
[w508696@muse01 work]$ pwd
/home/w508696/work
[w508696@muse01 work]$ cd ..
[w508696@muse01 ~]$ pwd
/home/w508696
[w508696@muse01 ~]$ █
```

The desktop background is dark blue. On the left side, there is a sidebar with icons for "コンピュータ" (Computer), "w508696 の" (w508696's), "ゴミ箱" (Trash), and "cpro". The top panel shows the system menu with "アプリケーション" (Applications), "場所" (Places), and "システム" (System). The top right corner displays the user "w508696", the date "11月10日 (木)", and the time "3:40". The bottom panel shows the terminal window title "w508696@muse01:~" and system tray icons.

Emacs

Running Emacs on the terminal

```
[~/work] $ emacs &
```

- Emacs is an editor to create and modify text files.
- In this class we create a text file by using Emacs. (The “vi”, “gedit” etc. are also acceptable.)
- We will create all files in the “work” directory.
- Type “&” at the end of the command.
- Quit Emacs by typing **【Ctrl】 + 【x】**, **【Ctrl】 + 【c】** .

Emacs

Start Emacs by specifying the file name _____

```
[~/work] $emacs hello.txt &
```

- If the specified file does not exist, it is newly created. The file is opened if it already exists.

Emacs

Start Emacs by specifying the file name _____

```
[~/work] $emacs hello.txt &
```

- The files is saved by **【Ctrl】 + 【x】** , **【Ctrl】 + 【s】** .
- To quit Emacs type **【Ctrl】 + 【x】** , **【Ctrl】 + 【c】** .
- You should learn some key operations by yourself.

※ Check if hello.txt has been created by the command: **ls**

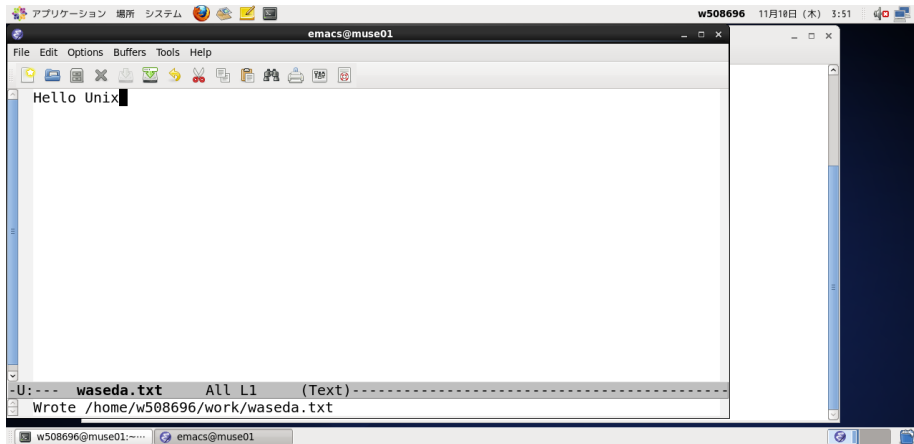
Emacs



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~". The terminal output shows the execution of the command "emacs waseda.txt &". The process ID [4] is 2655. The terminal shows the command "emacs waseda.txt" being executed, and the prompt returns to the user. The desktop background is dark blue, and the taskbar at the bottom shows the terminal window and system icons.

```
w508696@muse01:~$ emacs waseda.txt &
[4] 2655
[3] 終了
w508696@muse01:~$
```

Emacs



UNIX command **less**

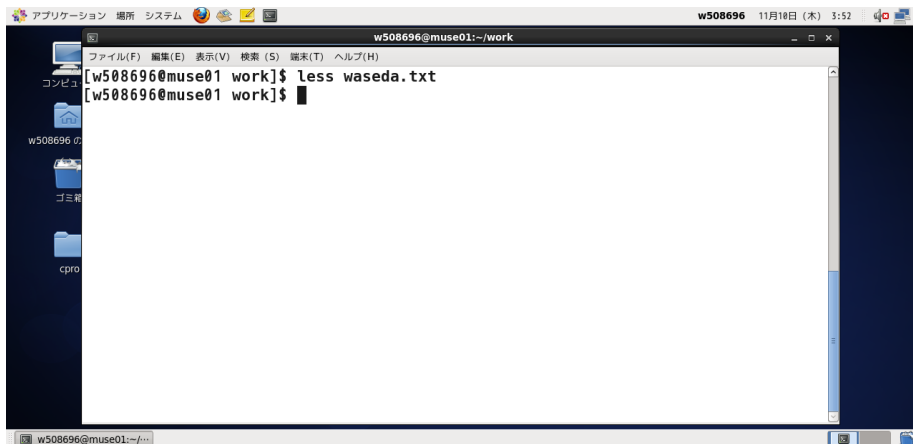
less: display a file

display waseda.txt

```
[~/work] $ less waseda.txt
```

Commands	Meaning
h	Display this help
↑ or ↓	Forward or backward one line
f	Forward one window
b	Backward one window
/	Search forward
q	Quit

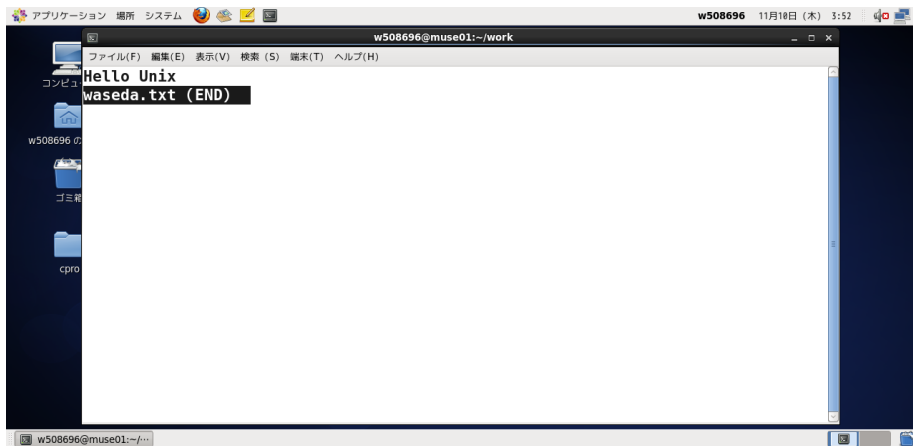
UNIX command 【less】



The image shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~/work". The terminal output shows the user entering the command "less waseda.txt" and the prompt returning to the shell. The desktop background is dark blue with icons for "コンピュータ" (Computer), "ホーム" (Home), "ゴミ箱" (Trash), and "cpro". The system tray at the top right shows the user "w508696", the date "11月10日 (木)", and the time "3:52".

```
w508696@muse01:~/work
w508696@muse01 work]$ less waseda.txt
w508696@muse01 work]$
```

UNIX command `less`



UNIX command **【cp】**

cp: (copy) copy files

create a copy of waseda.txt as sample.txt

```
[~/work] $ cp waseda.txt sample.txt
```

- ※ Check that sample.txt has been created by the command: **ls**
- ※ Check if the file is copied: **less sample.txt**

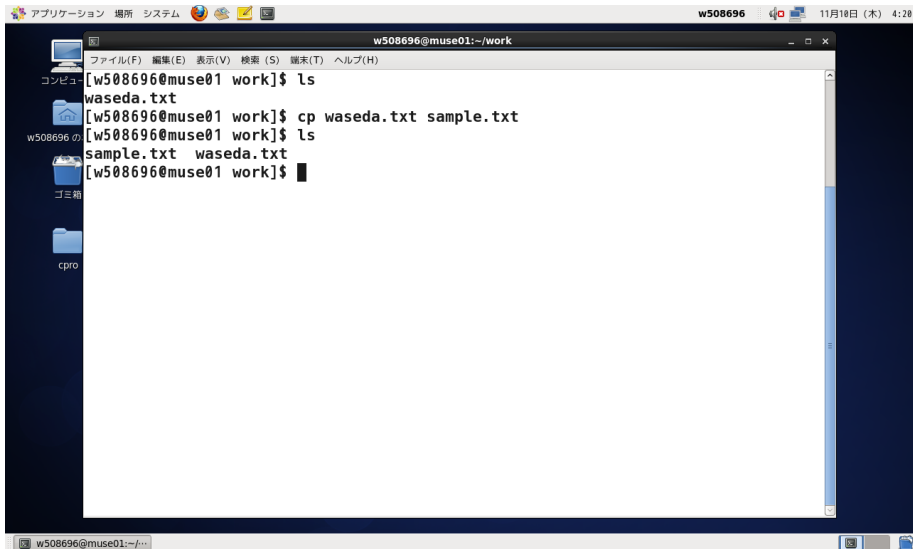
UNIX command **【cp】**

create a copy of a file in a different directory

```
[~/work] $ cp waseda.txt ../temp.txt
```

- Create a copy of waseda.txt as temp.txt in the parent directory
- ※ Change the current directory to the parent directory: `cd ..`
- ※ Check that temp.txt has been created: `less temp.txt`
- ※ Change the current directory to work directory: `cd work`

UNIX command -cp-

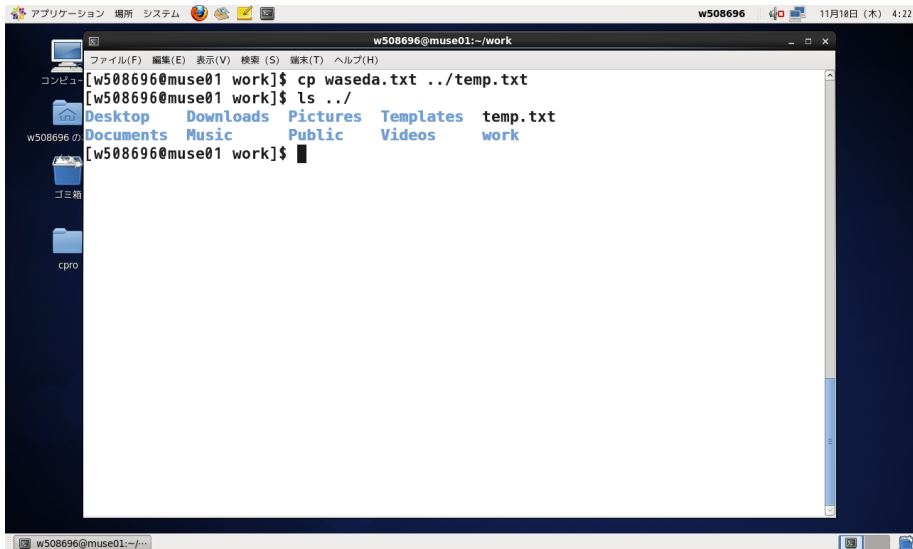


The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~/work". The terminal output is as follows:

```
w508696@muse01 work]$ ls
waseda.txt
[w508696@muse01 work]$ cp waseda.txt sample.txt
[w508696@muse01 work]$ ls
sample.txt  waseda.txt
[w508696@muse01 work]$
```

The desktop background is dark blue. On the left side, there is a sidebar with icons for "コンピュータ" (Computer), "w508696 の" (w508696's), "ゴミ箱" (Trash), and "cpro". The top panel shows the system menu with "アプリケーション" (Applications), "場所" (Locations), and "システム" (System). The system tray on the right shows the user name "w508696", the date "11月10日 (木)", and the time "4:20".

UNIX command 【cp】



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~/work". The terminal output shows the following commands and results:

```
w508696@muse01 work]$ cp waseda.txt ../temp.txt
[w508696@muse01 work]$ ls ../
Desktop  Downloads  Pictures  Templates  temp.txt
Documents Music      Public    Videos     work
[w508696@muse01 work]$
```

The desktop background is dark blue. On the left side, there is a sidebar with icons for "コンピュータ" (Computer), "w508696 の" (w508696's), "ゴミ箱" (Trash), and "cpro". The top panel shows the system tray with the date "11月10日 (木) 4:22" and the username "w508696". The bottom panel shows the terminal window title "w508696@muse01:~/work" and system icons.

UNIX command **【mv】**

mv : (move) move files, rename the file

rename sample.txt temp2.txt

```
[~/work] $ mv sample.txt temp2.txt
```

※ Check if sample.txt is renamed: **ls**

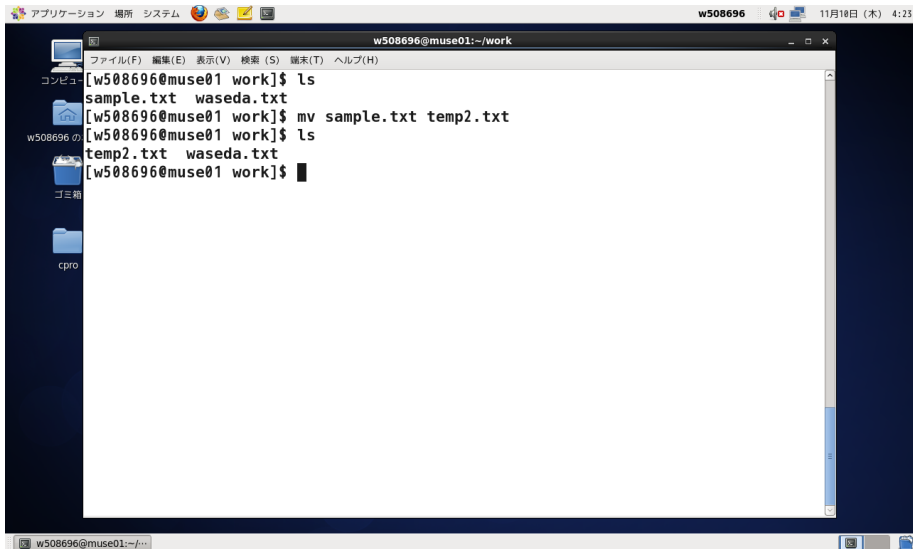
UNIX command **【mv】**

move temp2.txt to temp3.txt in the parent directory

```
[~/work] $ mv temp2.txt ../temp3.txt
```

- ※ Check if temp2.txt has been moved: **ls**
- ※ Change the current directory to the parent directory and check if temp3.txt exists: **cd .. , ls**

UNIX command 【mv】

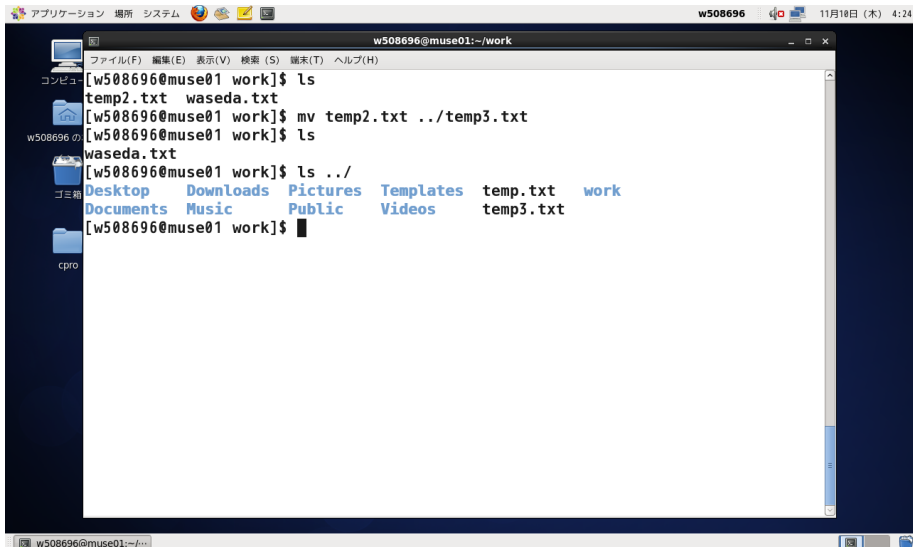


The screenshot shows a Linux desktop environment with a terminal window open. The terminal title is "w508696@muse01:~/work". The terminal output is as follows:

```
w508696@muse01 work]$ ls
sample.txt  waseda.txt
w508696@muse01 work]$ mv sample.txt temp2.txt
w508696@muse01 work]$ ls
temp2.txt  waseda.txt
w508696@muse01 work]$
```

The desktop background is dark blue. On the left side, there is a sidebar with icons for "コンピュータ" (Computer), "w508696 の" (w508696's), "ゴミ箱" (Trash), and "cpro". The top of the window shows a menu bar with "ファイル(F)", "編集(E)", "表示(V)", "検索(S)", "端末(T)", and "ヘルプ(H)". The top right corner of the desktop shows the username "w508696", the date "11月10日 (木)", and the time "4:23".

UNIX command 【mv】



The screenshot shows a terminal window titled "w508696@muse01:~/work". The terminal output is as follows:

```
w508696@muse01 work]$ ls
temp2.txt  waseda.txt
[w508696@muse01 work]$ mv temp2.txt ../temp3.txt
[w508696@muse01 work]$ ls
waseda.txt
[w508696@muse01 work]$ ls ../
Desktop  Downloads  Pictures  Templates  temp.txt  work
Documents  Music      Public    Videos     temp3.txt
[w508696@muse01 work]$
```

The terminal window is part of a desktop environment. The top bar shows "アプリケーション 場所 システム" and the user "w508696" with the date "11月10日 (木) 4:24". The left sidebar shows a file manager with icons for "コンピュータ", "w508696 の", "ゴミ箱", and "cpro". The terminal window title bar includes "w508696@muse01:~/work" and standard window controls. The terminal menu bar includes "ファイル(F) 編集(E) 表示(V) 検索(S) 端末(T) ヘルプ(H)".

UNIX command **rm**

rm : (remove) remove files or directories

remove temp.txt

```
[~] $ rm temp.txt
```

- Please be careful when removing files because the deleted file cannot be recovered.

※ Check if temp.txt has been deleted: **ls**

UNIX command **[rm]**

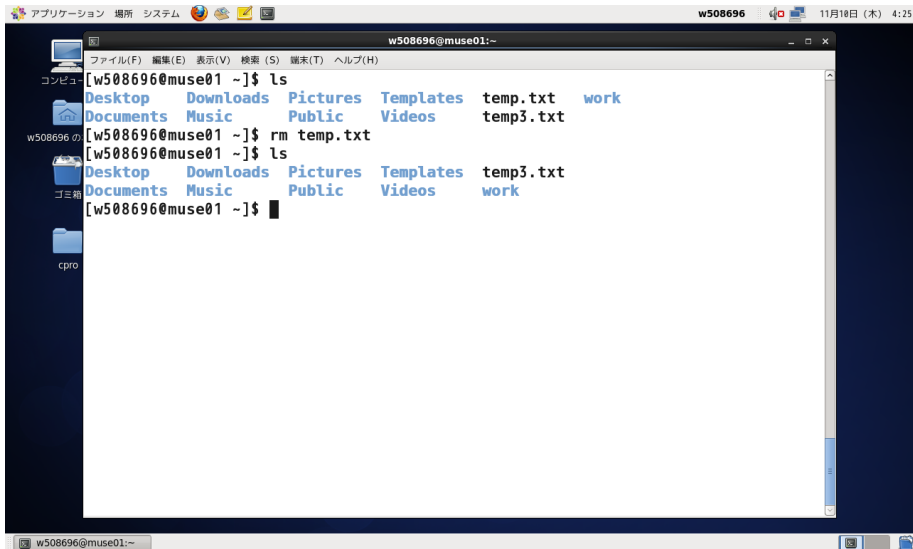
remove temp3.txt with options _____

```
[~] $ rm -i temp3.txt  
rm: 'temp3.txt' (yes/no)? y
```

- The option **-i** requests confirmation before attempting to remove each file.
- Type **y** to remove or **n** to cancel.
- Please be careful because many files may be deleted without possibility to recover.

※ Changing the current directory to work directory: **cd work**

UNIX command 【rm】



The screenshot shows a terminal window titled "w508696@muse01:~" with a menu bar containing "ファイル(F)", "編集(E)", "表示(V)", "検索(S)", "端末(T)", and "ヘルプ(H)". The terminal output is as follows:

```
w508696@muse01 ~]$ ls
Desktop  Downloads  Pictures  Templates  temp.txt  work
Documents Music      Public   Videos    temp3.txt

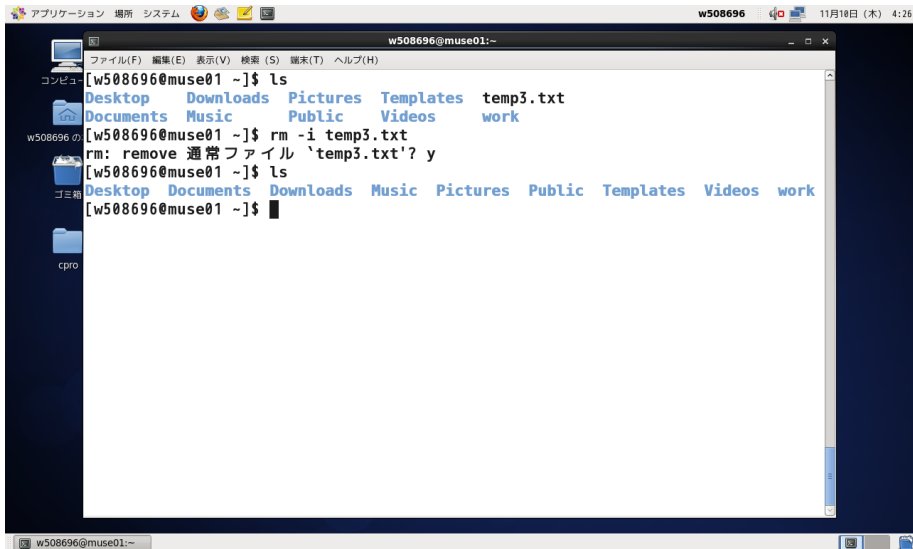
w508696@muse01 ~]$ rm temp.txt

w508696@muse01 ~]$ ls
Desktop  Downloads  Pictures  Templates  temp3.txt
Documents Music      Public   Videos    work

w508696@muse01 ~]$
```

The terminal window is part of a desktop environment with a sidebar on the left containing icons for "コンピュータ", "w508696 の", "ゴミ箱", and "cpro". The top status bar shows "アプリケーション 場所 システム" on the left, "w508696" in the center, and "11月10日 (木) 4:25" on the right.

UNIX command 【rm】



The screenshot shows a Linux desktop environment with a terminal window open. The terminal title is "w508696@muse01:~". The terminal content is as follows:

```
ファイル(F) 編集(E) 表示(V) 検索(S) 端末(T) ヘルプ(H)
[w508696@muse01 ~]$ ls
Desktop  Downloads  Pictures  Templates  temp3.txt
Documents Music      Public    Videos    work
[w508696@muse01 ~]$ rm -i temp3.txt
rm: remove 通常ファイル `temp3.txt'? y
[w508696@muse01 ~]$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos work
[w508696@muse01 ~]$
```

The desktop background is dark blue. On the left side, there is a sidebar with icons for "コンピュータ" (Computer), "w508696 の" (w508696's), "ゴミ箱" (Trash), and "cpro". The top panel shows system information: "アプリケーション 場所 システム" on the left, "w508696" in the center, and "11月10日 (木) 4:26" on the right. The bottom panel shows the terminal window title "w508696@muse01:~" and system tray icons.

UNIX command 【chmod】

chmod: (change mode) change Access Control Lists

display detail information of waseda.txt

```
[~/work] $ ls -l
```

```
-rw-r-r-  1 1W120000student  89 Apr 23 19:02 waseda.txt
```

- Others can read your created file.
 - Detail information of waseda.txt says:
- First two digits `rw` in `「-rw-r-r-」` shows that the user can read (`r`) and write (`w`) this file.
- Next `r` in the middle represents a right to access of a group member.
- The last `r` represents a right to access of others.

UNIX command -chmod-

remove the read permission from group and others

```
[~/work] $ chmod go-r waseda.txt
```

※ Check if the permission has been changed into 「-rw——-」 : `ls -l`

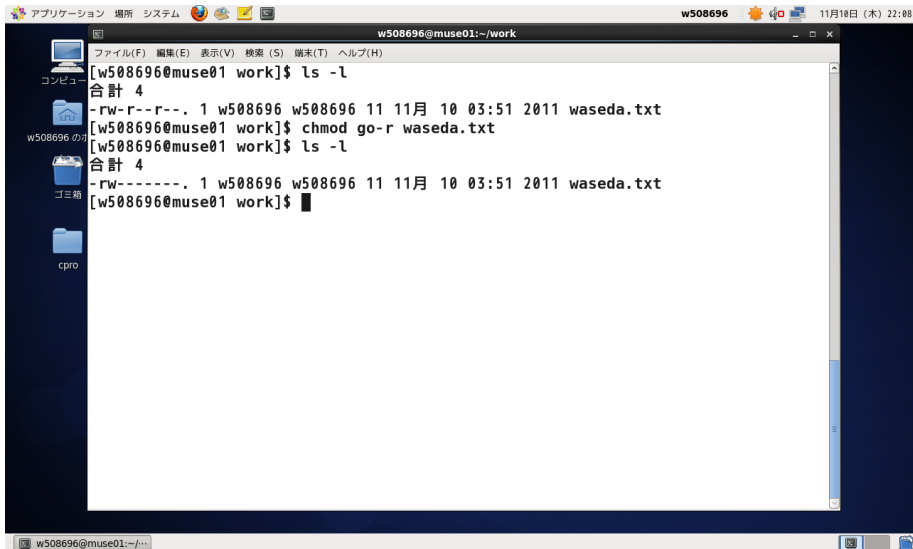
UNIX command -chmod-

add the read permission to group and others

```
[~/work] $ chmod go+r waseda.txt
```

※ Check if the permission has been changed into 「-rw-r-r-」 : `ls -l`

UNIX command -chmod-

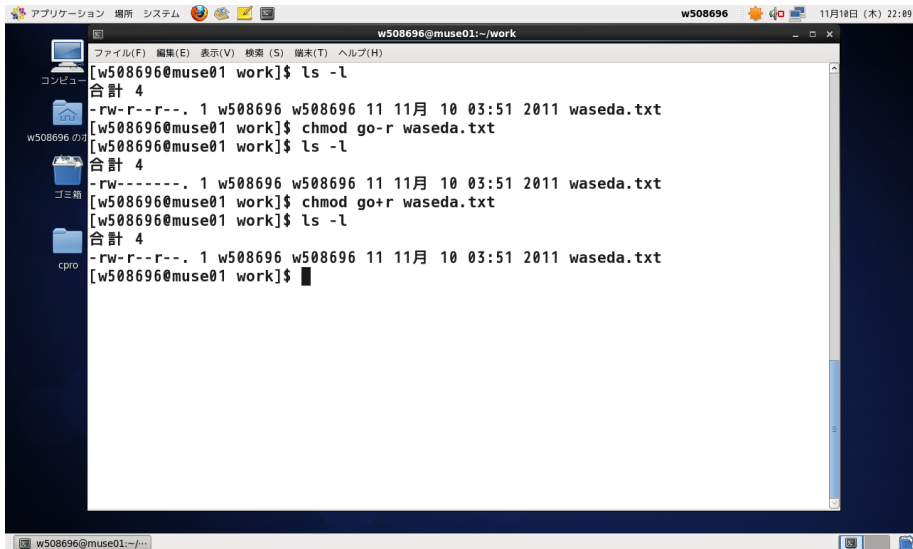


The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~/work". The terminal output shows the following commands and results:

```
w508696@muse01 work]$ ls -l
合計 4
-rw-r--r--. 1 w508696 w508696 11 11月 10 03:51 2011 waseda.txt
w508696@muse01 work]$ chmod go-r waseda.txt
w508696@muse01 work]$ ls -l
合計 4
-rw-----. 1 w508696 w508696 11 11月 10 03:51 2011 waseda.txt
w508696@muse01 work]$
```

The desktop environment includes a sidebar with icons for "コンピュータ" (Computer), "w508696 の家" (Home), "ゴミ箱" (Trash), and "cpro". The top panel shows system icons and the date "11月10日 (木) 22:08".

UNIX command -chmod-



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "w508696@muse01:~/work". The desktop background is dark blue with icons for "コンピュータ" (Computer), "w508696 の家" (Home), "ゴミ箱" (Trash), and "cpro". The terminal output shows three instances of listing files and changing permissions:

```
w508696@muse01 work]$ ls -l
合計 4
-rw-r--r--. 1 w508696 w508696 11 11月 10 03:51 2011 waseda.txt
[w508696@muse01 work]$ chmod go-r waseda.txt
[w508696@muse01 work]$ ls -l
合計 4
-rw-----. 1 w508696 w508696 11 11月 10 03:51 2011 waseda.txt
[w508696@muse01 work]$ chmod go+r waseda.txt
[w508696@muse01 work]$ ls -l
合計 4
-rw-r--r--. 1 w508696 w508696 11 11月 10 03:51 2011 waseda.txt
[w508696@muse01 work]$ █
```


Summary

- Learning basic UNIX commands
man, pwd, ls, cd, mkdir, rmdir, cp, mv, rm, less, chmod
- Operations in Emacs