

Basic LINUX/UNIX Commands

Working with Files and Directories in LINUX

- 1 The LINUX/UNIX file system is organized as a hierarchy of directories starting from a single directory called **root** which is represented by a / (slash).
- 2 A **directory** is a place that holds files and other directories. You can create directories in your home directory.
- 3 When you log in to the system you are always placed in your **home directory**. At first this is your current directory.
- 4 **pwd** command displays the name of the current working directory.
- 5 Every file and directory in the file system can be identified by a complete list of the names of the directories that are on the route from the **root directory** to that file or directory. This complete list of directories is called a **pathname**.

Example :

Suppose that you have a file hello.py in your home directory, then the pathname for the file hello.py is:

/home/compcsi/yourHomeDir/hello.py

Suppose that the path to my home directory is

/home/faculty/yanako

Assume, I have a file pr.py in my home directory, the pathname for the file pr.py will be:

/home/faculty/yanako/pr.py

Assume, that you created directory csci151 under your home directory, the pathname to directory csci151 is:

/home/compcsi/yourHomeDir/csci151/

Assume, that you created directory test under your csci151 directory, the pathname for the directory test is:

/home/compcsi/yourHomeDir/csci151/test

Suppose you are in your home directory, typing **pwd** at the prompt will display the following pathname

/home/compcsi/yourHomeDir

Command cd: change directory.

cd *pathname*

where *pathname* specifies the directory that you would like to move to. The pathname can be given as either a **full pathname** - the name of a directory or file in relation to the root (/) directory or a **relative pathname** - the name of a directory or file given in relation to your current working directory.

Example:

Assume that you created directory `csci151` in your home directory and directory `test` in `csci151`. Suppose you are now in your home directory - **yourHomeDir**. To change to directory `test` use one of the following three options:

- 1) **cd csci151/test**
- 2) **cd /home/compcsi/yourHomeDir/csci151/test**
- 3) **cd ~/csci151/test**

First version is using relative path

Second version is using the full path to your directory **test**

Third version is using the special character `~` "abbreviation" for your home directory.

To make a new directory use mkdir command:

mkdir name_of_directory

Example: suppose you are in your home directory: **yourHomeDir**, the command:

mkdir labAssign

will create a new directory **labAssign** under your home directory. Suppose you are in your home directory **yourHomeDir**. The command

```
mkdir /csci151/lab1
```

will create a new directory **lab1** under your **csci151** directory that is under your home directory

Copy Files:

- 1 **Copy files in the same directory:** To create an exact copy of a file use the **cp** (copy) command:

```
cp source destination
```

source is the name of the file to be copied;

destination is the name of the file in which the copy is to be placed.

Suppose we have a file **hello.py** in your home directory and suppose you are in your **home** directory, the following command:

```
cp hello.py helloCopy.py
```

will copy the file **hello.py** to the file **helloCopy.py** and both files will be in your **home** directory

- 2 **To copy a file to another directory from your current directory:** give name of the source file followed by the pathname to the destination file.

```
cp source path_to_destination
```

Example: suppose you are in your home directory **yourHomeDir**, the command and you have a file **hello.py** in your home directory. The command:

```
cp hello.py ~/csci151/helloCopy1.py
```

will copy the file **hello.py** from your current working directory - **yourHomeDir** - to the **csci151** directory and the name of the copied file will be **helloCopy1.py**

- 3 **For the destination file to have the same name as the source file use:**

```
cp source path_to_destination_directory
```

Example: suppose you are in your home directory and you have a file `hello.py` in your home directory, the command:

```
cp hello.py ~/csci151/
```

will copy the file `hello.py` from your current working directory - `yourHomeDir` to the `csci151` directory and the name of the copied file will be the same `hello.py`

4 **To copy a file from another directory to your current directory**

give the pathname to the source file followed by the name of the destination file.

```
cp path_to_source_file destination
```

For the destination file to have the same name as the source file use:

```
cp path_to_source_file ./
```

The `.` (dot) is shorthand for the current working directory.

Example: suppose, you are in you `test` directory which is in `csci151`, the command:

```
cp ~/csci151/hello.py ./helloCopy.py
```

will copy the file `hello.py` from your `csci151` to the file `helloCopy.py` to your `test` directory.

The command:

```
cp ~/csci151/hello.py ./
```

will copy the file `hello.py` from your `csci151` to the file `hello.py` (both files have the same name) to your `test` directory.

6 **Move or rename files:** `mv` command - renames a file or moves it from one directory to another directory.

Example: suppose you are in your home directory, the command

```
mv hello.py newName.py
```

will rename the file **hello.py** to be **newName.py**

The command:

```
mv hello.py csci151/
```

will move the file **hello.py** from your home directory to your **csci151** directory.

7 **To remove the file** use:

```
rm path_to_the_file
```

8 **To remove directory** use:

```
rm -r path_to_directory
```

or

```
rmdir path_to_directory
```

using **rmdir** requires first to remove all files from the directory that you would like to remove.

9 **To list the contents of a directory** use **ls** command.

```
ls
```

will list the contents of the current working directory.

```
ls directory_name
```

will list the contents of the specified directory