

Notes 6

MKDIR

- **Usage:**

- **mkdir** is used for creating a single directory or multiple directories (folders) **by separating each directory name with a space.**

- **Formula:**

- `mkdir + option + the name of the directory`

Where directory name can be:

- Just the name of the directory if we want to create them in the **current working directory**
- **Absolute or relative path** if we want to create the directory in a different location

- **Examples:**

- Create a directory in the present working directory called `wallpapers`
 - `mkdir wallpapers`
- Create a directory in a different directory using **relative path**
 - `mkdir wallpapers/ocean`
- Create a directory in a different directory using **absolute path**
 - `mkdir ~/wallpapers/forest`
- Create a directory with a space in the name
 - `mkdir wallpapers/new\ cars`
 - `mkdir wallpapers/'cities usa'`
- Create a directory with a single quote in the name
 - `mkdir wallpapers/"major's mask"`
- Create multiple directories
 - `mkdir wallpapers/cars wallpapers/cities wallpapers/forest`
- Create a directory with a parent directory at the same time.
 - `mkdir -p wallpapers_others/movies`
- Create a directory and display a message confirming the directory creation (**verbose output**)
 - `mkdir -pv wallpapers_others/movies`

```

1: aayushmas@Linux:~$ mkdir wallpapers
aayushmas@Linux:~$ mkdir wallpapers/ocean
aayushmas@Linux:~$ mkdir ~/wallpapers/forest
aayushmas@Linux:~$ mkdir wallpapers/new\cars
aayushmas@Linux:~$ mkdir wallpapers/'cities usa'
aayushmas@Linux:~$ mkdir wallpapers/new\ bus
aayushmas@Linux:~$ mkdir wallpapers/"major's mask"
aayushmas@Linux:~$ mkdir wallpapers/car wallpapers/city wallpapers/forests
aayushmas@Linux:~$ mkdir -p wallpapers_others/movies
aayushmas@Linux:~$ mkdir -pv wallpapers_others/movies
aayushmas@Linux:~$ mkdir -v wallpapers_others/theater
mkdir: created directory 'wallpapers_others/theater'
aayushmas@Linux:~$ 

```

```

2: aayushmas@Linux:~$ tree wallpapers
wallpapers
└── ocean
    ├── car
    ├── cities usa
    ├── city
    ├── forest
    ├── forests
    ├── major's mask
    ├── new bus
    └── newcars

10 directories, 0 files
aayushmas@Linux:~$ tree wallpapers_others
wallpapers_others
└── movies

2 directories, 0 files
aayushmas@Linux:~$ tree wallpapers_others
wallpapers_others
└── movies
    └── theater

3 directories, 0 files
aayushmas@Linux:~$ 

```

TOUCH

- **Usage:**
 - **touch** is used for creating files an empty file or to update the timestamp of an existing file..
- **Formula:**
 - **touch + name of the file**
- **Where directory name can be:**
 - Just the name of the directory if we want to create them in the **current working directory**
 - **Absolute or relative path** if we want to create the directory in a different location
- **Examples:**
 - Create a file called list
 - **touch list**
 - Create multiple files
 - **touch list_of_cars.txt script.py names.csv**
 - Create a file using **absolute path**
 - **touch ~/Downloads/games.txt**
 - Create a file using **relative path** (assuming you pwd your home directory)
 - **touch Downloads/games2.txt**
 - Create a file with a space in its name
 - **touch "list of foods.txt"**

```

1: aayushmas@Linux:~/Downloads
aayushmas@Linux:~/Downloads$ cd Downloads/
aayushmas@Linux:~/Downloads$ touch list
aayushmas@Linux:~/Downloads$ touch list_of_cars.txt script.py names.csv
aayushmas@Linux:~/Downloads$ touch ~/Downloads/games.txt
aayushmas@Linux:~/Downloads$ touch Downloads/games2.txt
touch: cannot touch 'Downloads/games2.txt': No such file or directory
aayushmas@Linux:~/Downloads$ touch games2.txt
aayushmas@Linux:~/Downloads$ touch "list of foods.txt"
aayushmas@Linux:~/Downloads$ tree .
.
├── e25671e9b097e86da20875469ece3742.jpg
└── games
    ├── gta.txt
    ├── games2.txt
    ├── games.txt
    ├── lab5files.zip
    ├── list
    ├── list_of_cars.txt
    └── list of foods.txt
    └── Markdown Cheat sheet For CIS 106 Linux Fundamentals.png
    └── names.csv
    └── Recording 2025-11-08 at 23.08.47(1).gif
    └── Recording 2025-11-08 at 23.08.47(2).gif
    └── Recording 2025-11-08 at 23.08.47.gif
    └── script.py
    └── Starry Night Serenity.jpeg
    └── wallpaperflare.com_wallpaper.jpg

2 directories, 16 files
aayushmas@Linux:~/Downloads$ 

```

RM

- **Usage:**

- **rm** is used to remove files and directories.
- It is a powerful command that **can permanently delete files**, so it should be used with caution.
- To remove directories use the **-r** option.

- **Formula:**

- **rm + option + name of the file or directory to remove**

Where file/directory name can be:

- Just the name of the files/directories if they are located in the current working directory
- Absolute or relative path if they are located in a different location

Common Options:

- **-f**: Force removal without prompting for confirmation.
- **-r** or **-R**: Recursively remove directories and their contents.
- **-i**: Prompt before each removal.
- **-v**: Verbose mode, showing the files as they are removed.

- **Examples:**

- Remove a file called list

- `rm list`
- Remove a file and prompt confirmation before removal
 - `rm -i list`
- Remove all the files inside a directory and ask before removing more than 3 files
 - `rm -I Downloads/games/*`
- Remove an empty directory
 - `rmdir Downloads/games`
- Remove an non-empty directory
 - `rm -r Downloads/games`
- Remove files and directories but prompt for confirmation before removing and display removal message when done
 - `rm -vir games/program.py ~/ProjectDelta`
- Remove a **non empty directory** forcing the removal
 - `rm -rf games/`

```

1:aayushmas@Linux:~/Downloads ~
aayushmas@Linux:~$ cd Downloads/
aayushmas@Linux:~/Downloads$ rm list
aayushmas@Linux:~/Downloads$ rm -i list of foods.txt
rm: cannot remove 'list': No such file or directory
rm: cannot remove 'of': No such file or directory
rm: cannot remove 'foods.txt': No such file or directory
aayushmas@Linux:~/Downloads$ rm -i "list of foods.txt"
rm: remove regular empty file 'list of foods.txt'? y
aayushmas@Linux:~/Downloads$ rm -I games/*
aayushmas@Linux:~/Downloads$ rmdir games/
aayushmas@Linux:~/Downloads$ rm -r games
games2.txt games.txt
aayushmas@Linux:~/Downloads$ rm -r games2.txt
aayushmas@Linux:~/Downloads$ rm -vir games.txt ~/Downloads/script.py
rm: remove regular empty file 'games.txt'? y
removed 'games.txt'
rm: remove regular empty file '/home/aayushmas/Downloads/script.py'? y
removed '/home/aayushmas/Downloads/script.py'
aayushmas@Linux:~/Downloads$ rm -rf practice/
aayushmas@Linux:~/Downloads$ 

```

2:aayushmas@Linux: ~

```

1 directory, 10 files
aayushmas@Linux:~$ tree Downloads/
Downloads/
├── e25671e9b097e86da20875469ece3742.jpg
└── lab5files.zip
    ├── list_of_cars.txt
    ├── Markdown Cheat sheet For CIS 106 Linux Fundamentals.png
    ├── names.csv
    └── practice
        ├── pr1
        └── pr2
            ├── Recording 2025-11-08 at 23.08.47(1).gif
            ├── Recording 2025-11-08 at 23.08.47(2).gif
            ├── Recording 2025-11-08 at 23.08.47.gif
            └── Starry Night Serenity.jpeg
        └── wallpaperflare.com_wallpaper.jpg

3 directories, 11 files
aayushmas@Linux:~$ tree Downloads/
Downloads/
├── e25671e9b097e86da20875469ece3742.jpg
└── lab5files.zip
    ├── list_of_cars.txt
    ├── Markdown Cheat sheet For CIS 106 Linux Fundamentals.png
    ├── names.csv
    ├── Recording 2025-11-08 at 23.08.47(1).gif
    ├── Recording 2025-11-08 at 23.08.47(2).gif
    ├── Recording 2025-11-08 at 23.08.47.gif
    └── Starry Night Serenity.jpeg
    └── wallpaperflare.com_wallpaper.jpg

1 directory, 10 files
aayushmas@Linux:~$ 

```

CP

- **Usage:**
 - `cp` is used to copy files/directories from a source to a destination
 - Must use the `-r` option to copy directories
- **Formula:**
 - `cp + option + file/ directories to copy + destination`
 - `cp -r + directory to copy + destination`

Common Options:

- **-r** or **-R**: Recursively copy directories and their contents.
- **-i**: Prompt before overwriting an existing file.
- **-u**: Copy only when the source file is newer than the destination file or when the destination file is missing.
- **-v**: Verbose mode, showing the files as they are copied.
- **-a**: Copy files and directories, preserving attributes like timestamps and permissions.

- **Examples:**

- To copy a file
 - `cp Downloads/wallpapers.zip Pictures/`
- To copy a directory with **absolute path**
 - `cp -r ~/Downloads/wallpapers ~/Pictures/`
- To copy the content of directory to another directory
 - `cp Downloads/wallpapers/* ~/Pictures/`
- To copy multiple files in a single command
 - `sudo cp -r script.sh program.py home.html assets/ /var/www/html/`
- To copy a directory with verbose output
 - `cp -rv ~/projectOrion/ ~/Documents/`

```

1: aayushmas@Linux: ~
Tilix: aayushmas@Linux: ~

aayushmas@Linux:~$ cp Downloads/names.csv Pictures/
aayushmas@Linux:~$ cp -r ~/Pictures/wallpaper ~/Downloads/
cp: cannot stat '/home/aayushmas/Pictures/wallpaper': No such file or directory
aayushmas@Linux:~$ cp -r ~/Pictures/Wallpapers ~/Downloads/
aayushmas@Linux:~$ cp Downloads/Wallpapers/* ~/Pictures/
aayushmas@Linux:~$ sudo cp -r ~/Pictures/Script2.png ~/Pictures/names.csv Documents/
[sudo] password for aayushmas:
cp: cannot stat '/home/aayushmas/Pictures/names.csv': No such file or directory
aayushmas@Linux:~$ sudo cp -r ~/Pictures/Script2.png ~/Pictures/names.csv Documents/
aayushmas@Linux:~$ cp -rv ~/Documents/budu/ teaching.txt ~/Downloads/
'/home/aayushmas/Documents/budu teaching.txt' -> '/home/aayushmas/Downloads/budu teaching.txt'
aayushmas@Linux:~$ 

```



```

1: aayushmas@Linux: ~
Tilix: aayushmas@Linux: ~

└── wolf-starry-sky-tree-moon-wallpaper.jpg
    2 directories, 28 files
aayushmas@Linux:~$ tree Documents/
Documents/
├── budu teaching.txt
├── myGitConfig.txt
├── names.csv
├── Script2.png
├── submission
│   ├── logo.jpg
│   └── notes.txt
└── report.pdf
    todo.md

2 directories, 8 files
aayushmas@Linux:~$ tree Downloads/
Downloads/
├── budu teaching.txt
├── e25671e9b097e86da20875469ece3742.jpg
├── lab5files.zip
├── list_of_cars.txt
├── Markdown Cheat Sheet For CIS 106 Linux Fundamentals.png
├── names.csv
├── Recording 2025-11-08 at 23.08.47(1).gif
├── Recording 2025-11-08 at 23.08.47(2).gif
├── Recording 2025-11-08 at 23.08.47.gif
└── Starry Night Serenity.jpeg
    └── wallpaperflare.com_wallpaper.jpg
        └── Wallpapers
            └── fullmoon-wallpaper.jpg
                └── wolf-starry-sky-tree-moon-wallpaper.jpg

2 directories, 13 files
aayushmas@Linux:~$ 

```

MV

- **Usage:**

- **mv** is used to move and rename files and directories.
- **mv** cannot rename more than 1 file at the time
- **mv** can move and rename a file at the same time
- **mv** will set the last argument as the destination or file new name

- **Formula:**

- **Move:** `mv + option + file/directories to move + destination`
- **Rename :** `mv + option + file/directory to rename + new name`

Common options of the mv command:

- `-i`: Prompt before overwriting an existing file.
- `-u`: Move only when the source file is newer than the destination file or when the destination file is missing.
- `-v`: Verbose mode, showing the files as they are moved or renamed.

- **Examples:**

- To **move** a file from a directory to another using **relative path**
 - `mv Downloads/homework.pdf Documents/`
- To **move** a directory from one directory to another using **absolute path**
 - `sudo mv ~/Downloads/theme /usr/share/themes`
- To **move** a file from one directory to another combining **absolute path** and **relative path**
 - `mv Downloads/english_homework.docx /media/student/flashdrive/`
- To **move** multiple directories/files to a different directory
 - `mv games/ wallpapers/ rockmusic/ /media/student/flashdrive/`
- To **rename** a file
 - `mv homework.docx cis106homework.docx`
- To **rename** a file using **absolute path**
 - `mv ~/Downloads/homework.docx ~/Downloads/cis106homework.docx`
- To **move and rename** a file in the same command
 - `mv Downloads/cis106homework.docx Documents/new_cis106homework.docx`

```
2: aayushmas@Linux: ~
aayushmas@Linux:~$ mv Documents/todo.md Downloads/
aayushmas@Linux:~$ sudo mv ~/Documents/submission/ /usr/share/themes/
[sudo] password for aayushmas:
aayushmas@Linux:~$ cd Documents/
aayushmas@Linux:~/Documents$ mv budu\ teaching.txt names.csv Script2.png
/usr/share/themes
mv: cannot move 'budu teaching.txt' to '/usr/share/themes/budu teaching.
txt': Permission denied
mv: cannot move 'names.csv' to '/usr/share/themes/names.csv': Permission
denied
mv: cannot move 'Script2.png' to '/usr/share/themes/Script2.png': Permis
sion denied
aayushmas@Linux:~/Documents$ sudo mv budu\ teaching.txt names.csv Script
2.png /usr/share/themes

aayushmas@Linux:~/Documents$ mv myGitConfig.txt my-git-config.txt
aayushmas@Linux:~/Documents$ cd ../
aayushmas@Linux:~$ mv Documents/my-git-config.txt Downloads/myGitConfig.
txt
aayushmas@Linux:~$ [ ]
```

```
Tiliix:aayushmas@Linux: ~
1: aayushmas@Linux: ~
aayushmas@Linux:~$ tree Documents/
Documents/
└── budu
    ├── teaching.txt
    ├── myGitConfig.txt
    ├── names.csv
    └── Script2.png
└── submission
    ├── logo.jpg
    └── notes.txt
        └── report.pdf
└── todo.md

2 directories, 8 files
aayushmas@Linux:~$ tree Documents/
Documents/
└── myGitConfig.txt

1 directory, 1 file
aayushmas@Linux:~$ tree Documents/
Documents/
└── my-git-config.txt

1 directory, 1 file
aayushmas@Linux:~$ tree Documents/
Documents/
└── my-git-config.txt

0 directories, 0 files
aayushmas@Linux:~$ tree Downloads/
Downloads/
└── budu
    ├── teaching.txt
    ├── e25671e9b097e86da20875469ece3742.jpg
    ├── lab5files.zip
    └── list_of_cars.txt
        └── Markdown Cheat sheet For CIS 106 Linux Fundamentals.
        .png
```