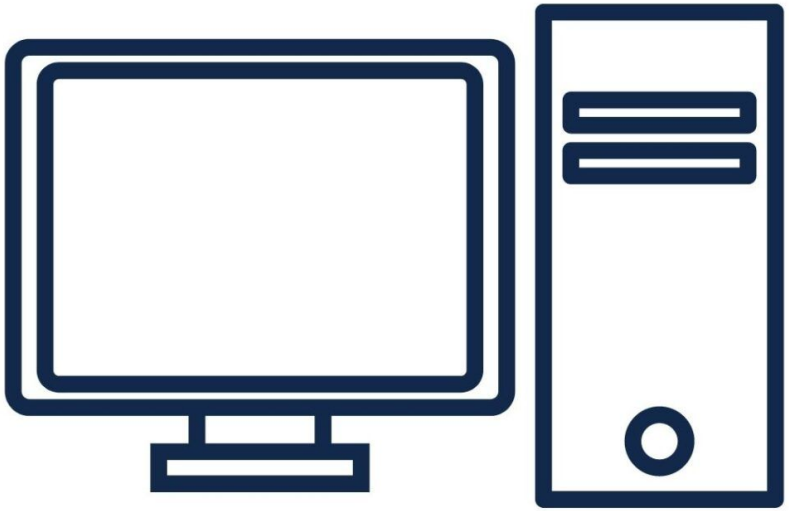
BASH & ZSH SHELL TERMINAL



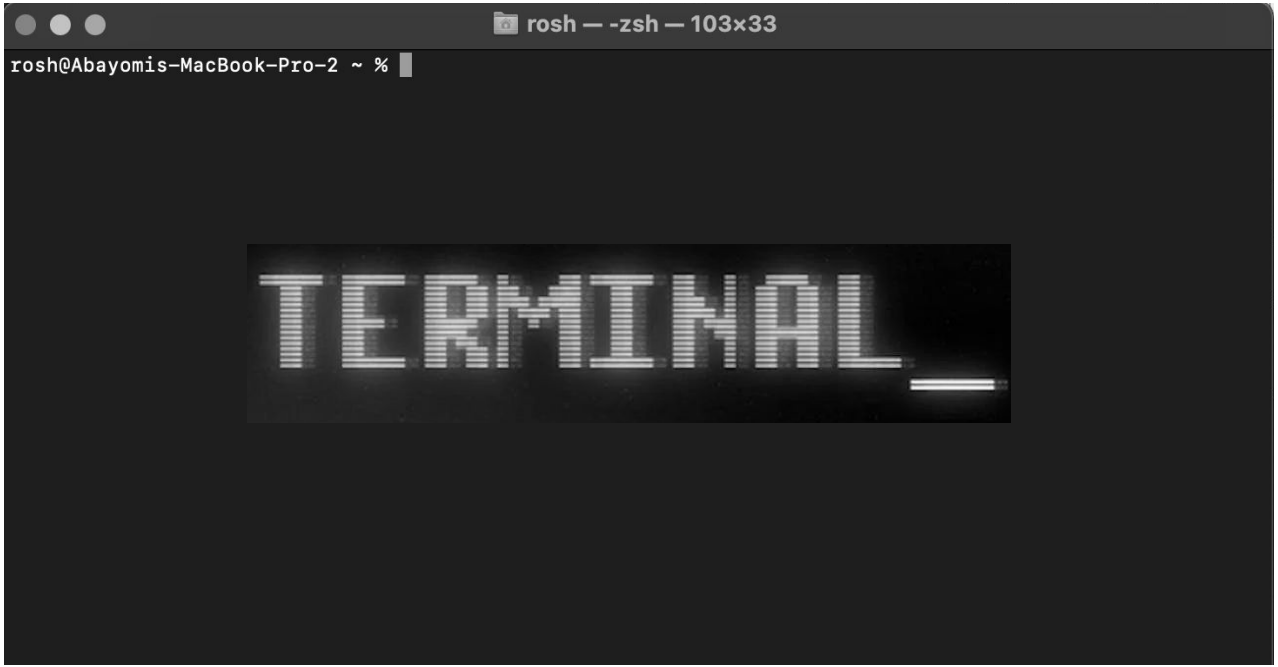
BASH & ZSH SHELL TERMINAL

What are Bash & zsh Terminals?

Shell terminals, such as Bash and zsh, are text-based user interfaces for interacting with an operating system.

They allow you to input commands through a command line, offering direct communication with the system for tasks like file manipulation, program execution, and system control.

Bash is common on Linux systems and zsh is the default on MacOS systems.



Bash & zsh Terminal

Some quick checks

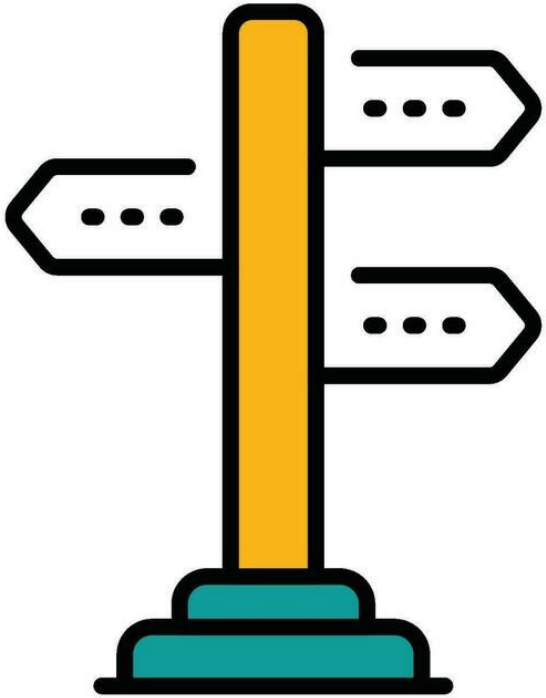
The `working directory` is the directory that commands are executed from. By default, commands will read and write files to this directory.

The `root directory` is the top of the file system. All other directories are contained within the hierarchy of this directory.

An `absolute path` starts from the root directory. Think of it like latitude and longitude - the values to a location don't change wherever you are.

A `relative path` starts from the working directory. Think of it like directions from where you are, like "20 kilometers West from here".

A `glob pattern` is a way of specifying multiple files at once.



File System Navigation

Print the current working directory with **pwd**

```
pwd
```

Change the current working directory with **cd**

```
cd data/raw # Go to raw dir inside data dir inside current dir
```

```
pwd
```

File System Navigation

Absolute paths start with the root directory, /

```
cd /home
```

Relative paths can start with the current working directory, .

```
cd ./images
```

File System Navigation

Move up to the parent directory with `..` (can be used repeatedly)

```
cd ../.. # Go to grandparent directory
```

List files and folders in the current working directory with ls

```
ls
```

File System Navigation

List all files and folders, including hidden ones (names starting .) with **ls -a**

```
ls -a
```

List files and folders in a human-readable format with **ls -lh**

```
ls -lh
```

File System Navigation

List files and folders matching a glob pattern with ls *pattern*

```
ls *.csv # Returns all CSV files
```

Recursively list all files below the current working directory with **ls -R**

```
ls -R
```

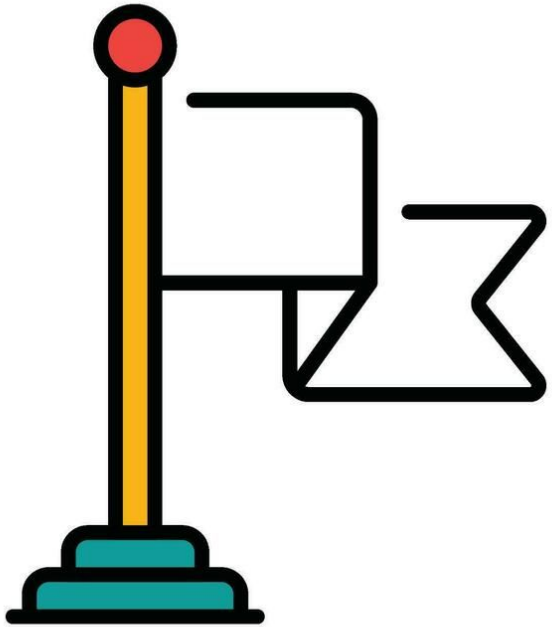
File System Navigation

List estimated disk usage of files and folders in a human-readable format with du -ah

```
du -ah
```

Find files by name in the current directory & its subdirectories with find . -type f -name pattern

```
find . -type f -name *.ipynb # Find Juypter notebooks
```



Displaying Files

Display the whole file with **cat**

```
cat README.txt
```

Display a whole file, a page at a time with less

```
less README.txt
```

Copying, Moving and Removing Files

Copy (and paste) a file to a new directory with **cp**

```
cp sales.csv data/sales-2023.csv # Copy to data dir and rename
```

Copy files matching a glob pattern with cp pattern newdir

```
cp *.csv data/ # Copy all CSV files to data dir
```

Rename a file by moving it into the current directory using the **mv**

```
mv sales.csv sales-2023.csv
```

Move (cut and paste) a file to a new directory with **mv**

```
mv sales.csv data/sales-2023.csv # Move to data dir and rename
```

Move files matching a glob pattern with mv pattern newdir

```
mv *.csv data/ # Move all CSV files to data dir
```

Remove (delete) a file with rm

```
rm bad_data.json
```

Remove a directory with rmdir

```
rmdir temp_results
```

Copy (and paste) a file to a new directory with **cp**

```
cp sales.csv data/sales-2023.csv # Copy to data dir and rename
```

Copy files matching a glob pattern with cp pattern newdir

```
cp *.csv data/ # Copy all CSV files to data dir
```