

# Notes 5

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## Commands

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### LS

#### Definition

- The `ls` command is used when you want to **see what's inside a folder**.
- It shows all the files and folders that are in your current location.
- You can think of it like **opening a folder on your computer** to look inside but using the terminal instead of clicking.

#### Usage/Formulas

- `ls[options][directory_to_list]`

#### Example

- Typing `ls` and pressing enter - shows everything in the current folder.
- Typing `ls -a` shows all files, even the hidden ones (like the ones that start with a dot like `.blank.txt`)
- Typing `ls -l` - shows a detailed view, including file sizes, permission, and dates.

`ls` mean **List**

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### pwd

#### Definition

- The `pwd` command means **print working directory** - it tells you **exactly where you are** inside computer's file system.
- It's like checking your **GPS location** when you're exploring folders in the terminal

#### Usage/Formulas

- `pwd`

#### Examples

-Typing `pwd` it might show something like `/home/eli/Documents`, meaning that's the folder you're currently in

- If you move to another folder with `cd`, type `pwd` again to see where you are again.

\*`pwd` tell me where the **current address** in the computer.

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### cd

## Definition

- The `cd` command means **change directory**
- It's what you use to **move between folders** in the terminal.
- You can use it to open a folder, go back to the previous one, or return to your home screen area.

## Usage/Formula

- `cd [directory_name]`

## Example

`cd documents` - Moves you into the "Documents" folder `cd ..` - moves you **one step back** `cd ~` - Takes you to your **home folder** (where the main fails are) `cd /` - Takes you to the **root folder** (the very top of your system)

\*`cd`\* means **change directory** - it's how you move around the computer using the terminal.

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## Questions

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### What is a variable?

A **variable** is like a **container that stores information** or data in memory so you can use it later. You can think of it as a **label or name** that points to a value.

#### Example:

- `name=John` here, `name` is the variable, and `"Adrion"` is the value it holds.

### How Do I Use a Variable?

You use a variable by **creating(assigning)** it a value and then **calling (using)** it later in a command or script

#### Example :

```
bash
greeting="Hello"
echo $greeting
```

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## What is an Environment Variable?

An **environment variable** is a **special type of variable** that is used by the operating system or programs to store system-wide settings. They tell your system or applications **important information**, like your username, home folder, or default shell.

**Example** `echo $Home` - shows your home directory path `echo $User` - shows your username

## What is a User-Defined Variable?

A **user-defined variable** is a variable that you create yourself while working in a shell or script. It stores information temporarily while your session or script is running.

### Example

```
color="blue"  
echo $color
```

- I made this variable myself - Not built into the system.
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## What is the Root Directory?

The **root directory** is the top level of the Linux or Unix file system. It's like the **main folder** that contains all other folders and files on the computer. It is represented by a single forward slash /.

### Example:

- All system folder start from root, such as `/home`, `/etc`, `/bin`, `/usr`, etc

*Root directory is the parent of every other folder in the system.*

## What Does "Parent Directory" Mean?

The **parent directory** is the folder that contains another folder.

- It's like the "folder above" your current location. In Linux, the parent directory is represented by ..

### Example:

- If you are in `/home/adrion/Documents`, the parent directory is `/home/adrion`. To go to it, you type: `cd ..`
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## What does "Current Working Directly" Mean?

Your **current working directory** is the **folder you are currently in** while using the terminal. Its where the system looks for file or saves things when you don't special a path.

### Example:

- Use the `pwd` command to see it
- If it shows `/home/eli/Documents` - Means that you're currrently working inside "Documents" folder

Note: `pwd` current location in the computer file system

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## What is an Absolute Path?

An absolute path is the complete address of a file or folder starting from the root directory( / )

Example:

- `/home/eli/Documents/notes.txt` - this is an absolute path because it starts from `/`
  - \*Absolute path start with `/` and show the full route from the top of the system.
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## What is a Relative Path?

A **relative path** tells the computer how to find a file **based on your current location**. It **does not start with `/`**, and it's shorter because it assumes you're already in a certain folder

Note for Self:

- Relative path are directions from **where you are right now** not from the root.

## What is the Difference Between “Your Home Directory” and “The Home Directory”?

- **Your Home Directory:** This is **your personal space** on the system where your files and folders are stored.
  - **Example:** `/home/eli` This is where you land when you log in.
- **The Home Directory:** This refers to the main "Home" area that contains all users's home folders.
  - Examples: `/home` - inside it might be `/home/eli`, `/home/sally` etc

Note to Remember:

- **Your home directory** - Personal folder
- **The Home directory** - the main folder that holds everyone's personal folders.