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File System Navigation Commands

pwd

Definition:

- Used for displaying the current working directory.

Usage:

- `pwd`

Examples:

- Show current working directory
  - `pwd`

cd

Definition:

- Used for changing the current working directory.

Usage:

- `cd` + `destination`

Examples:

- Go to home directory
  - `cd`
- Go to previous current working directory
  - `cd -`
- Change to the Downloads directory from anywhere in the file system
  - `cd ~/Downloads`
- Go back one or more directories
  - `cd ../`

ls

Definition:

- Used for displaying all the files inside a given directory.

Usage:

- `ls` + `option` + `directory to list`

Examples:

- List the content of the present working directory
    - `ls`
- List all the files inside a given directory
    - `ls -a ~/Pictures`
- List all the files inside the current working directory including hidden files
    - `ls -a`

Definitions of the following terms:

- **File System**
    - The way files are stored and organized.
- **Pathname**
    - The location of a given file in your computer (absolute or relative path).
- **Absolute Path**
    - The location of a file starting at the root of the file system.
- **Relative Path**
    - The location of a file starting from a child directory of the current working directory or the current directory itself.
- **Your Home Directory vs. The Home Directory**
    - Your Home Directory: The user's personal directory where all their files are located (User has total ownership of their home directory). The absolute path for this would be `/home/username`.
    - The Home Directory: The parent directory of all the home directories (All the users' home directories are located here). The absolute path for this would be `/home`.
- **Parent Directory**
    - A directory containing one or more directories or files.
- **Child Directory (Subdirectory)**
    - A directory inside another directory.
- **Bash Special Characters**
    - Function like commands that tell the shell to perform a specific action without typing the complete command.
    - Examples:
        - `.` (single period): Represents the current directory.
        - `..` (two consecutive periods): Represents the parent directory.
        - `~` (tilde character): Expands the current users' home directory.
        - `/` (one forward slash): The root directory and the shortest path in the system.
        - `-` (hyphen-minus): Used to move to the previous current working directory.
        - `#` (hash or number sign): Used for single line comments in shell scripting.
        - `!` (single exclamation mark): Used for repeating a command from the history.
        - `!!` (two consecutive exclamation marks): Used for repeating the previous command.
- **Environment Variables**

- Store values of a user's environment and can be used in commands within the shell.
- **User Defined Variables**
  - Variables created by the user that only exist in the script and the subshell that runs the script.
- **Reason for using $ with variables in bash shell scripting**
  - It refers to the variable without defining it.
  - If the $ is not used, the variable would be seen as a string instead of the value that was assigned to it.