Assignment 01

linux os & Scripting – b keerthana

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M.E – Cyber Security

MSIS, MANIPAL

**Getting Help**

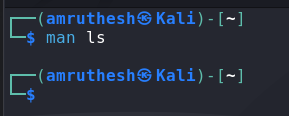
| **Task** | **Command Name** | **Syntax** | **Example** |
| --- | --- | --- | --- |
| To get manual page for a known command | man | man <command> | man ls |
| To get manual page for an unknown command | apropos | apropos <keyword> | apropos editor |
| To know the source file binary | type | type <command> | type ls |
| To know the path of the command | which | which <command> | which python3 |
| To know if a command is internal or external | type | type <command> | type cd |
| To get help for an internal command | help | help <command> | help cd |
| To list out bash commands | compgen -c | compgen -c | compgen -c |
| To know the usage of a command | command --help | <command> --help | ls --help |

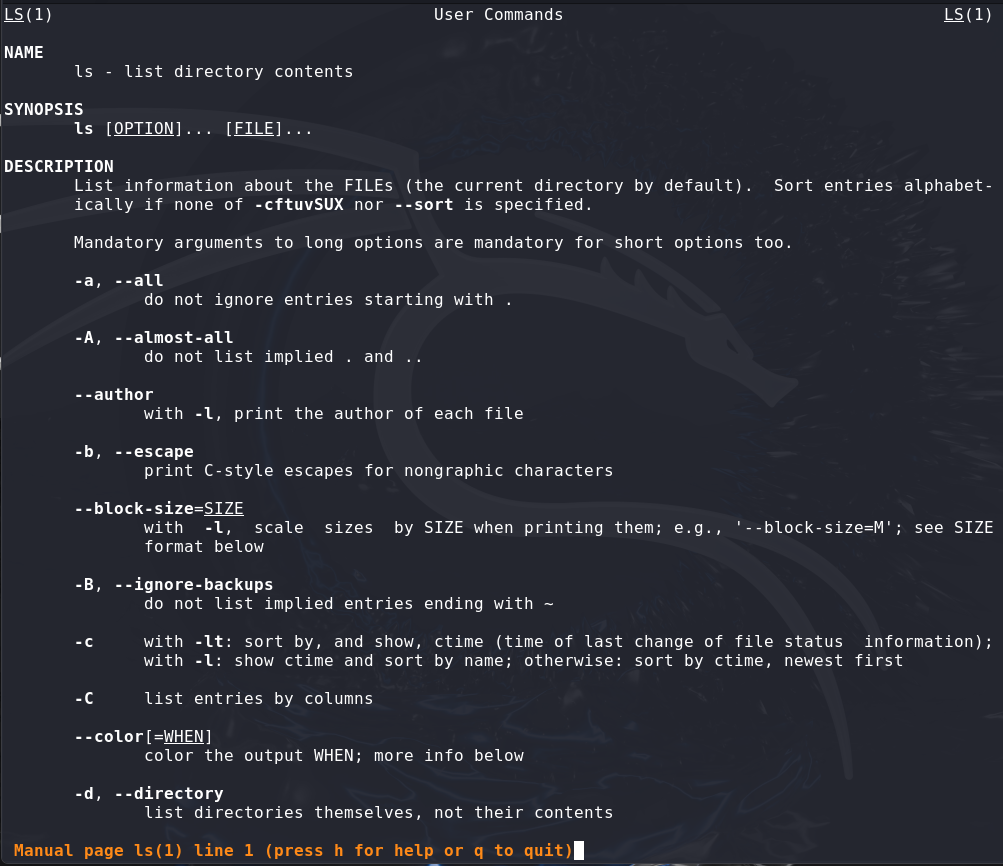
1. To get a manual page for a known command:

- Command Name: man

- Syntax: man [command]

- Example: man ls



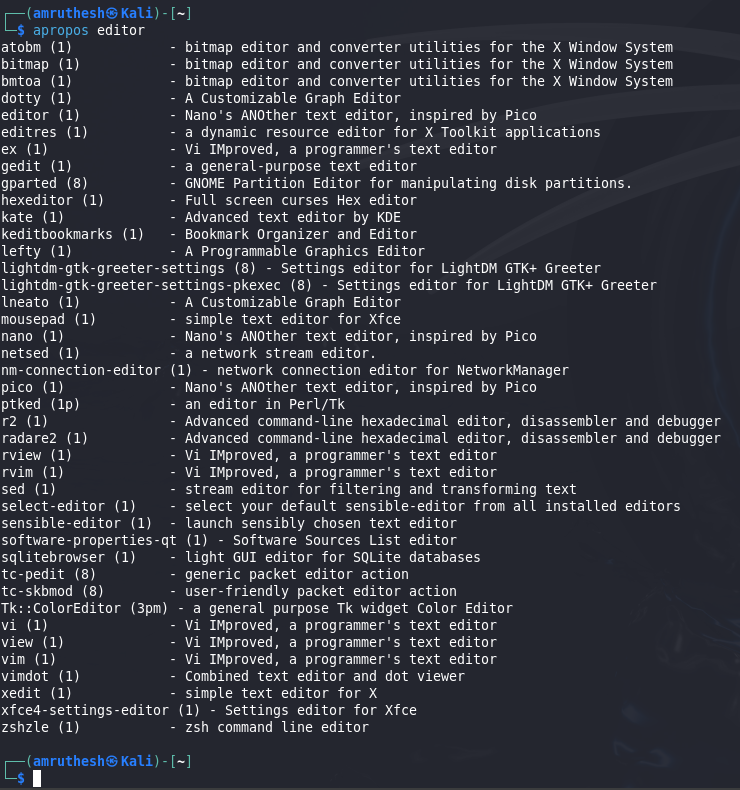


2. To get a manual page for an unknown command:

- Command Name: apropos

- Syntax: apropos [keyword]

- Example: apropos copy

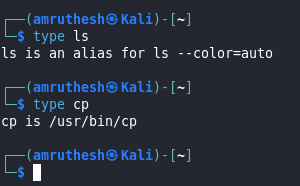


3. To know the source file binary:

- Command Name: type

- Syntax: type [command]

- Example: type ls

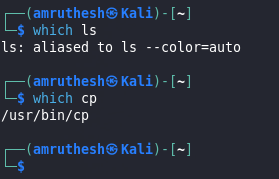


4. To know the path of the command:

- Command Name: which

- Syntax: which [command]

- Example: which ls

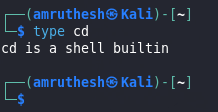


5. To know if the command is external or internal:

- Command Name: type

- Syntax: type [command]

- Example: type cd



6. To get help for the internal command:

- Command Name: help

- Syntax: help [command]

- Example: help cd

7. To list out bash commands:

- Command Name: compgen

- Syntax: compgen -c

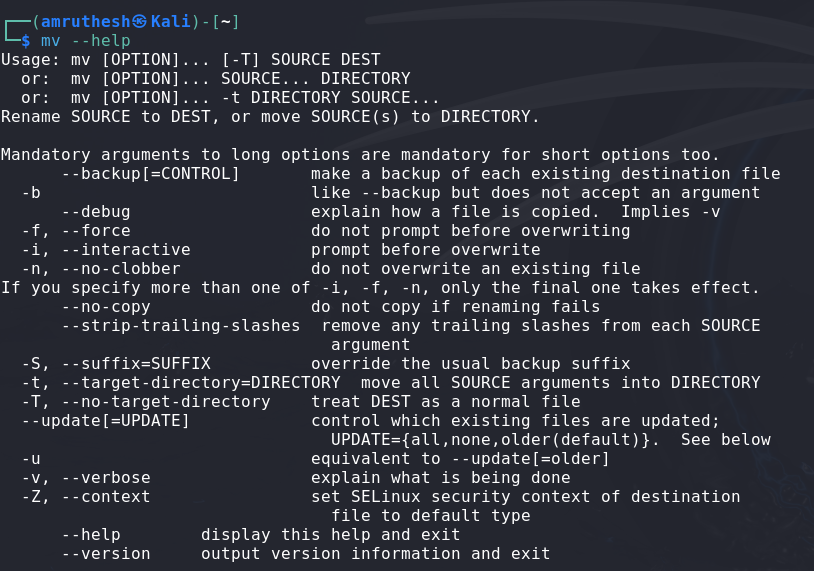
- Example: compgen -c

8. To know the usage of the command:

- Command Name: [command] --help

- Syntax: [command] --help

- Example: ls --help



**Basic Commands**

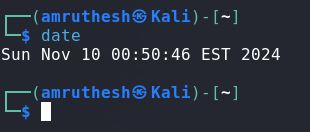
| **Task** | **Command**  **Name** | **Syntax** | **Example** |
| --- | --- | --- | --- |
| To know today’s date | date | date | date |
| To print calendar | cal | cal | cal 2024 |
| To print kernel version | uname | uname -r | uname -r |
| To print default shell | echo | echo $SHELL | echo $SHELL |
| To print currently logged-in user | whoami | whoami | whoami |
| To create a shortcut for a command | alias | alias <shortcut>=<command> | alias ll='ls -la' |
| To delete a shortcut | unalias | unalias <shortcut> | unalias ll |
| To change the timestamp of a file | touch | touch -t <YYYYMMDDHHMM.SS> <file> | touch -t 202401011200.00 file.txt |
| To clear the screen | clear | clear | clear |
| To create empty files | touch | touch <filename> | touch newfile.txt |
| To know disk usage | df | df -h | df -h |
| To know free space in the system | free | free -h | free -h |
| To know about Linux release | cat | cat /etc/os-release | cat /etc/os-release |

1. To know today ‘s date:

- Command Name: date

- Syntax: date

- Example: date

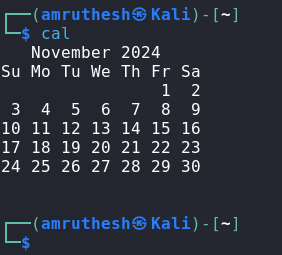


2. To print calendar:

- Command Name: cal

- Syntax: cal

- Example: cal

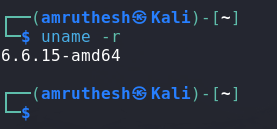


3. To print kernel version:

- Command Name: uname

- Syntax: uname -r

- Example: uname -r

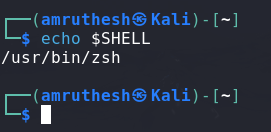


4. To print default shell:

- Command Name: echo

- Syntax: echo $SHELL

- Example: echo $SHELL

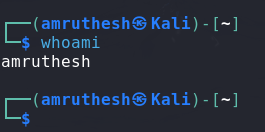


5. To print currently logged in user:

- Command Name: whoami

- Syntax: whoami

- Example: whoami

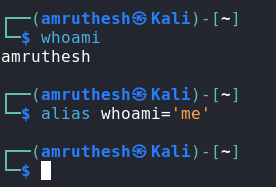


6. To create a shortcut for command:

- Command Name: alias

- Syntax: alias [shortcut\_name]= [command]

- Example: alias ll= ls -l

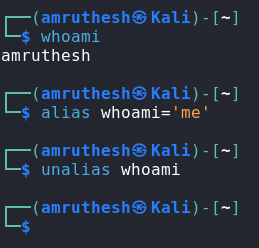


7. To delete shortcut:

- Command Name: unalias

- Syntax: unalias [shortcut\_name]

- Example: unalias ll

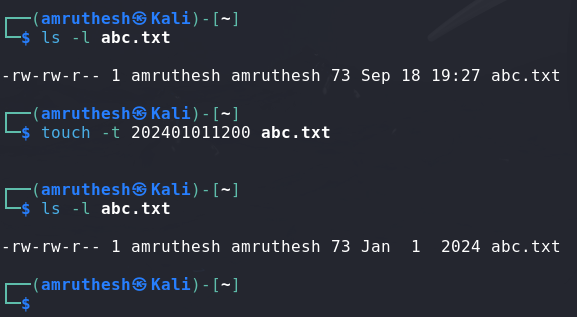


8. To change the timestamp of the file:

- Command Name: touch

- Syntax: touch [file]

- Example: touch example.txt



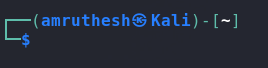
9. To clear the screen:

- Command Name: clear

- Syntax: clear

- Example: clear



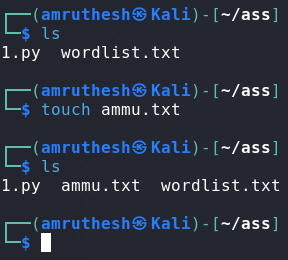


10. To create empty files:

- Command Name: touch

- Syntax: touch [file]

- Example: touch newfile.txt

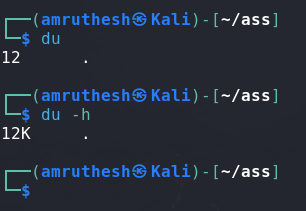


11. To know disk usage:

- Command Name: du

- Syntax: du [options]

- Example: du -h

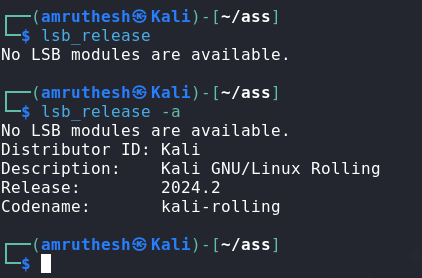


13. To know about the Linux release:

- Command Name: lsb\_release

- Syntax: lsb\_release -a

- Example: lsb\_release -a

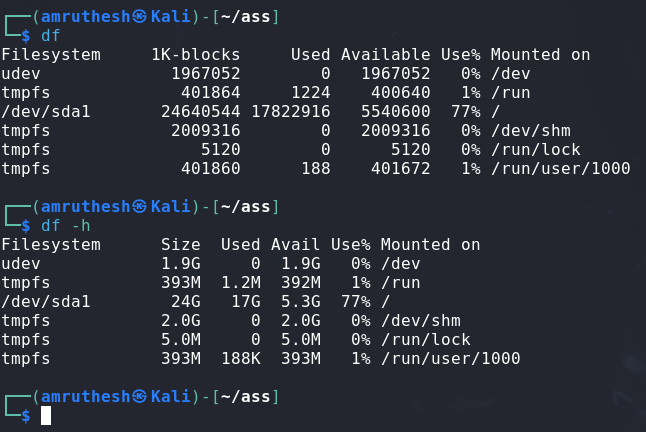
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12. To know free space in the system:

- Command Name: df

- Syntax: df [options]

- Example: df -h



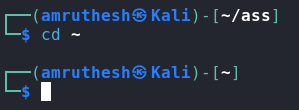
**Navigation**

| **Task** | **Command** | **Syntax** | **Example** |
| --- | --- | --- | --- |
| To navigate to the home directory | cd | cd ~ or cd | cd ~ |
| To navigate to the parent directory | cd | cd .. | cd .. |
| To navigate to the child directory | cd | cd <directory\_name> | cd Documents |
| Alternate command to cd | pushd | pushd <directory\_name> | pushd /var/log |
| To go back to the previous directory | cd | cd - | cd - |
| To go to the root directory | cd | cd / | cd / |

1. To navigate to the home directory:

- Command: cd ~

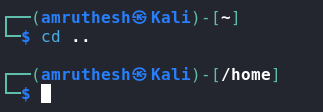
- Syntax: cd ~



2. To navigate to the parent directory:

- Command: cd ..

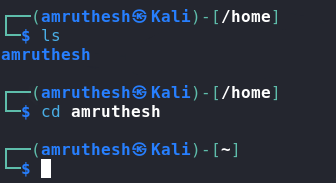
- Syntax: cd ..



3. To navigate to the child directory:

- Command: cd

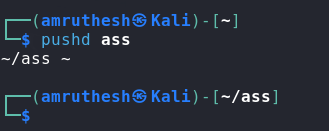
- Syntax: cd [directory\_name]



4. Alternate command to cd :

- Command: pushd and popd

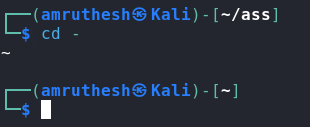
- Syntax: pushd [directory] , popd



5. To go back to the previous directory:

- Command: cd -

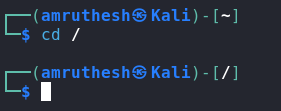
- Syntax: cd -



6. To go to the root directory:

- Command: cd /

- Syntax: cd /

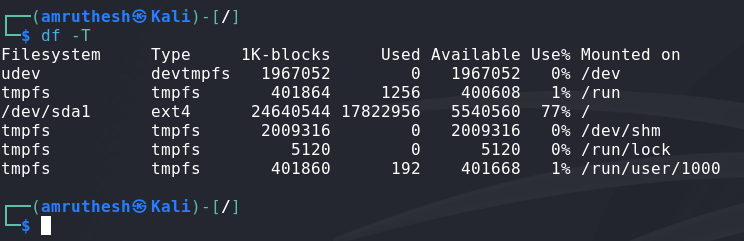
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**File System**

1. How to identify the file system:

- Command: df -T

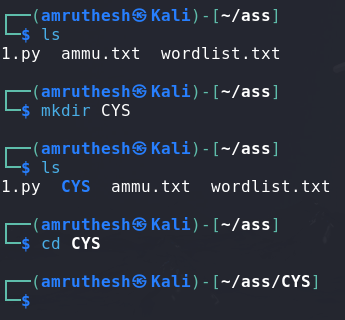
- Syntax: df -T



2. Create Folder “CYS” and navigate to it:

- Command: mkdir CYS; cd CYS

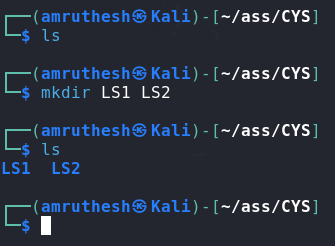
- Syntax: mkdir [directory]; cd [directory]



3. Create folder LS1 and LS2 under CYS:

- Command: mkdir LS1 LS2

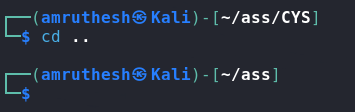
- Syntax: mkdir [directory] [directory]



4. Go back to CYS:

- Command: cd ..

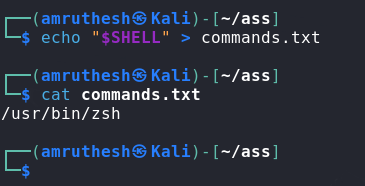
- Syntax: cd ..



5. Add commands learned during the lab session to commands.txt :

- Command: echo "commands" > commands.txt

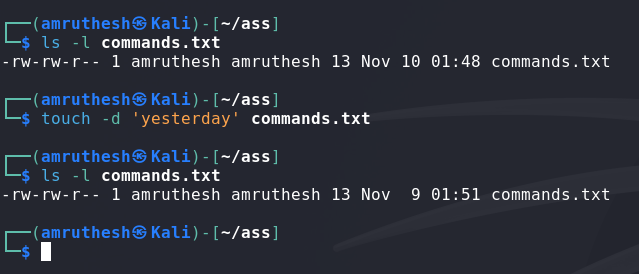
- Syntax: echo "[text]" > [file]



6. Change the timestamp of the file to yesterday:

- Command: touch -d "yesterday" commands.txt

- Syntax: touch -d "[date]" [file]



7. Copy contents from commands.txt to commands\_demo.txt :

- Command: cp commands.txt commands\_demo.txt

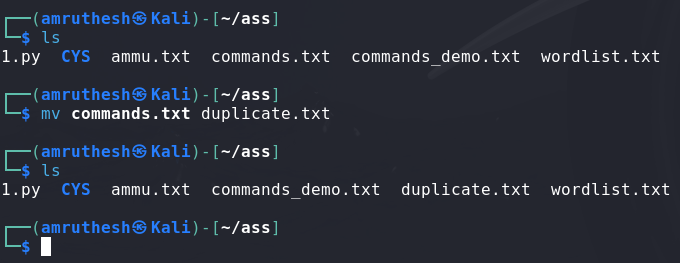
- Syntax: cp [source] [destination]



8. Rename the file commands\_demo.txt to duplicate :

- Command: mv commands\_demo.txt duplicate

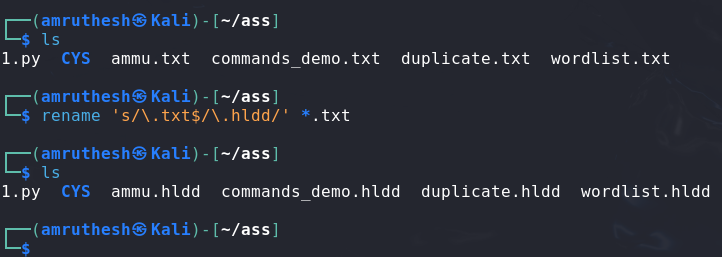
- Syntax: mv [old\_name] [new\_name]



9. Rename all .html files to .hldd :

- Command: rename s/\.html$/\.hldd/ \*.html

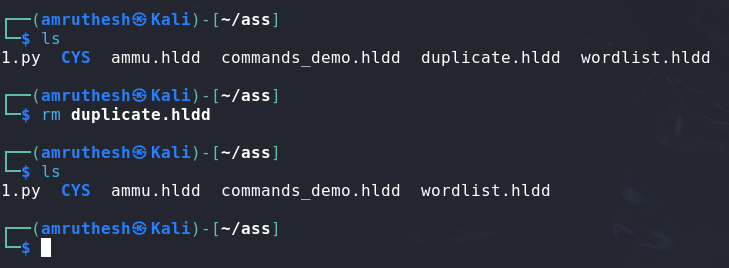
- Syntax: rename s/[pattern]/[replacement]/ [files]



10. Delete the file duplicate :

- Command: rm duplicate

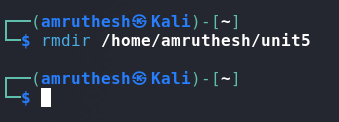
- Syntax: rm [file]



12. Delete contents from unit5 (using absolute path):

- Command: rm /path/to/unit5/\*

- Syntax: rm [absolute\_path]/\*



11. Copy contents commands.txt to unit4 and unit5 (using relative path):

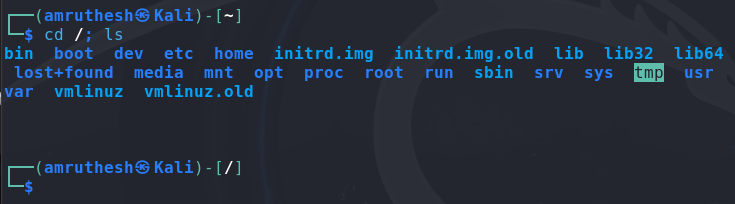
- Command: cp commands.txt ../unit4/ ../unit5/

- Syntax: cp [file] [destination1] [destination2]

13. Navigate to root and list all files:

- Command: cd /; ls

- Syntax: cd /; ls



14. Explore all folders without deleting:

- Command: find / -type d

- Syntax: find / -type d

15. Navigate to /etc/passwd , open and explore:

- Command: cd /etc; less passwd

- Syntax: cd /etc; less [file]

16. Navigate to /etc/group and explore:

- Command: less /etc/group

- Syntax: less [file]

**Differences**

1. GUI vs. CLI:

- GUI (Graphical User Interface): Visual interface with icons and buttons, user-friendly.

- CLI (Command Line Interface): Text-based interface for advanced users, more control and flexibility.

2. man vs info:

- man: Displays manual pages for commands; concise and traditional.

- info: Provides more detailed documentation; includes navigation.

3. which vs. whereis:

- which: Displays the path of the executable.

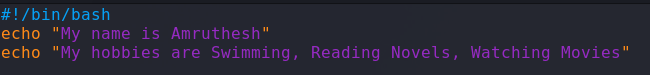
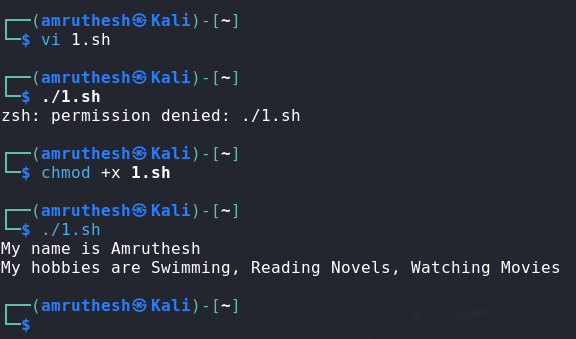
- whereis: Provides locations of the binary, source, and man pages.

4. Terminal vs. Shell:

- Terminal: Interface for inputting text commands.

- Shell: Command-line interpreter within the terminal.

**Simple Shell Script**

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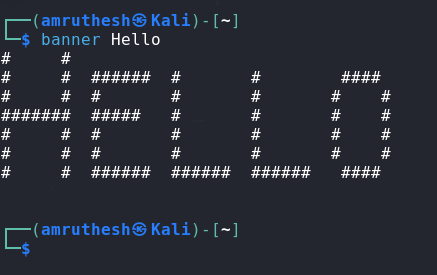
**Interesting Commands to Explore**

1. Banner:

- Command: banner

- Usage: Displays text in a large ASCII format.

- Example: banner Hello



2. History:

- Command: history

- Usage: Displays command history.

- Example: history

