### **Basic Linux Commands**

1. **File and Directory Management**:
   * pwd – Show the current working directory.
   * ls – List files and directories.
     + Example: ls -la (detailed view with hidden files).
   * cd – Change directories.
     + Example: cd /etc/ (navigate to the /etc/ directory).
   * mkdir – Create a new directory.
     + Example: mkdir test\_dir.
   * rm – Remove files or directories.
     + Example: rm file.txt or rm -r directory/.
   * cp – Copy files or directories.
     + Example: cp source.txt destination.txt.
   * mv – Move or rename files.
     + Example: mv oldname.txt newname.txt.
2. **File Viewing and Editing**:
   * cat – View file contents.
   * less – View file contents one screen at a time.
   * nano – Simple text editor.
   * vi or vim – Advanced text editor.
   * head – Show the first few lines of a file.
   * tail – Show the last few lines of a file (use tail -f for live updates).
3. **File Permissions and Ownership**:
   * chmod – Change file permissions.
     + Example: chmod 755 file.sh.
   * chown – Change file ownership.
     + Example: chown user:group file.txt.
   * ls -l – View permissions and ownership.

### **System Information**

* uname -a – Show system information.
* hostname – Display or set the system hostname.
* df -h – Show disk usage in human-readable format.
* du -sh – Show size of a directory.
* free -h – Display memory usage.
* top or htop – Monitor system processes in real-time.
* whoami – Show the current logged-in user.

### **Networking Commands**

* ifconfig / ip addr – Display network interfaces.
* ping – Test network connectivity.
* netstat – Show network connections.
* nmap – Network scanning (pre-installed in Kali Linux).
  + Example: nmap -sS -p 22 192.168.1.1.
* wget – Download files from the internet.
  + Example: wget http://example.com/file.zip.
* curl – Transfer data from URLs.
  + Example: curl -O http://example.com/file.zip.

### **Package Management**

* apt update – Update package lists.
* apt upgrade – Upgrade installed packages.
* apt install <package> – Install a package.
  + Example: apt install nmap.
* apt remove <package> – Uninstall a package.

### **Process Management**

* ps – View running processes.
* kill – Terminate a process.
  + Example: kill -9 <PID>.
* jobs – List background jobs.
* bg / fg – Resume jobs in background/foreground.

### **Scripting and Automation**

* bash script.sh – Run a bash script.
* crontab -e – Edit cron jobs for scheduling tasks.
* grep – Search text in files.
  + Example: grep "pattern" file.txt.
* find – Search for files.
  + Example: find / -name "filename".