

Students are encouraged to explore some commands and utilities beyond the given list, this is a mandatory list to be explored.

A. Reading command help in DOS and UNIX

In DOS:

E.g. dir/?

In unix:

Man commandname

B. Basic and Important DOS (Windows Command Prompt) Commands:

1. dir - List contents of a directory.
2. cd - Change directory.
3. copy - Copy files.
4. move - Move files.
5. del - Delete files.
6. mkdir - Create a new directory.
7. rmdir - Remove a directory.
8. type - Display the contents of a file.
9. ren - Rename files.
10. cls - Clear the screen.
11. echo - Display messages or turn command echoing on/off.
12. exit - Exit the Command Prompt.
13. attrib - Display or change file attributes.
14. tasklist - Display a list of currently running processes.
15. ping - Test connectivity to another networked device using ICMP echo.
16. Create a batch file and execute

C. Basic and Important Unix (Linux/macOS) Commands:

1. ls - List directory contents.
2. cd - Change directory.
3. cp - Copy files and directories.
4. mv - Move/rename files and directories.
5. rm - Remove files and directories.
6. mkdir - Create directories.
7. rmdir - Remove empty directories.
8. cat - Concatenate and display files.
9. more or less - View file contents one screen at a time.
10. touch - Create an empty file or update file timestamps.
11. nano or vi (Linux) / TextEdit (macOS) - Text editors for creating and editing files.
12. pwd - Print working directory.
13. man - Display manual pages for commands.
14. grep - Search for patterns in files.

15. `chmod` - Change file permissions.
16. Run a command in background
17. Suspend some commands and re-schedule them (Ctrl-z, ps, fg %sequence no of suspended process)

Important Unix Commands (Advanced):

1. `sudo` - Execute a command with superuser (root) privileges.
2. `apt-get` (Linux) / `brew` (macOS) - Package management commands for installing and managing software packages.
3. `ssh` - Secure Shell for remote login and command execution.
4. `scp` - Securely copy files between machines.
5. `find` - Search for files in a directory hierarchy.
6. `awk` - Pattern scanning and processing language.
7. `sed` - Stream editor for text transformations.
8. `top` - Display Linux tasks and system status in real-time.
9. `df` - Report file system disk space usage.
10. `du` - Estimate file space usage.
11. Edit `.bash_profile` file to print greeting based on time of the day. Execute the same.
12. Run commands in multiple user profiles on same machine. (Hint: use hot keys)

D. List of Windows OS Utilities for Exploration:

1. Task Manager :
 - Purpose : Monitor system performance, view running processes, manage startup programs, and analyze resource usage (CPU, memory, disk, network).
 - Usage : Identify resource-heavy processes, terminate unresponsive applications, and monitor system health.
2. Resource Monitor :
 - Purpose : Provides detailed real-time information about CPU, memory, disk, and network usage by processes and services.
 - Usage : Monitor specific process performance, analyze disk activity, network usage, and identify resource bottlenecks.
3. System Configuration (msconfig) :
 - Purpose : Configure system startup, services, and startup programs.
 - Usage : Enable/disable startup programs, manage boot options, and troubleshoot startup issues.
4. Disk Management :

- Purpose : Manage disk partitions, format disks, assign drive letters, and create/delete volumes.
- Usage : Partition disks, extend/shrink volumes, convert disks between different formats , fragmentation/defragmentation(e.g., MBR to GPT).

5. Event Viewer :

- Purpose : View system logs, application logs, and security logs to diagnose system and application issues.
- Usage : Investigate system errors, warnings, and information events to troubleshoot problems and monitor system health.

6. Performance Monitor :

- Purpose : Monitor and analyze system performance counters (CPU, memory, disk, network) over time.
- Usage : Create performance logs, set alerts based on performance thresholds, and analyze system performance trends.

7. Task Scheduler :

- Purpose : Automate tasks and programs to run at specified times or events.
- Usage : Schedule disk cleanup, backups, maintenance tasks, and script executions.

8. System Information (msinfo32) :

- Purpose : Provides detailed information about system hardware, components, software environment, and system settings.
- Usage : Retrieve system specifications, hardware details, installed software, and system configuration information.

9. Registry Editor (Regedit) :

- Purpose : Edit and manage the Windows registry, which stores system configuration settings and options.
- Usage : Modify registry keys and values, troubleshoot system settings, and configure system behaviors.

Task: check applications and programs those run on startup and enable/disable them as per personal preferences.