## **Task 3.4 Worksheet:** *Comparing Windows, Mac and Linux*

**Name and Lastname: Sabelo Gumede****Task Type:** Add to your existing blog from Task 1.1

**Winidows**

Windows OS is an operating system developed by Microsoft, and it’s one of the most widely used systems in the world for personal computers. It provides the interface you use to interact with your computer like opening files, browsing the internet, installing programs, and managing your device.

**How does each OS organize files and folders?**

Windows uses a drive-letter-based hierarchy and a graphical interface centered around File Explorer.

**Mac**

Mac OS, now officially called **macOS**, is the operating system developed by **Apple Inc.** for its line of Mac computers. It’s the software that powers everything from startup to shutdown, managing files, programs, internet access, and how you interact with your computer.

**How does each OS organize files and folders?**

macOS uses a Unix-based hierarchical file system with a clean, user-friendly interface via Finder.

**Linux**

Linux is a free and open-source operating system just like Windows or macOS, but with a twist: it’s built on collaboration, flexibility, and transparency. It was created by **Linus Torvalds** in 1991 and has since become the backbone of everything from smartphones to supercomputers.

**How does each OS organize files and folders?**

Linux follows a single-rooted tree structure with everything under / and adheres to the Filesystem Hierarchy Standard (FHS).

## *Comparing Windows, Mac, and Linux*

#### **KT1901: Files and Directories, Naming Conventions, and the File Allocation Table (FAT)**

| **Operating System** | **Windows** | **Mac** | **Linux** |
| --- | --- | --- | --- |
| **Directory Structure**  How are file paths written? | C:\Program Files\ | /Applications | /usr/bin/, /opt/ |
| **Naming Conventions**   1. Are names case-sensitive? 2. Are there naming restrictions? | Not case-sensitive  B. \ / : \* ? " < > | and reserved names like CON, PRN, AUX, NUL, COM1–COM9, LPT1–LPT9 | Depend on file system.  B. : (Colon) | Case-sensetive  B. / (forward slash) and null character (\0) |
| **File Systems**   1. Mention FAT specifically, where is it still used? | NTFS,  B. FAT is still used on floppy disks and some embedded systems. | APFS  b. Great use for USB sticks, SD cards, and cross-platform file sharing. | Ext4  b. Used in digital cameras, smart TVs, and gaming consoles |

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#### **KT1902: Executable File Extensions**

| **Operating System** | **Executable File Types** | **Script Execution** |
| --- | --- | --- |
| Windows | .exe, .bat, .com, .msi | Run via double-click, Command Prompt, PowerShell (e.g., C:\Path\To\script.ps1) |
| Mac | .app, .sh, .command | Run through Finder, Terminal, or Script Editor (e.g., osascript script.scpt) |
| Linux | No specific extension, typically scripts are .sh or no extension | Run through Terminal, e.g., ./script.sh or bash script.sh |