**Assignment 1.6**

**Brief**

This assignment will be a research assignment.

Choose one topic and discuss with your group the following:

1. Compare and contrast the Windows and Linux environments
2. Compare and contrast at least two of the different Linux distributions
3. What is the difference between Powershell and Bash?
4. How is that everything in Linux is considered a file?

**Submission**

* Submit the URL of the GitHub Repository that contains your work to NTU black board.

1. Compare and contrast the Windows and Linux environments

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| **Basis for Comparison** | **Linux** | **Windows** |
| **Access** | In Linux, the user has access to the kernel’s source code and alters the code according to his need. | In windows, every user won’t have access to the source code; only members of the selected group will have access to it. |
| **Flavors or Variety** | Linux has various distributions which are highly customizable based on user needs. | Windows has very few customization options available. |
| **Licensing** | In Linux with General Public License- Licensed operating system, users can modify the software, reuse it in any number of systems, and even sell the revised version. | In windows, with a Microsoft license, users can’t modify the software, and based on the number of permits – we can install it only on those computers. |
| **Command-line** | In Linux, a command line is a handy tool for administration and daily tasks but for end-users, it doesn’t make much difference. | We have a command line in windows but can’t use a Linux command line. We need to run and enter cmd; the command line will open. |
| **Run level** | Linux has an inbuilt ability to stop at different run levels; with this, we can work using a command line and GUI if anyone has an issue. | In windows, if we encounter any problem to fix it, we need to reboot as an administrator/ root to find and fix the problem. |
| **Usability** | Linux is complicated to install but can complete complex tasks easier. | Windows gives users a simple system to operate, but it will take longer to install. |
| **Support** | Linux has support via a massive community of user forums/websites and online searches. | Windows has support that is easily accessible, online forums/ websites, and it has paid support also. |
| **Updates** | In Linux, users have complete control of updates; we can install them whenever needed, and it will take less time without rebooting. | In windows, updates will come at inconvenient times, for example: suddenly an update pop-up will come, which frustrates users and takes more time to install. |
| **Security** | Linux is more secure than windows, where hackers or developers of viruses will find it difficult to break through Linux. | Windows is the primary target for developers of viruses and malware, and it is most vulnerable without anti-virus software. |