**Study of Ubuntu OS**

**1. Introduction**

Ubuntu is a **Linux-based operating system** developed by **Canonical Ltd.** and first released in **2004**. It is built on **Debian Linux** and is known for its **stability, security, and open-source nature**. Unlike Windows, which is a proprietary OS, Ubuntu is **free to use** and can be modified as per user needs.

Ubuntu follows a **version-based release cycle**, with **LTS (Long-Term Support) versions** released every **two years**, providing **five years of updates**, while **interim releases** come every six months with the latest features. Over the years, it has gained popularity among **developers, businesses, and everyday users** due to its **user-friendly interface and strong community support**.

**2. Features of Ubuntu**

 **Free & Open-Source** – Ubuntu is free to download, install, and modify, making it highly accessible.

 **Security & Stability** – It is inherently secure, with built-in firewall protection, minimal virus threats, and stable performance.

 **Software Repository** – Comes with an extensive collection of free software via **APT (Advanced Package Tool) and Snap Store**.

 **System Efficiency** – Requires fewer system resources than Windows, making it run smoothly even on older hardware.

 **Regular Updates** – LTS versions focus on reliability, while interim releases introduce cutting-edge features.

 **Multiple Flavors** – Ubuntu offers different editions, including **Ubuntu Desktop** (for personal use), **Ubuntu Server** (for web hosting and cloud computing), and **Ubuntu Studio** (for creative professionals).

 **User-Friendly Interface** – Uses the **GNOME desktop environment**, making it easier for new users transitioning from Windows.

**3. Difference Between Ubuntu and Windows OS**

 **Cost** – Ubuntu is **completely free and open-source**, whereas Windows requires a **paid license** for full access.

 **Security** – Ubuntu is **more secure**, with built-in firewall protection and minimal virus threats. Windows, on the other hand, is **more vulnerable to malware and requires antivirus software** for protection.

 **Customization** – Ubuntu allows **deep customization** of the user interface, themes, and system behavior, whereas Windows offers **limited customization options** with a fixed UI.

 **Software Compatibility** – Windows supports **a vast range of commercial software**, including Microsoft Office and Adobe products. Ubuntu relies on **open-source alternatives**, though some Windows applications can be run using Wine.

 **System Requirements** – Ubuntu is **lightweight and efficient**, running smoothly even on older hardware. Windows is **more resource-intensive** and requires high-end specs for smooth performance.

 **Updates** – Ubuntu provides **regular and user-controlled updates**, with LTS versions ensuring long-term reliability. Windows updates are **often automatic and can sometimes be forced**.

 **Support & Community** – Ubuntu has **a large open-source community** that provides free support through forums and documentation. Windows offers **official Microsoft support** along with community forums.

 **Performance** – Ubuntu is known for its **stability and efficiency**, making it ideal for servers and developers. Windows focuses on **user-friendliness and software compatibility**, making it a preferred choice for general users.

Ubuntu is a powerful alternative to Windows, especially for those who prioritize security, performance, and customization.