**LAB ASSIGNMENT-1**

**Study of Ubuntu OS**

**1. Introduction:-**

**Linux and Ubuntu Overview:**

Linux is a family of open-source operating systems based on the Linux kernel, which was first released in 1991. It is widely used in various forms, including desktops, servers, and embedded systems. Ubuntu, pronounced "oo-BOON-too," is a popular Linux distribution developed by Canonical Ltd. It was first released in October 2004 by Mark Shuttleworth and his team, with the goal of creating a user-friendly alternative to Debian, another well-known Linux distribution.

**Ubuntu History and Versions:**

Ubuntu is named after the African philosophy "ubuntu," meaning "humanity to others," reflecting its community-driven development model. Over the years, Ubuntu has evolved significantly, with new versions released every six months. Long-term support (LTS) versions are released every two years, providing extended support and stability for users. Some notable versions include Ubuntu 4.10 (the first release), Ubuntu 17.10 (which switched back to GNOME), and the latest LTS version, Ubuntu 24.04 ("Noble Numbat").

**2. Features of Ubuntu:-**

Ubuntu is renowned for its ease of use, stability, and security. Here are some key features:

* **User-Friendly Interface**: Ubuntu offers a modern and intuitive interface, primarily using GNOME, but also supports other desktop environments like KDE Plasma, MATE, and Xfce.
* **Pre-Installed Software**: It comes with a range of software, including web browsers, email clients, office tools, and media players.
* **Security**: Ubuntu includes robust security features such as automatic updates, a built-in firewall (UFW), and less vulnerability to malware compared to Windows.
* **Hardware Compatibility**: It supports a wide range of hardware, making it easy to insta ll printers and other devices.
* **Open-Source and Free**: Users have the freedom to modify and distribute Ubuntu without licensing fees.
* **Community Support**: Ubuntu benefits from a large and active community, providing extensive documentation and support.

**3. Difference between Ubuntu and Windows OS:-**

| **Feature** | **Ubuntu** | **Windows** |
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| **Cost** | Free and open-source | Proprietary, requires purchase |
| **Customization** | Highly customizable | Limited customization options |
| **Security** | Less vulnerable to malware, robust security features | More vulnerable to malware, requires additional security software |
| **Hardware Requirements** | Can run on lower-end hardware | Requires more powerful hardware for optimal performance |
| **Community Support** | Large community-driven support | Commercial support available |
| **Software Availability** | Access to a vast repository of free software | Commercial software available, some free alternatives |
| **User Interface** | Offers multiple desktop environments | Standard Windows interface |