# LAB ASSIGNMENT - 1

**Aim:** To install and study Ubuntu OS.

**To perform:** Install VMware or Virtual Box and Ubuntu over Windows OS.

**Study of Ubuntu OS:**

Many distributions are built on top of the open-source Linux operating system kernel. Canonical Ltd. created and maintains Ubuntu, one of the most well-liked and approachable Linux distributions.

Brief history of Ubuntu:

In October 2004, Mark Shuttleworth and his group published Ubuntu. It was created as an easier-to-use version of Debian to make Linux more user-friendly for regular users.

Ubuntu comes in a variety of variants to meet different purposes:

• Ubuntu Desktop is made for both home and business use.

• Ubuntu Server is designed for server environments.

• Ubuntu Core is made for embedded systems and the Internet of Things (IoT).

• Ubuntu Studio is designed for creating multimedia.

**Features of Ubuntu:**

Ubuntu offers several powerful features that makes it a great choice for users. Some of which are :-

a) Open Source: Ubuntu is less expensive than proprietary operating systems like Windows since it is totally free to download.

b) User-Friendly Interface: Ubuntu offers customers a simple GNOME desktop environment that is easy to use.

c) Security & Stability:  It is less susceptible to malware and virus attacks. Integrated firewall and security updates makes it more secure system.

d) Frequent upgrades & Long-Term Support (LTS): To guarantee long-term usage and dependability, LTS versions receive security and maintenance upgrades for five years.

e) Software Management: Snap & Flatpak are supported for simple software installation, and the Advanced Package Tool (APT) is used for package management.

**Difference Between Ubuntu and Windows OS**:

| Feature | Windows | Ubuntu |
|---|---|---|
| 1. Operating System | A closed-source operating system developed by Microsoft. | An open-source operating system based on the Linux kernel. |
| 2. User Interface | GUI (Graphical User Interface) with a familiar Windows desktop experience. | GUI with various desktop environments (e.g., GNOME, Unity) |
| 3. Software | Large selection of commercial and proprietary software available. | Vast collection of free and open-source software available. |
| 4. Compatibility | Widely supported by software developers and hardware manufacturers. | Growing support, but some software and hardware may not be compatible. |
| 5. Updates | Regular updates and patches released by Microsoft. | Frequent updates and patches through the Ubuntu package manager. |
| 6. Customization | Limited customization options for appearance and functionality | High level of customization through various themes and extensions |
| 7. Gaming | Extensive support for mainstream games and popular gaming platforms. | Growing support, with some popular games and platforms available |
| 8. System Resources | Typically requires more system resources (RAM, CPU). | Generally lighter and more efficient, suitable for older hardware. |
| 9. Support | Extensive documentation, user forums, and paid technical support options. | Active community support, forums, and official documentation. |
| 10. Cost | Commercial licenses with different editions and price points. | Free to use and distribute, although commercial support is available. |