INSTITUTE OF ENGINEERING AND TECHNOLOGY , DAVV INDORE

DEPARTMENT OF INFORMATION TECHNOLOGY

LAB ASSIGNMENT OF OPERATING SYSTEM

SUBJECT CODE: 4ITRC2

LAB ASSIGNMENT - 01

NAME : AAYUSH SAHU

ROLLNO : 23I4101

CLASS : BE 2ND YEAR IT-B

Introduction to Linux and Ubuntu

Linux is an open-source, Unix-like operating system kernel that serves as the foundation for various operating systems, known as Linux distributions. It was created by **Linus Torvalds** in 1991 and is widely used for servers, desktops, and embedded systems.

Ubuntu is one of the most popular Linux distributions, developed by **Canonical Ltd.** It is based on **Debian** and is designed to be user-friendly, secure, and stable. Ubuntu is widely used for personal computing, development, and cloud computing.

Versions and History of Ubuntu

Ubuntu follows a **biannual release cycle**, with a new version released every **April and October**. Each version has a **version number (YY.MM)** and a **code name** (e.g., *Ubuntu 24.10 "Jammy Jellyfish"*). Some key milestones in Ubuntu's history include:

- **2004:** First release, Ubuntu 4.10 *"Warty Warthog"*.

- **2011:** Unity desktop introduced in Ubuntu 11.04.

- **2017:** Switched to GNOME desktop in Ubuntu 17.10.

- **2020-Present:** Improved support for cloud, IoT, and AI applications.

Features of Ubuntu

- **Open-Source & Free** – Available for free, with access to source code.

- **User-Friendly** – Simple interface with GNOME desktop environment.

- **Security & Stability** – Less prone to viruses, with built-in firewall and security updates.

- **Customizability** – Allows modification of UI and system behavior

- **Regular Updates** – New versions released every 6 months, with Long-Term Support (LTS) versions available for 5 years.

- **Lightweight & Efficient** – Uses fewer system resources than Windows.

- **Software Availability** – Includes LibreOffice, Firefox, and supports Snap & APT packages.

- **Great for Development** – Supports programming languages like Python, C++, and Java.

Difference Between Ubuntu and Windows OS

Feature	Ubuntu	Windows
Cost	Free & Open Source	Paid (Proprietary License)
User Interface	GNOME (default) but customizable	Standardized UI with less customization
Security	More secure, minimal viruses	Requires antivirus protection
Software Support	Uses .deb, Snap, and Flatpak	Uses .exe and .msi
Gaming Support	Limited native support, uses Wine/Proton	Wide game compatibility
System Requirements	Lightweight, runs on old hardware	Higher hardware requirements
Customization	Highly customizable	Limited customization
Updates	Regular updates, free LTS versions	Windows Updates (can be forced)
Compatibility	Best for development, cloud, and servers	Best for mainstream applications & gaming