1. Introduction

Linux is an open-source operating system that is widely used for various purposes, including servers, desktops, and embedded systems. It was created by Linus Torvalds in 1991 and has since evolved into different distributions (distros) tailored for specific needs. One of the most popular Linux distributions is **Ubuntu**, which was first released in **2004** by **Canonical Ltd.**

Ubuntu is based on **Debian**, another popular Linux distribution, and is designed to be user-friendly and secure. It follows a **six-month release cycle**, with Long-Term Support (LTS) versions released every two years. The LTS versions receive updates for five years, ensuring stability and security for enterprises and personal users.

2. Features of Ubuntu

Ubuntu offers several features that make it a preferred choice among users:

- **Free and Open Source**: Ubuntu is completely free to download, use, and modify.
- **User-Friendly Interface**: The **GNOME desktop environment** provides a simple yet powerful user interface.
- **Security and Stability**: Regular security updates and fewer vulnerabilities compared to other operating systems.
- **Software Availability**: Comes with pre-installed applications like **LibreOffice, Firefox, and Thunderbird**; additional software can be installed from the **Ubuntu Software Center**.

PRADUMAN PRAJAPATI 2440966

- **Customization**: Users can modify the appearance, install different desktop environments (e.g., KDE, XFCE), and tweak system settings.
- **Terminal and Command-Line Power**: Ubuntu provides a powerful terminal that allows advanced users to execute commands efficiently.
- **Frequent Updates**: Every six months, a new version is released with improved features and bug fixes.
- **Support for Multiple Architectures**: Works on **x86, ARM, and other architectures**, making it versatile for various devices.

3. Difference Between Ubuntu and Windows OS

Feature	Ubuntu	Windows OS
Cost	Free and Open Source	Paid, with different versions (Home, Pro, Enterprise)
Security	More secure due to limited malware threats and open-source transparency	More vulnerable to malware and viruses
User Interface	GNOME (default), but customizable	Windows Explorer, with limited UI customization
Software Availability	Uses open-source software, supports Debian-based packages	Supports a vast range of proprietary and commercial software
Updates	Regular and free updates	Updates can be costly and sometimes forced

PRADUMAN PRAJAPATI 244096

Performance	More efficient, less resource-heavy	Can be resource-intensive, especially on older hardware
Gaming	Limited game support but improving with Steam and Proton	Extensive support for gaming with DirectX
Hardware Support	Supports a wide range of hardware but may require additional drivers	Better plug-and-play hardware compatibility
Customization	Highly customizable	Limited customization options

PRADUMAN PRAJAPATI 244095

Instructions for Installation:

1. **Install VMware or VirtualBox**:
   - Download **VMware Workstation Player** or **Oracle VirtualBox** from their official websites.
   - Install the software by following the setup wizard.
2. **Download Ubuntu ISO**:
   - Visit the official Ubuntu website and download the latest **Ubuntu Desktop ISO file**.
3. **Create a New Virtual Machine**:
   - Open VMware/VirtualBox and create a new virtual machine.
   - Allocate sufficient **RAM (at least 4GB)** and **storage (20GB or more)**.
   - Attach the downloaded **Ubuntu ISO** as the bootable image.
4. **Install Ubuntu**:
   - Start the virtual machine and boot from the ISO.

- Select **"Try Ubuntu"** if you want to test it without installation.
- Select **"Install Ubuntu"**, follow the on-screen instructions, and choose installation preferences.
- Create a user account and complete the setup process.

5. **Post-Installation Setup**:
   - Update the system using the command: `sudo apt update && sudo apt upgrade`
   - Install additional drivers if necessary.
   - Customize the desktop environment and install required software.

PRADUMAN PRAJAPATI 244096