3. Pick one “flavor” of Linux distribution (preferably unique in your group) and trace the timeline of its development. [3 Marks]
   Output: Year wise release versions with names if applicable, hardware platforms supported, desktop environments available, kernel versions supported, one USP if applicable.
   Application: One should be aware of specialized operating systems that come bundled with applications for a specific domain of usage. It helps get work done faster.

Linux[1]

Linux is a family of open-source Unix-like operating systems based on the Linux kernel. Distributions include the Linux kernel and supporting system software and libraries, many of which are provided by the GNU Project.

History[2]

Precursors

The Unix operating system was conceived and implemented in 1969, at AT&T's Bell Labs, in the United States by Ken Thompson, Dennis Ritchie, Douglas McIlroy, and Joe Ossanna. First released in 1971, Unix was written entirely in assembly language, as was common practice at the time. In 1973 in a key, pioneering approach, it was rewritten in the C programming language by Dennis Ritchie. The availability of a high-level language implementation of Unix made its porting to different computer platforms easier.

The GNU Project, started in 1983 by Richard Stallman, had the goal of creating a "complete Unix-compatible software system" composed entirely of free software. Work began in 1984.

MINIX was created by Andrew S. Tanenbaum, a computer science professor, and released in 1987 as a minimal Unix-like operating system targeted at students and others who wanted to learn operating system principles.

Creation

In 1991, Torvalds became curious about operating systems. Frustrated by the licensing of MINIX, which at the time limited it to educational use only, he began to work on his own operating system kernel, which eventually became the Linux kernel.

Distributions[3] (Most Popular in 2021)

- MX Linux
- Manjaro
- Linux Mint
- Ubuntu
- Debian
- Elementary OS
- Solus
- Zorin OS
- Fedora
- Deepin

[1] Source: Wikipedia
[2] Source: Wikipedia
[3] Source

Kali Linux[4]

Kali Linux is a Debian-derived Linux distribution designed for digital forensics and penetration testing.[3] It is maintained and funded by Offensive Security.

Development[5]

It was developed by Mati Aharoni and Devon Kearns of Offensive Security through the rewrite of BackTrack, their previous information security testing Linux distribution based on Knoppix. Originally, it was designed with a focus on kernel auditing, from which it got its name **Kernel Auditing Linux**.

Kali Linux has around 600 pre-installed penetration-testing programs (tools), including: Armitage, Nmap, Wireshark, metasploit, John the Ripper, sqlmap, Aircrack-ng, Burp suite and OWASP ZAP web application security scanners, etc.

System Requirements[6]

- A minimum of 20GB hard disk space for installation depending on the version
- A minimum of 2GB RAM for i386 and AMD64 architectures.
- A bootable CD-DVD drive or a USB stick.

Supported Platforms[7]

Kali Linux is distributed in 32-bit and 64-bit images for use on hosts based on the x86 instruction set and as an image for the ARM architecture for use on the Beagle Board computer and Samsung's ARM Chromebook.

Kali Linux is already available for Asus Chromebook Flip C100P, BeagleBone Black, HP Chromebook, CubieBoard 2, CuBox, CuBox-i, Raspberry Pi, EfikaMX, Odroid U2, Odroid XU, Odroid XU3, Samsung Chromebook, Utilite Pro, Galaxy Note 10.1, and SS808.

With the arrival of Kali NetHunter, Kali Linux is also officially available on Android devices such as the Nexus 5, Nexus 6, Nexus 7, Nexus 9, Nexus 10, OnePlus One, and some Samsung Galaxy models.

Kali Linux is available on Windows 10, on top of Windows Subsystem for Linux (WSL). The official Kali distribution for Windows can be downloaded from the Microsoft Store.

Desktop Environments[8]

- ✓ XFCE
- ✓ KDE
- ✓ LXDE
- ✓ GNOME
- ✓ Cinnamon
- ✓ MATE

[4] Source: Wikipedia
[5] Source: Wikipedia
[6] Source
[7] Source: Wikipedia
[8] Setup

Version History[9] and Kernels

Version Number	Release Date	Supported Kernel	Changes
Kali 1.0.0	13th March, 2013		Initial release, “moto".
Kali 2.0	11th August, 2015		Major release, “safi". Now a rolling distribution, major UI changes
Kali 2016.1	21st January, 2016	Kernel 4.3, GNOME 3.18.	The first Kali Rolling release
Kali 2017.1	25th April, 2017	Kernel 4.9, GNOME 3.22.	The first 2017 Kali Rolling release.
Kali 2018.1	6th February, 2018	Kernel 4.14.12, GNOME 3.26.2.	The first 2018 Kali Rolling release.
Kali 2019.1	18th February, 2019	Kernel 4.19.13, GNOME 3.30.2.	The first 2019 Kali Rolling release.
Kali 2020.1	28th January, 2020	Kernel 5.4.0, Xfce 4.14.2.	The first 2020 Kali Rolling release.
Kali 2021.1	24th February, 2021	Kernel 5.10.0, Xfce 4.16.1.	The first 2021 Kali Rolling release.
Kali 2021.2	1st June, 2021	Kernel 5.10.0, Xfce 4.16.2.	The second 2021 Kali Rolling release.

Unique Selling Proposition (USP)[10]

Kali Linux is specifically geared to meet the requirements of professional penetration testing and security auditing.

1. **Network services disabled by default:** Kali Linux contains systemd hooks that disable network services by default. These hooks allow us to install various services on Kali Linux, while ensuring that our distribution remains secure by default, no matter what packages are installed. Additional services such as Bluetooth are also blacklisted by default.
2. **Custom Linux kernel:** Kali Linux uses an upstream kernel, patched for wireless injection.
3. **A *minimal* and *trusted* set of repositories:** given the aims and goals of Kali Linux, maintaining the integrity of the system as a whole is absolutely key. With that goal in mind, the set of upstream software sources which Kali uses is kept to an absolute minimum. Many new Kali users are tempted to add additional repositories to their **sources.list**, but doing so runs a *very serious risk* of breaking your Kali Linux installation.

[9] Source
[10] Source