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Linux

Linux is an open Source operating system that is widely used in most of the companies.

01 What is and why Linux

02 History of Linux

03 Linux Distributions

04 Basic Command line & Directory structure

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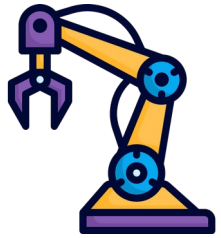
Linux

Introduction to Linux OS

Linux

01 What is and why Linux



Definition

Linux is an open-source operating system kernel that manages hardware resources for software applications.

What is an Operating System?

An operating system (OS) is the fundamental software that manages computer hardware and software resources and provides common services for computer programs. It acts as an intermediary between users and the computer hardware.

- **Resource Management**
- **User Interface**
- **File System Management**
- **Security and Access Control**
- **Task Management**

Examples of Operating Systems

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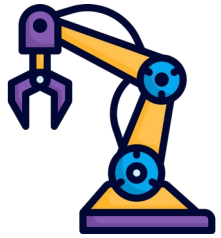
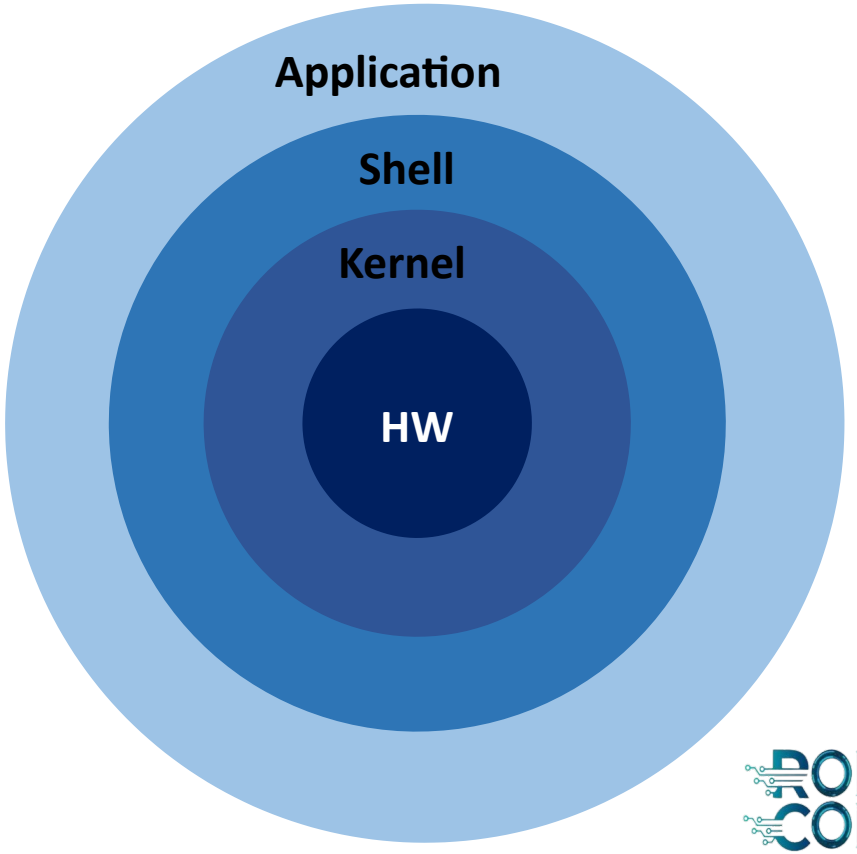


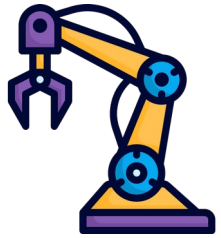
Creation: Developed by Linus Torvalds in 1991 and distributed under the GNU General Public License.

Core Components: Kernel, shell, GUI (optional), and various software packages.



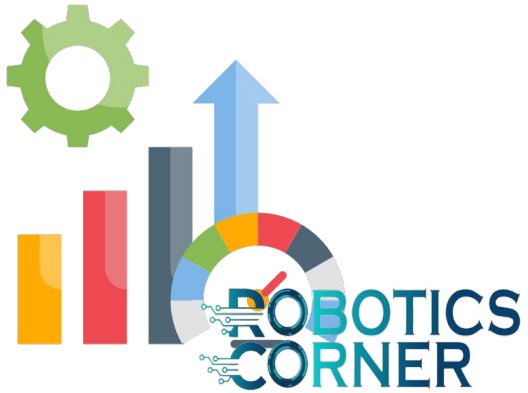
Features of Linux

- Open Source
- Security
- Stability
- Flexibility

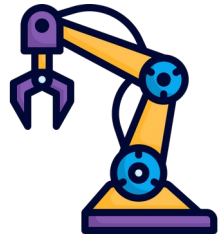


Why Choose Linux?

- **Cost**: Free to use and distribute, with no licensing fees.
- **Community** Support: A large community of developers and users offers support and frequent updates.
- **Customizability**: Highly customizable and adaptable to specific needs.
- **Performance**: Efficient resource management, suitable for servers and embedded systems.



02 History Of Linux



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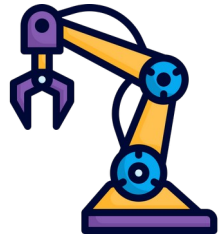

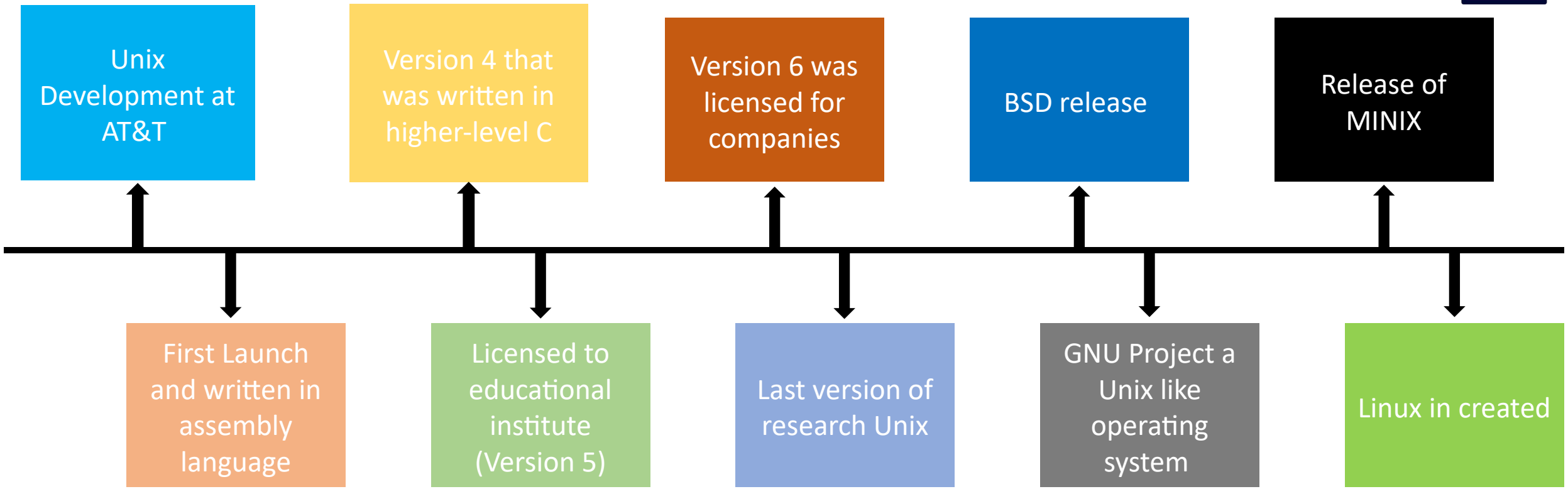

Unix Development: Dennis Ritchie and Ken Thompson were the first to design an operating system named Unix after the Multi projects had been dropped out. In 1969, Unix was started as a small project at AT&T Bell Lab.

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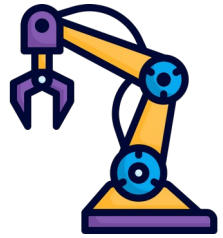

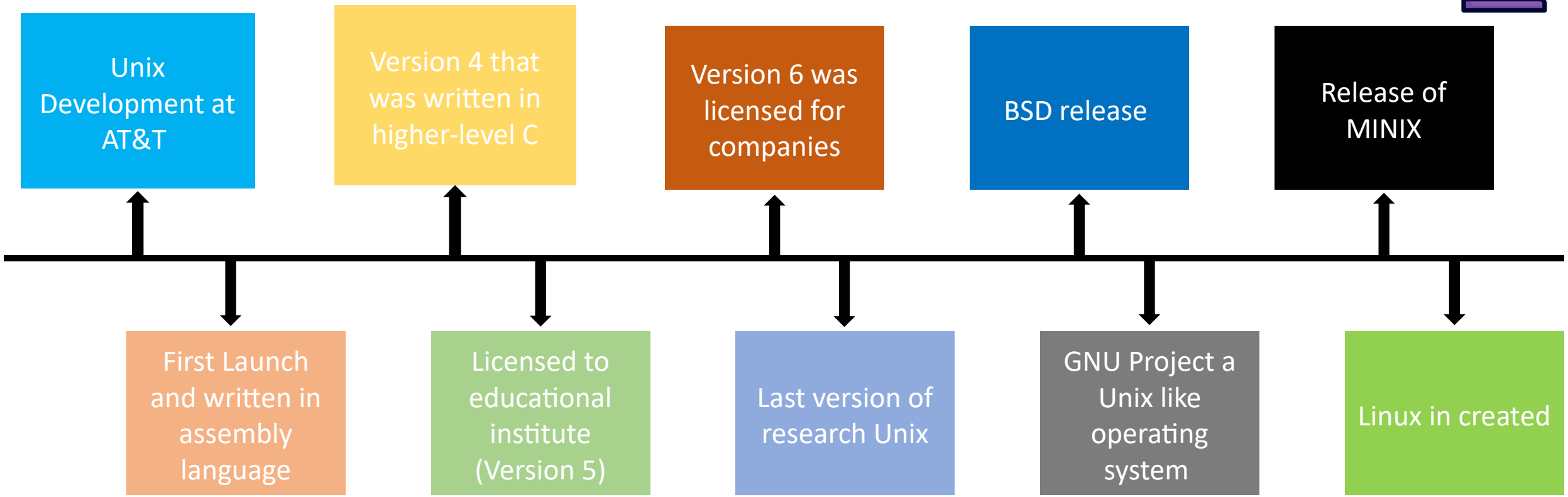

First Unix Version: The version of Unix was released in 1970 and written in assembly language. It was used for text processing.

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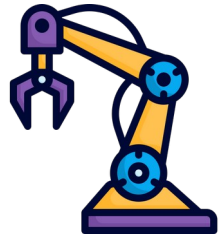

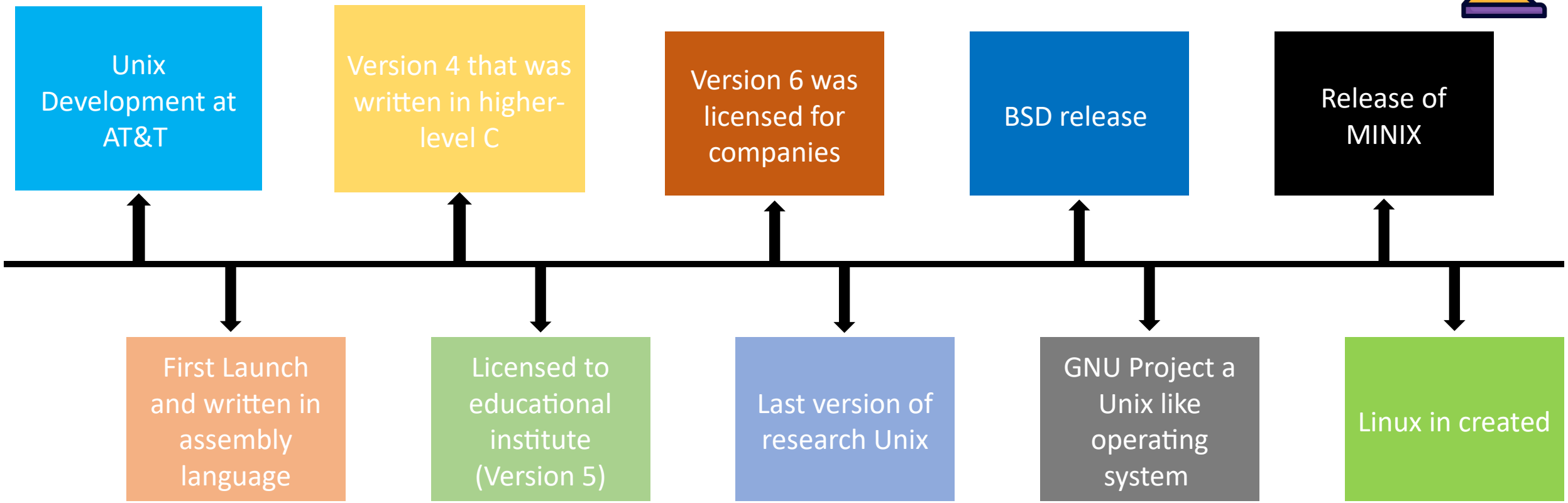

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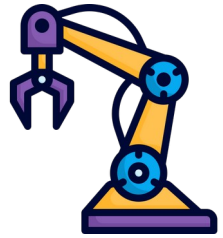

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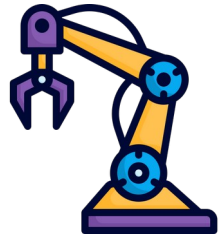
Fourth Version: This Unix version was written in a Higher level of C language which was portable and it was released in 1973.

02 History Of Linux



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Fifth Version: The fifth version was released in 1973 which was the first version that was licensed for the educational institute.

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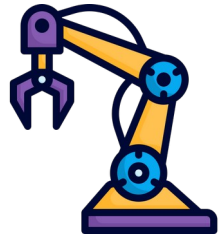

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Sixth Version: The sixth version was released in 1975 and this version was licensed for the companies, it was the version from which the first BSD was derived.

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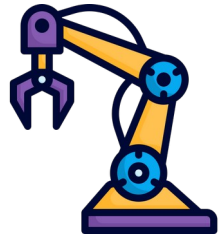

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Last developed version: The seventh edition of Unix is the official last version that was developed under the Bell Lab which later developed the Unix and Unix-like operating system carried forward by other open-source and commercial branches.

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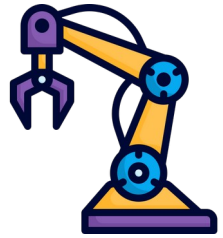
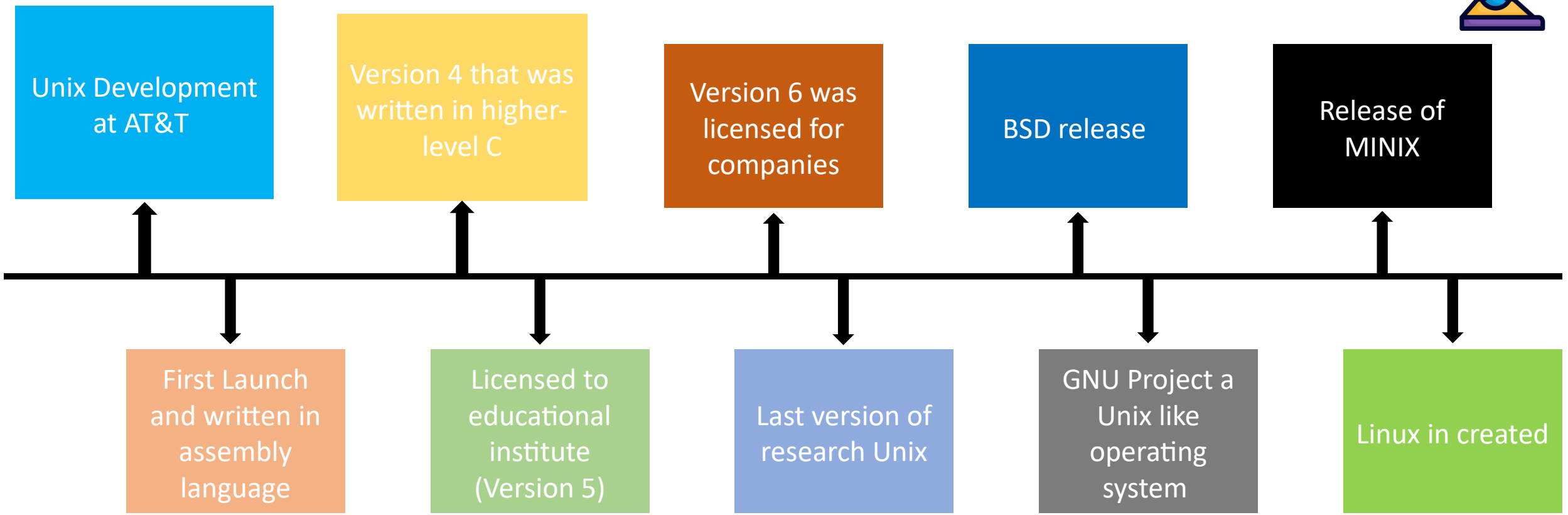
02 History Of Linux





BSD Release: Berkeley released a free Unix-like operating system that was named Berkeley Software Distribution (BSD) in 1977. It was sued because its code was replicated from Unix.

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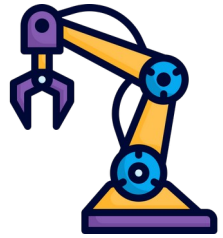

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GNU Project: In 1983, Stallman introduced the GNU operating system which was a free Unix-like operating system and he also wrote the GNU General Public License that successfully attracted developers. But its kernel was not that developed so the project was not further proceeded.

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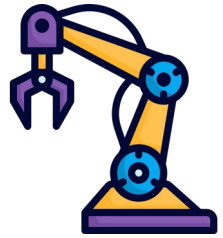

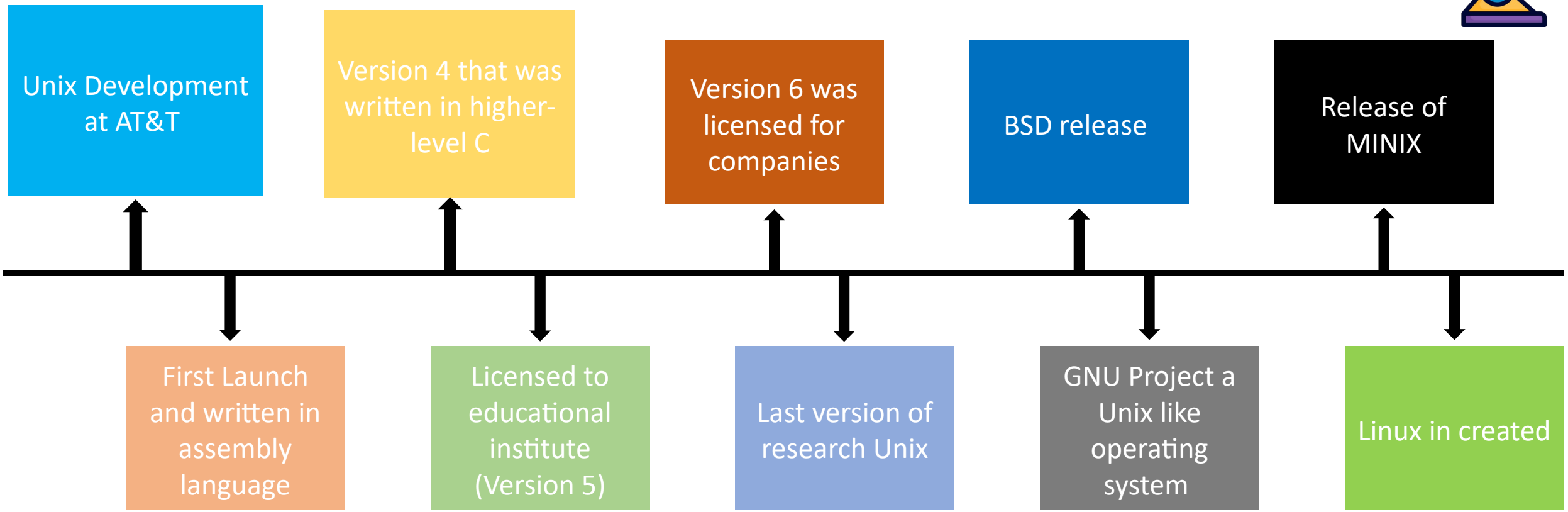

Release of MINIX: In 1987, a Unix-like operating system was released by Andrew S. Tanenbaum. It was only used for academic purposes which was available but the modification of the code was restricted.

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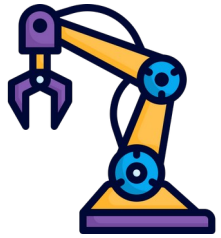
03 Linux Distributions



Ubuntu

Fedora

Arch

Plasma

KDE

Mint

Manjaro

Basic: Linux Mint, Ubuntu, Elementary OS or Deepin.
Above-average: Debian or Fedora
Challenging: Gentoo

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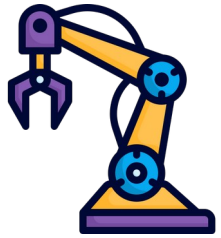
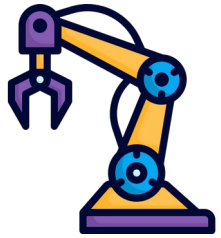
04 Basic Command line & Directory structure



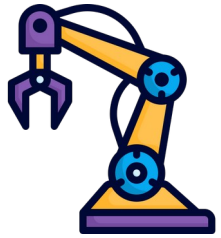
ls	Lists a directory’s content
cd	Changes the working directory
pwd	Shows the current working directory’s path
mkdir	Creates a new directory
rmdir	remove a directory
whatis	Tells what a specific command does
man	Manual for a particular command
touch	Create a file
cp	Copy
mv	Move(Cut)
rm	Remove

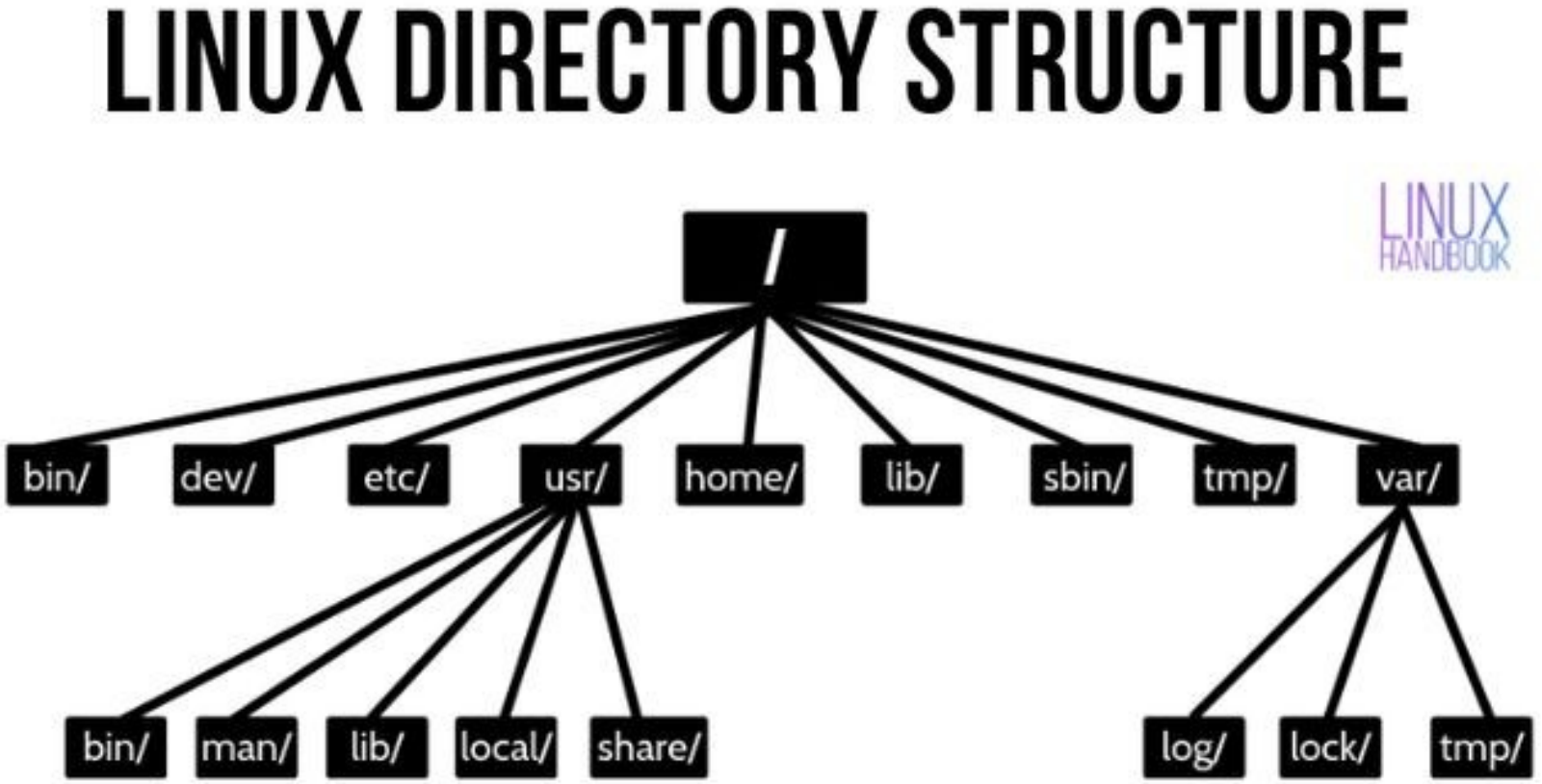
04 Basic Command line & Directory structure



- cd .. : Jumps 1 directory back
-
- cd ../ : Jumps 2 directories back
-
- cd : goes to the home directory

- The man command is a built-in manual for using Linux commands. It allows users to view the reference manuals of a command or utility run in the terminal. The man page (short for manual page) includes a command description, applicable options, flags, examples, and other informative sections.
-
- man ls, man pwd, etc…
-
- Press Q to exit the manual





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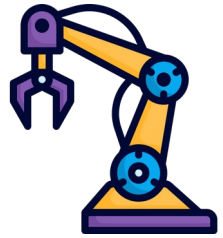

/bin	binary or executable programs.
/etc	system configuration files.
/home	home directory. It is the default current directory.
/opt	optional or third-party software.
/tmp	temporary space, typically cleared on reboot.
/usr	User related programs.
/var	log files.

/boot	It contains all the boot-related information files and folders such as conf, grub, etc.
/dev	It is the location of the device files such as dev/sda1, dev/sda2, etc.
/lib	It contains kernel modules and a shared library.
/lost+found	It is used to find recovered bits of corrupted files.
/media	It contains subdirectories where removal media devices are inserted. ▲

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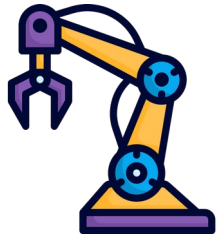
04 Basic Command line & Directory structure



/mnt	It contains temporary mount directories for mounting the file system.
/proc	It is a virtual and pseudo-file system to contains info about the running processes with a specific process ID or PID.
/run	It stores volatile runtime data.
/sbin	binary executable programs for an administrator.
/srv	It contains server-specific and server-related files.

/sys	It is a virtual file system for modern Linux distributions to store and allows modification of the devices connected to the system.

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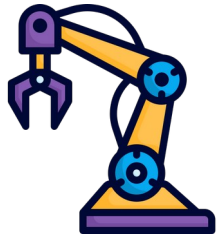

Thank You

Do you have any questions?

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