Chapter :-2 Introduction

→ Linux is an operating system and its core is just a kernel. It talks to the hardware makes the hardware world.

→ It makes it able for you to run program and do what you want to do.

→ Linux constantly is improved, constantly updated in order to handle the changing world.

→ The more you know about Linux the better off you can be. Linux is used everywhere and we need help using it.

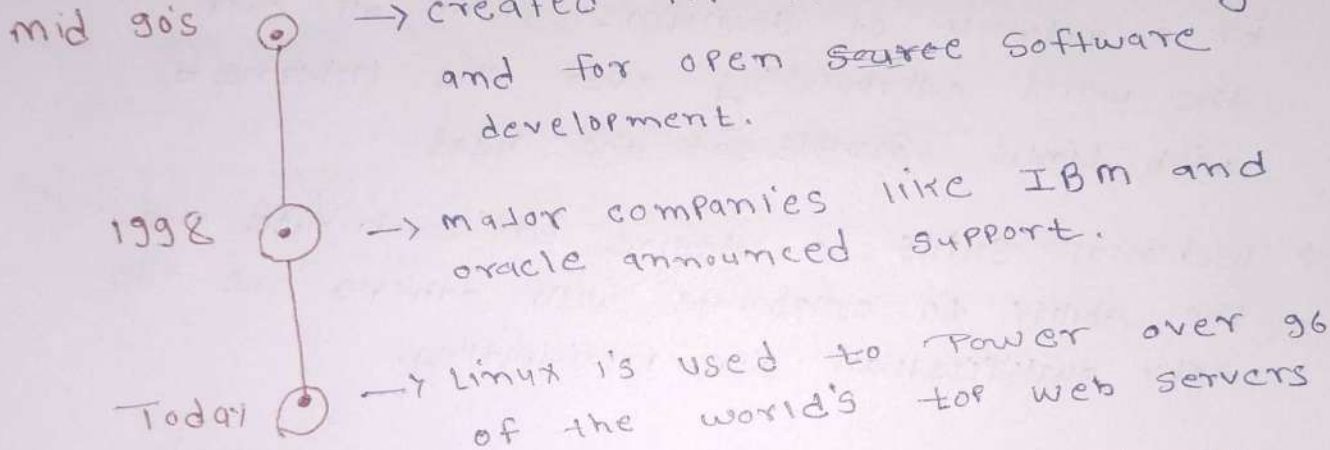
* Linux History overview

→ Linux is an open source computer operating system, initially developed on and for intel x86 based Personal computer.

→ It has been subsequently ported to an astoundingly long list of other hardware plateform from tiny embeded application to the word's largest super computer.

→ The Linux distribution created in the mid-90s provided the basis for fully free (in the sense of freedom, not zero cost) computing and became a driving force in the open source software moment.

→ In 1998, major companies like IBM and Oracle announced their support for linux plateform and began major development effort as well.



→ Today Linux Power more than half of the servers on the internet, the majority of smartphones (via Android system, which is built on top of Linux)).

→ more than 90% of the Public cloud workload and all of the world's most Powerful supercomputers.

*Linux Philosophy overview

→ Every successful project or organization needs an implicit or explicit philosophy that frames its objective and project it's growth path.

→ This section contains a description of the philosophy adopted by the Linux community and how it has impacted Linux's amazing evolution.

→ Linux is constantly enhanced and maintained by a network of developers from all over the world collaborating over the internet with Linus Torvalds at the head.

→ Techincal skills, a desire to contribute and the ability to collaborate with others are the only qualification for participating.

→ Linux borrows heavily from well established family of unix operating systems.

→ It was written to be a free and open source alternative at the time, Unix was designed for computer much more powerful than PCs and furthermore, It was quite expensive.

→ Files are stored in hierarchical filesystem with the top node of the system being root or simply "/".

→ whenever possible Linux makes its components available via files or objects that look like files.

→ Processes, devices, and network socket are all represented by file-like objects and can often be worked with using the same utilities used for regular files.

→ Linux is a fully multitasking (i.e, multiple threads of execution are performed simultaneously) multiuser operating system with built-in networking and service processes known as daemons in the UNIX world.

NOTE :- Linux was inspired by UNIX, but It is not UNIX.

* Linux community overview

→ Suppose that, as part of your Job, you need to configure a Linux file server, and you run into some difficulties.

→ If you are not able to figure out the answer yourself or get help from co-worker, the linux community might just save the day.

→ There are many ways to engage with the Linux community, even if you are not a developer.

- post queries on relevant discussion forums.
- subscribe to discussion threads.
- Join local Linux groups that meet in your area.

→ The Linux community is a far-reaching ecosystem consisting of developers system administrators, users, and vendors who use many different forums to connect with one another.

Among the most Popular are

- Internet Relay chat (IRC) software (Such as weechat, Hexchat, Pidgin and xChat)
- online communities and discussion boards including Linux user Group (both local and online)

- many collaborative Projects hosted on services such as Github and Gitlab.
- Newsgroups and mailing lists, including the linux kernel mailing list.
- Community events e.g Hackathons, install Fests, open Source Summits, Embedded linux conferences and get togethers.

→ A portal to one of the most Powerful online user communities can be found at linux.com.

→ This site is hosted by linux Foundation and serve over one million Unique visitors every month. It has active section on:

- News
- Community discussion threads
- Free tutorials and user tips.

- List some of the open source products you probably use day to day.

1. Android :- Used in the majority of Smartphones and other mobile devices worldwise built on top of the Linux kernel.

2. Apache web server (httpd) :- About half of all web servers are running Apache and it's related Products.

3. Social media :- virtually all Social media Platforms (Facebook, Twitter, instagram). Use OSS ~~compute~~ components throughout.

4. Search Engines :- Google and other search engines have vast data farms running Linux.

5. Weather Forecasting :- essentially, 100% of word's supercomputers run Linux and forecasting the weather is one of most intensive uses.

6. Personal Fitness Devices :- including FitBit.

7. DVRs :- almost all set-top boxes and video recorders run Linux.

8. Medical Devices :- A large number of medical devices used routinely every day are running Embedded Linux.

→ All these Projects make extensive use of oss tooling, such as gcc, make, glibc, and language such as Python, Perl and Ruby.