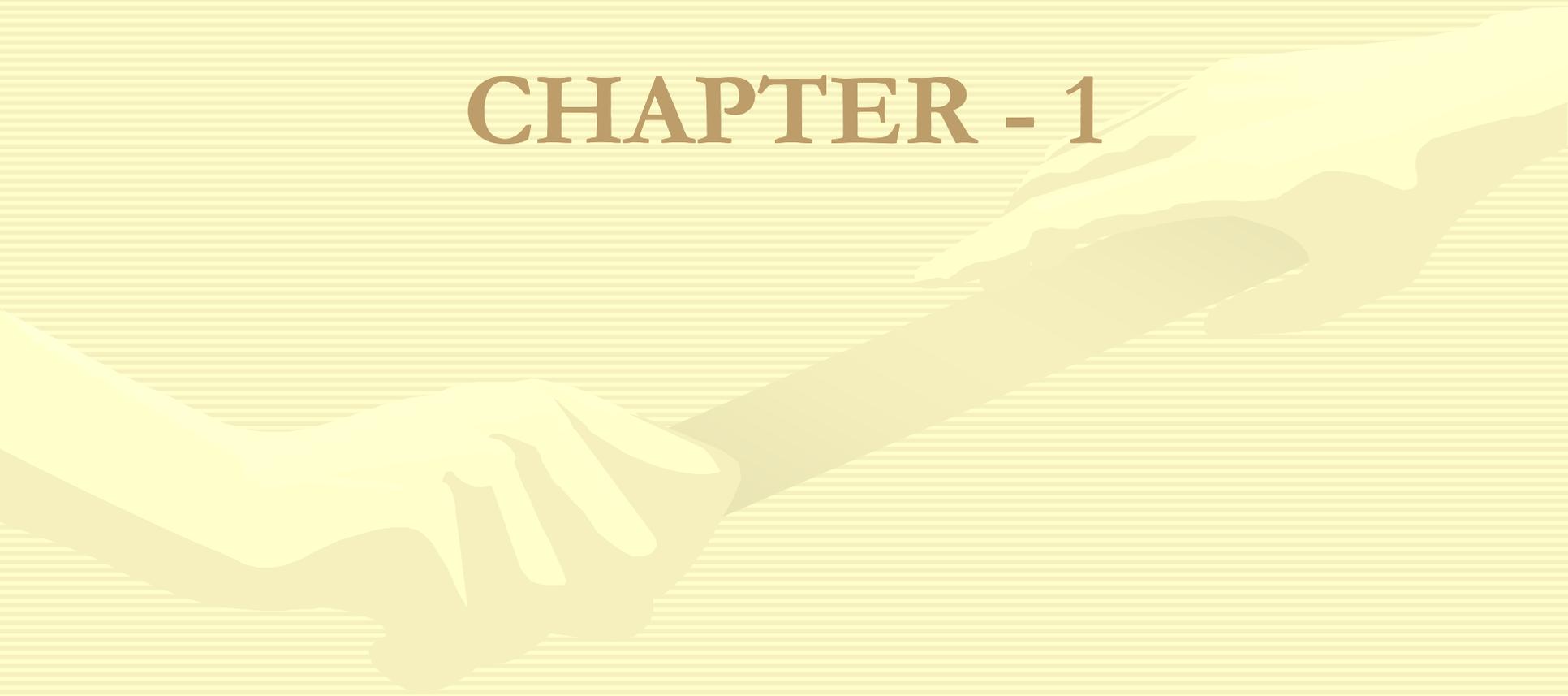
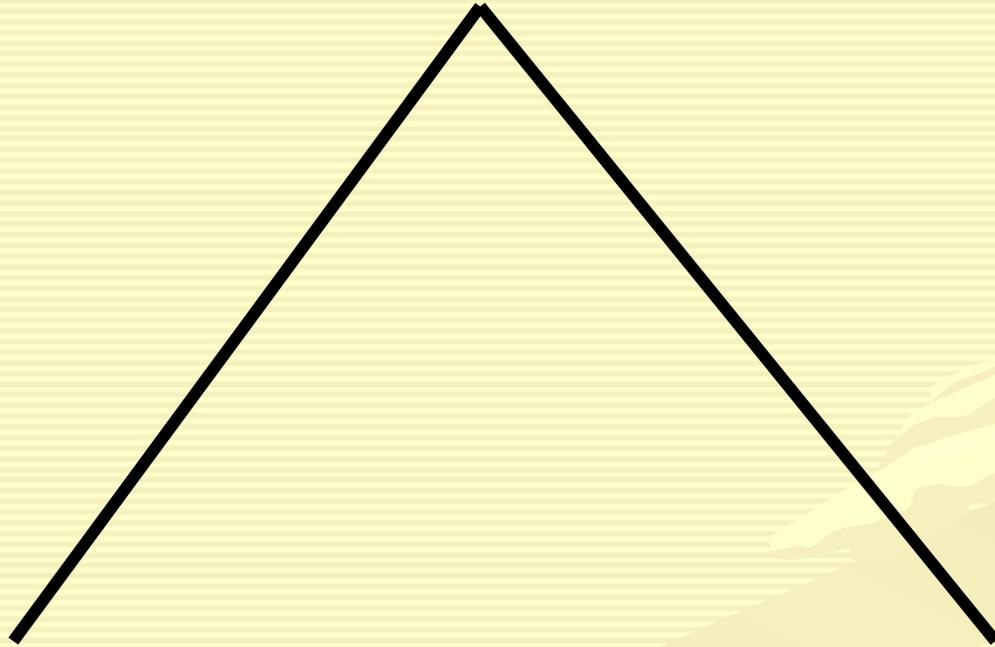


CHAPTER - 1



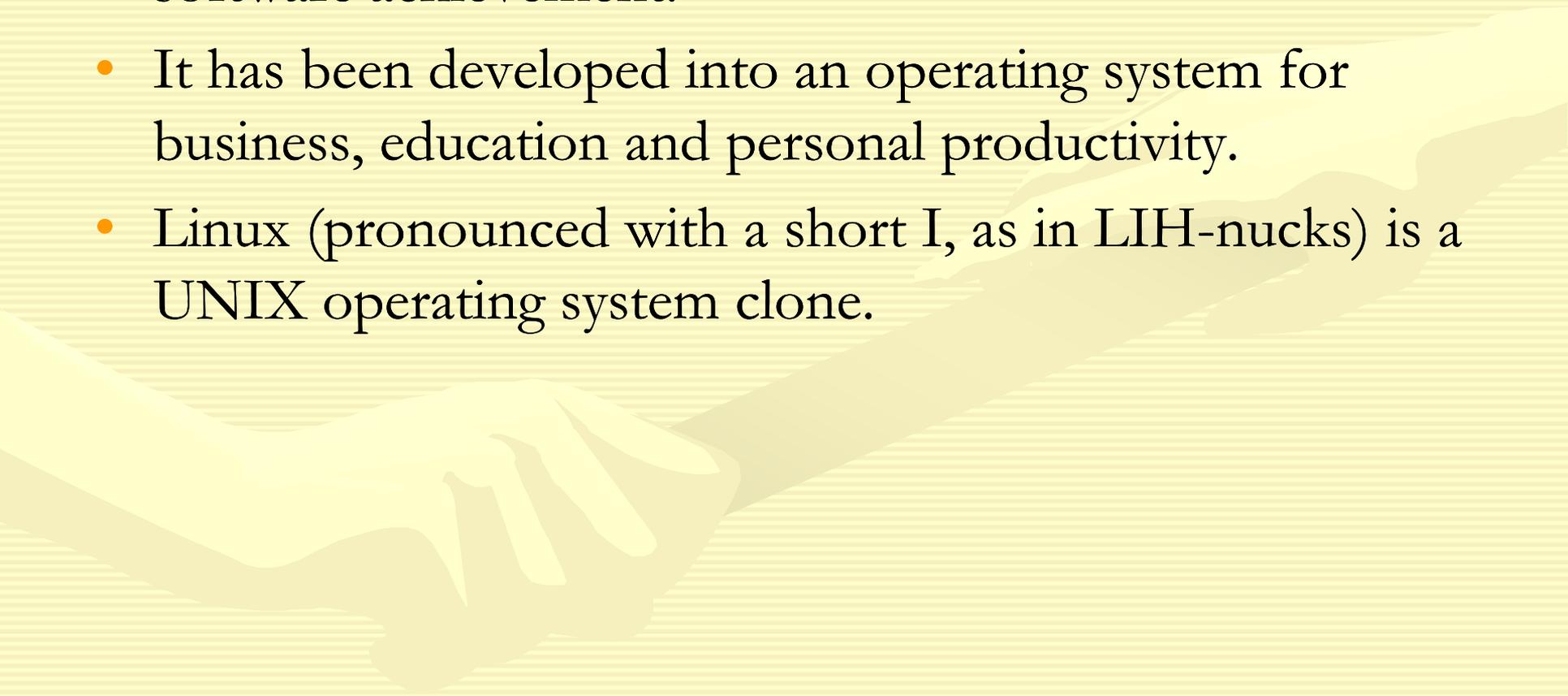
LINUX (LIH-NUCKS)



Official OS
(Red Hat Enterprises Linux)

Free OS
(Red Hat 9, Fedora)

INTRODUCTION TO LINUX

- Linux is quite possibly the most important free software achievement.
 - It has been developed into an operating system for business, education and personal productivity.
 - Linux (pronounced with a short I, as in LIH-nucks) is a UNIX operating system clone.
- 

History of Linux

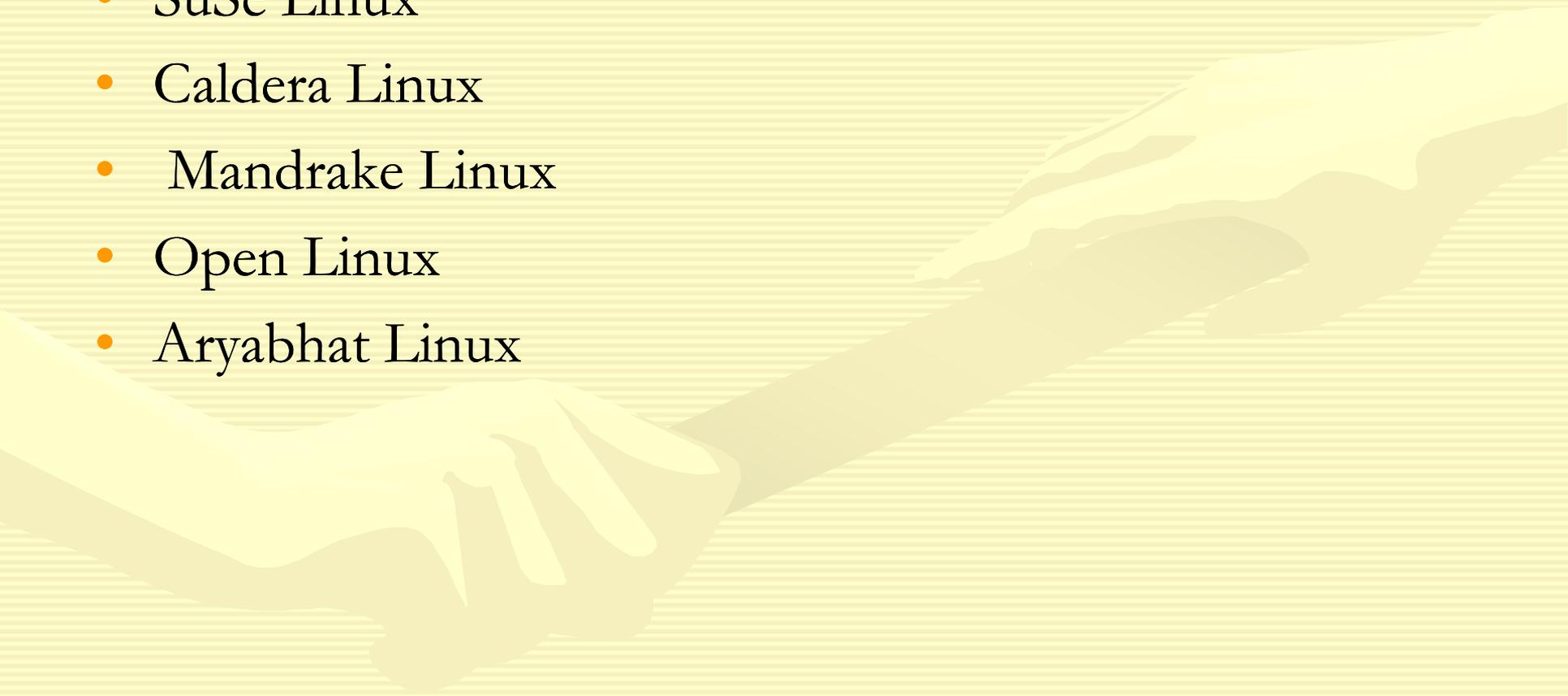
- UNIX is one of the most popular operating systems worldwide because of its large support base and distribution.
- It was originally developed at AT&T as a multitasking operating system for minicomputers and mainframes in the 1970's, but has since grown to become one of the most widely used operating systems.
- Linux is a free version of UNIX developed by LINUS TORVALDS at the university of Helsinki in Finland.

About Linux

- Linus Torvalds originally developed Linux as a hobby project.
- Minix, a small UNIX system developed by Andy Tanenbaum, inspired it
- The Linux kernel uses no code from AT&T or any other proprietary source.
- On October 5, 1991, Linus announced the first “official” version of Linux ,which was version 0.02.

Famous Linux Distributions

- Red Hat Linux
- SuSe Linux
- Caldera Linux
- Mandrake Linux
- Open Linux
- Aryabhat Linux



Why Linux?

- Linux is a UNIX like operating systems
- Multi-user, Multi-tasking and Multi Processor Support
- There are no royalty or license fees
 - “ A Linux Distribution has thousands of dollars worth of software for no cost or a couple of dollars if purchased on CD/DVD “

Cont..

- Software Development Supports
- Linux runs on nearly any CPU
- Linux works very well as a personal computer
UNIX for the desktop
- Linux works well for server operations
- X-Window system (An excellent window system called X)

The Structure of Linux system

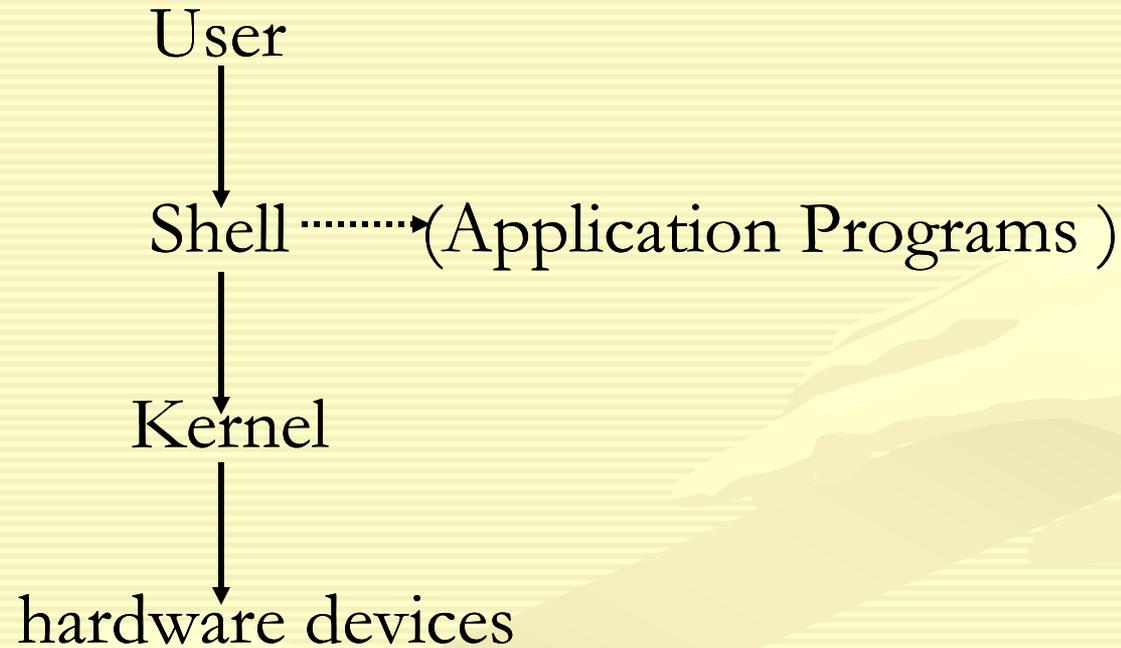


Fig - I

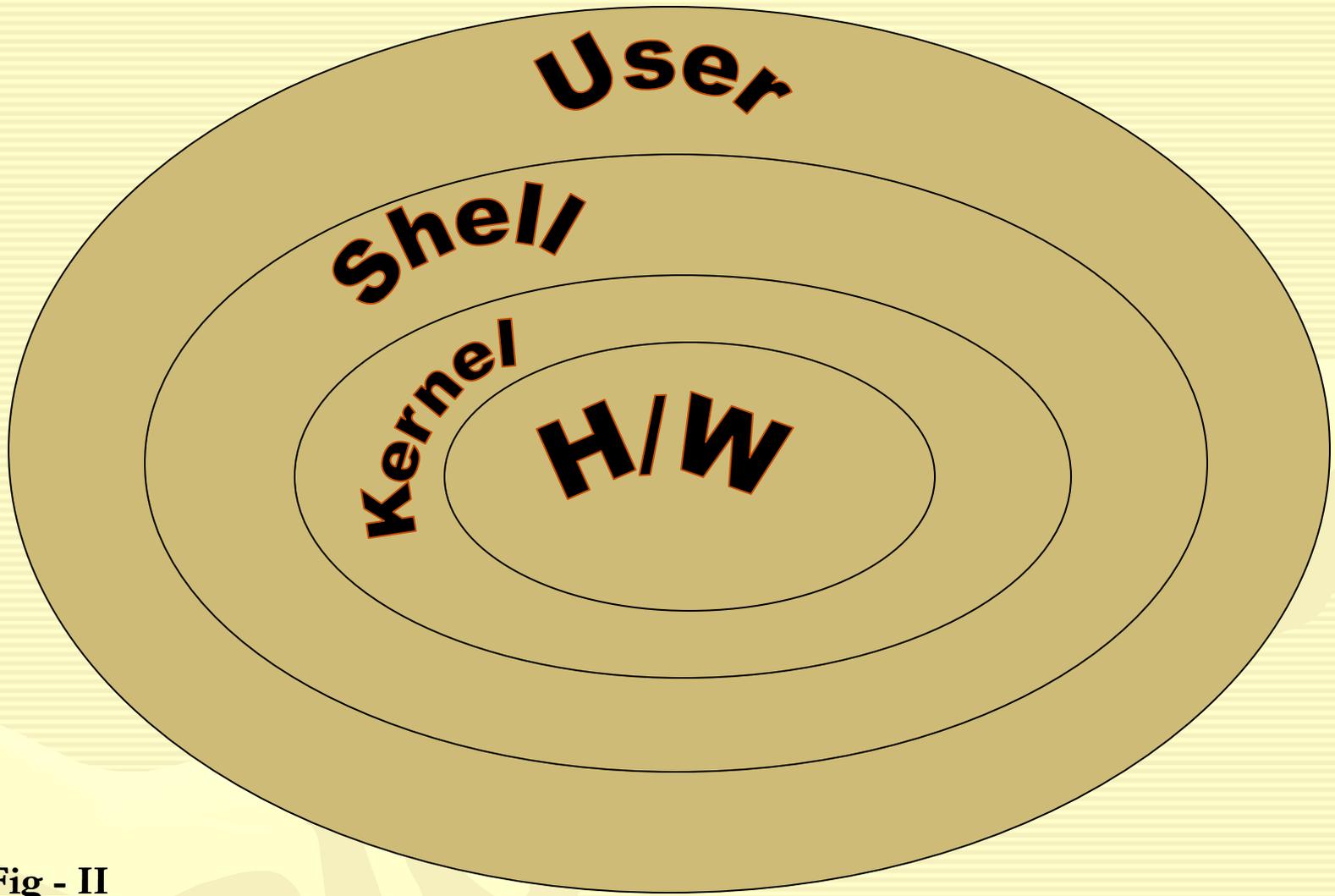


Fig - II

- **Hardware Devices :**

The lower most layer is the hardware components (i.e. physical components like your motherboard, hard disk drive, floppy drive, memory, etc...)

- **Kernel :**

When your system is booted, the Linux kernel will be loaded into the memory of your system and after that the kernel will control the entire operating system.

- **Shell :**

Shell is an interpreter through which a user can interact with kernel.

Shell is program or command.

Linux Commands



ls

- `ls -l` for listing the files as well as directories those are kept in the particular working directory

syntax

```
[root@nettech root]#ls -l
```

- `ls -la` same as '`ls -l`'but by this command we can also see the hidden files.

syntax

```
[root@nettech root]#ls -la
```

Cont...

- **ls -li** same as 'ls -la' but it will also shows us the inode number of each and every file

syntax

```
[root@nettech root]#ls -li
```

- **ls** by this command we can see only file name nothing else

syntax

```
[root@nettech root]#ls
```

Cont..

- clear : it will clear the screen(short cut ctl+l)

syntax

```
[root@nettech root]#clear
```

- exit : to end a current session as well current terminal logging

syntax

```
[root@nettech root]exit
```

- touch : to create a new empty file

syntax

```
[root@nettech root]#touch
```

Cont..

- Cd: to change the working/present directory

syntax

```
[root@nettech root]#cd /home/mango
```

where '/home/mango' is the desired directory to be change from '/root'

- Rm: to remove a empty file

syntax

```
[root@nettech root]#rm filename
```

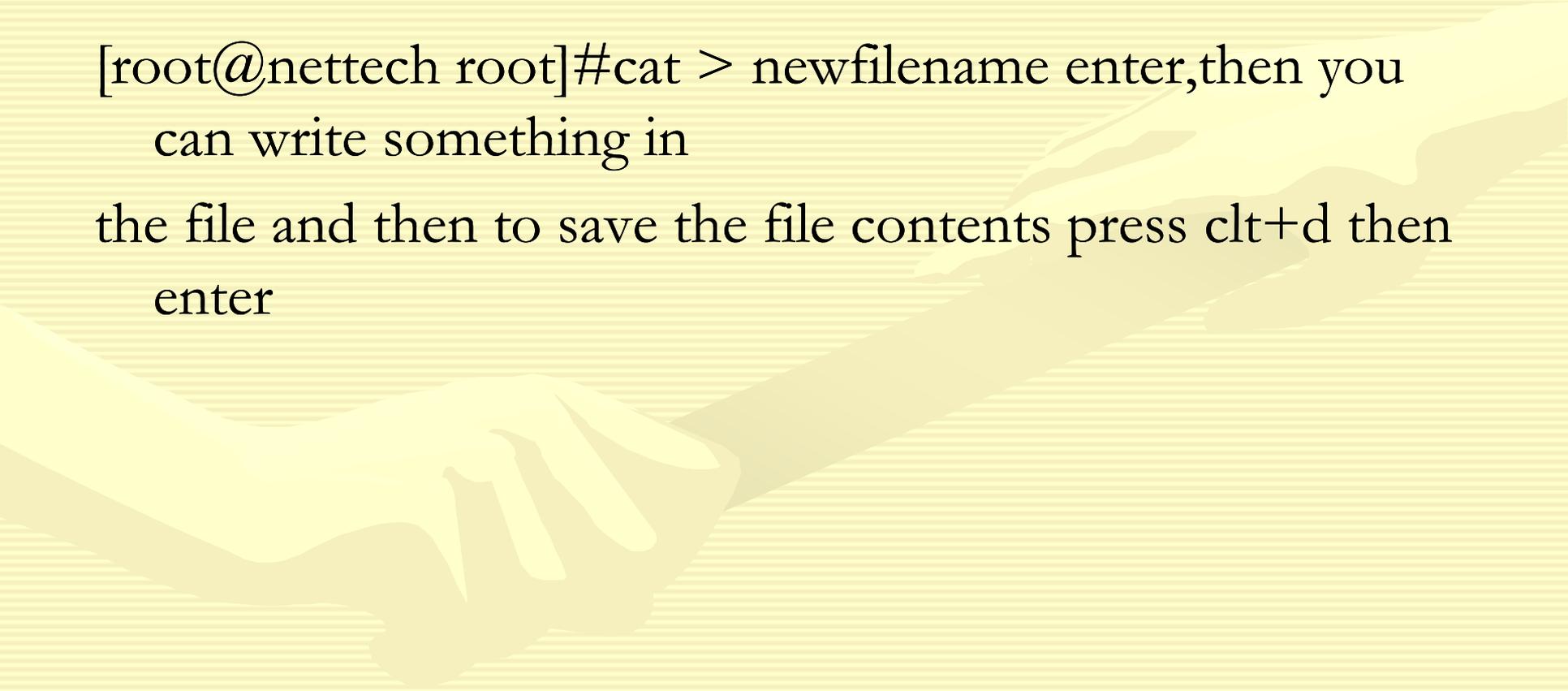
- Cat: to view the contents of a file and it is also used for creating a new file with some contents

syntax

[root@nettech root]#cat <file name> to view file contents

[root@nettech root]#cat > newfilename enter, then you can write something in

the file and then to save the file contents press clt+d then enter



- Mkdir: to make a new directory

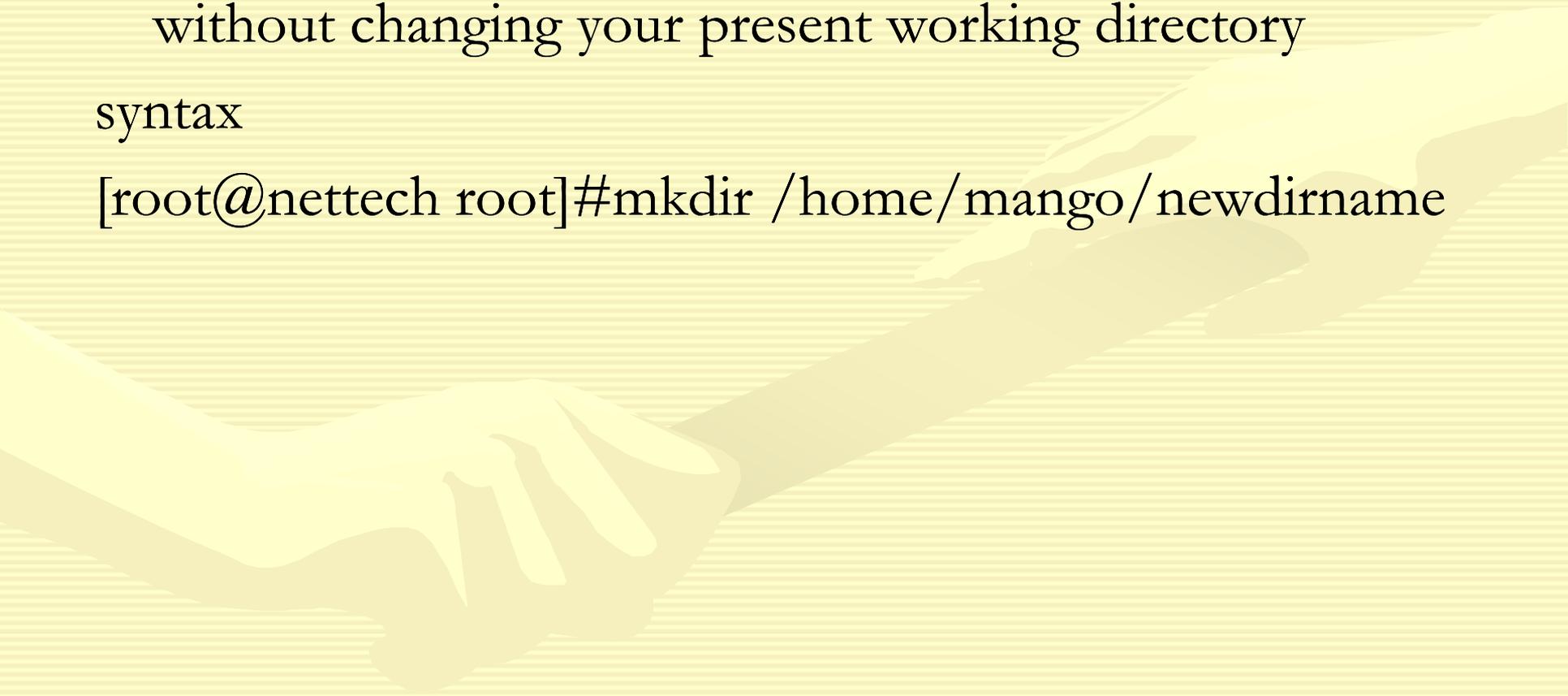
syntax

```
[root@nettech root]#mkdir newdirname
```

you can also create a directory at your desired path
without changing your present working directory

syntax

```
[root@nettech root]#mkdir /home/mango/newdirname
```



- Rmdir: to remove a empty directory

syntax

```
[root@nettech root]#rmdir directoryname
```

- rm [-i/-r/-f] to remove a directory with its subdirectories as well as its files that is to remove a directory which already contains some files in it

syntax

```
[root@nettech root]#rm -i directory/ filename
```

- -i stands for interactively
- -r stands for recursively
- -f stands for forcefully

- `cp` : to copy something in a destination file or directory
- `Mv`: to move one file or directory from one place to another place, it is also used for renaming a directory or file
- `Man`: to view the manual page of commands for syntax
syntax

```
[root@nettech root]#man commandname
```

- `info` to view the information about any command
- `syntax`
- ```
[root@nettech root]#mkdir info
```

- Help: to view the help documents of a command  
syntax

```
[root@nettech root]#commandname -help
```

- Dir: to view the subdirectories and files under the  
directory

syntax

```
[root@nettech root]#dir
```

- su - to become a super user

syntax

```
[mango@nettech mango]$su
```

- Who: by this command you can see the user name and their ip addresses who have logged in on your server

syntax

```
[root@nettech root]#who
```

- Whoami: this command shows your current logged in terminal user name

syntax

```
[root@nettech root]#whoami
```

- who am i: this command shows you the logged in terminal number and user name and more detailed information

# • chmod

- **Chmod** (**ch**ange **mode**) is used to change the permissions on a file.

(owner) (group) (others)

**chmod [number][number][number] file1**

Number = (read)4 + (write)2 + (execute)1

- Example: **Chmod 754 file1**

for owner: *read*, *write* and *execute* permissions (4+2+1)

for group: *read* and *execute* permissions (4+0+1)

for others: only *read* permission (4+0+0)