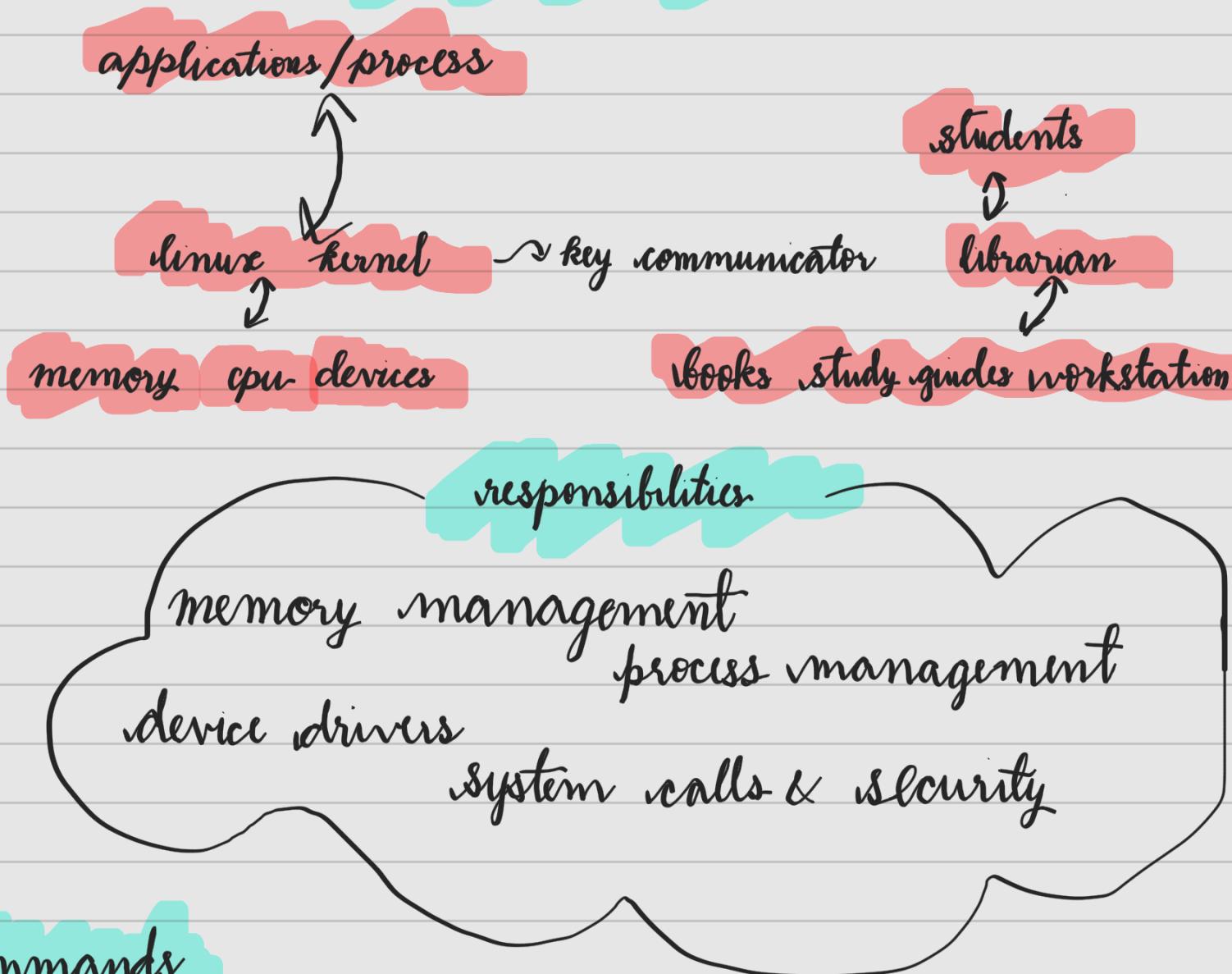
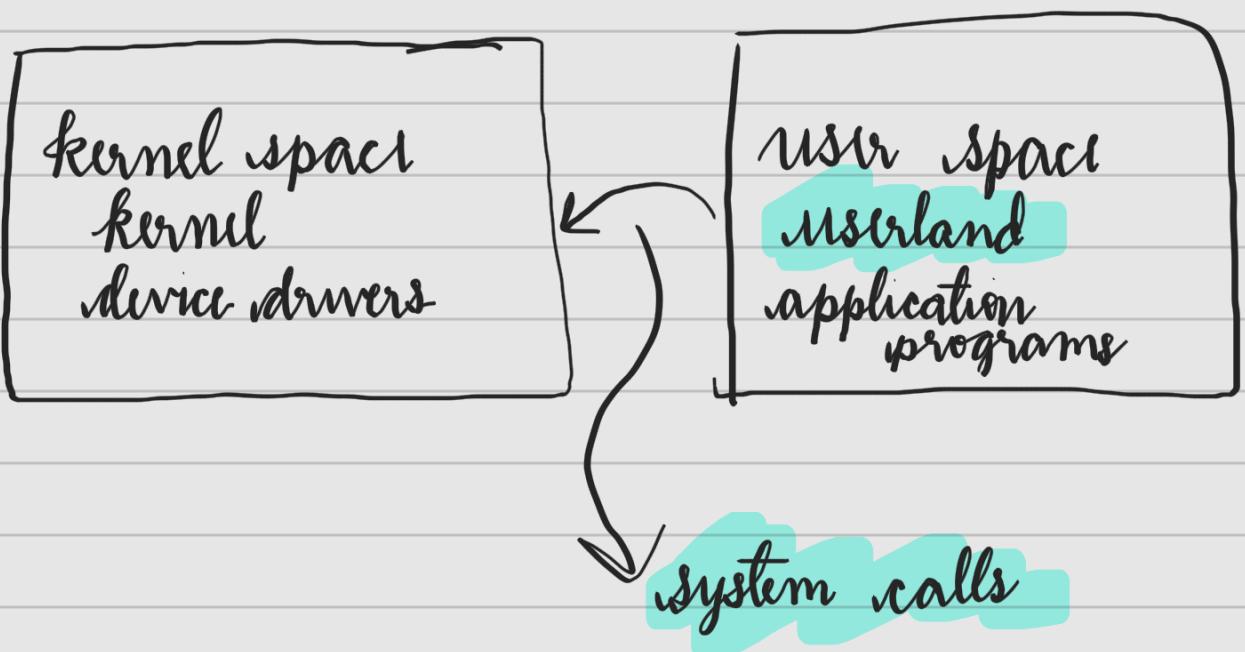


Linux Kernel



commands
uname
uname -s



linux hardware

commands

dmesg - display messages from ring buffer
filter with grep

udevadm query into the udev database for device information

lspci get info all PCI devices configured onto the system

lsblk → list information about block devices

lscpu → get information about CPU architecture

lsmem summary

lshw - get memory, firmware and cache config, as well as bus speed etc

run as super user

linux boot sequence overview

bios post

boot loader

kernel
initialization

init process
systemd

run levels in ubuntu

command
runlevel

- 5 - boot into a graphical interface
- 3 - boot into a command line

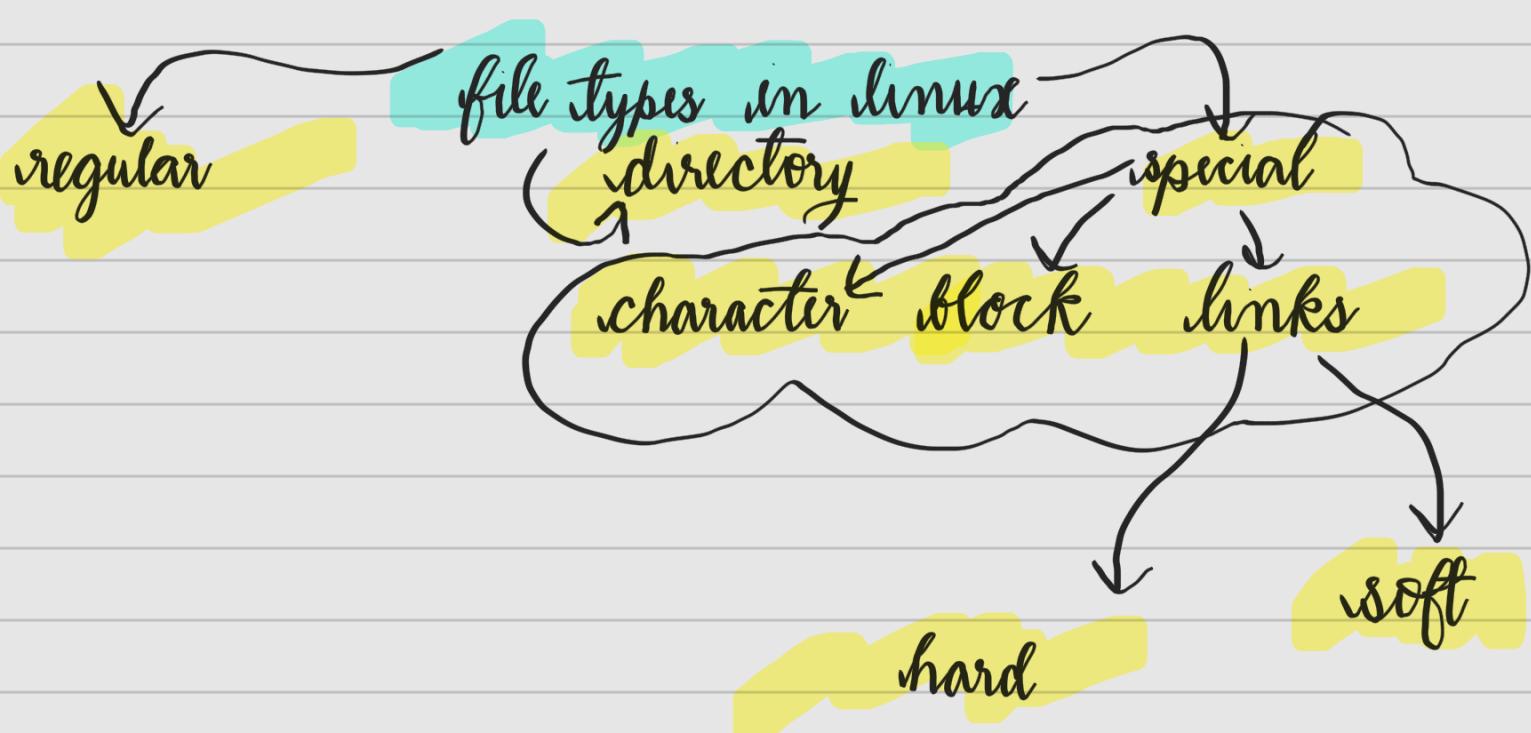
run level = systemd targets

get default systemd target

systemctl get default

ls -l /etc/systemd/system/default.target

shortcut for actual target file



command
file, ls

general identifiers

file type

directory
regular
character device
link
socket
pipe
block device

identifier

d

-

c

l

s

p

b

file compression

compressing

bzip2 test.emg

searching for files and directories

locate

- locate file.txt

print all files with the keyword

updatedb

find

grep - find file patterns

get all lines matching the search pattern

grep options

grep -w

grep -w & -v

search for exact
word matching

grep - v
print first line

-A & -B

used to print
lines before & after

I/O redirection

streams in linux/any language

standard input

standard output

standard error

/dev/null - just a dump

use pipe to redirect input and output

Security and file permissions

access controls

pam

network security

SSH hardening

SE Linux

/etc/passwd ↗ has all user information
/etc/group ↗ break users into groups

linux accounts

user

group

username

uid user ID

gid group ID

id username

id
get list of all groups
user is a part of

user accounts

user superuser

system accounts

/etc/sudoers

Networking

domain name system



passing servers from one to another to check validity
dns name resolution