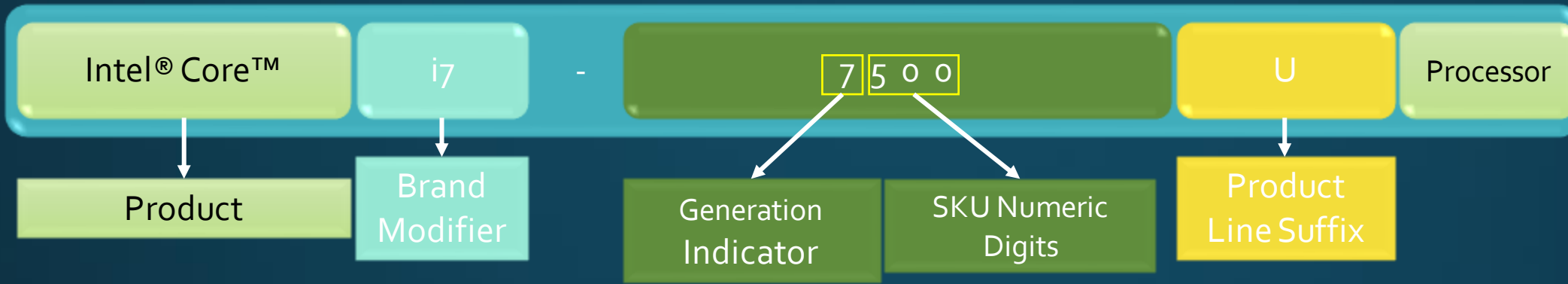


Technician Basic Knowledge

Content




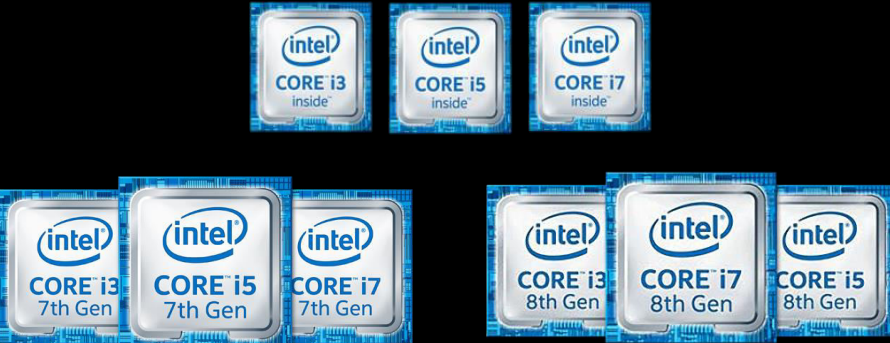
- How to Identify Processor?
 - Central Processing Unit (CPU)
- Hard Drive & RAM
 - HDD & SSD
 - Random Access Memory
 - How to Check RAM Usage
- Common Issues with Laptop
 - Unable to Power On
 - LCD Screen
 - Keyboard
 - Data
 - Blue Screen of Death

1 - How to identify processor

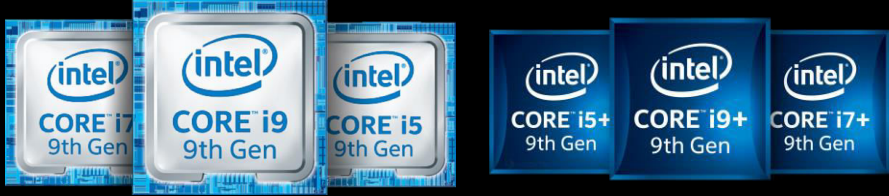



Processor Generation Table							
i3	1 st Gen	i5	1 st Gen	i7	1 st Gen	i9	-
	2 nd Gen		2 nd Gen		2 nd Gen		-
	3 rd Gen		3 rd Gen		3 rd Gen		-
	4 th Gen		4 th Gen		4 th Gen		-
	5 th Gen		5 th Gen		5 th Gen		-
	6 th Gen		6 th Gen		6 th Gen		-
	7 th Gen		7 th Gen		7 th Gen		-
	8 th Gen		8 th Gen		8 th Gen		8 th Gen
	9 th Gen		9 th Gen		9 th Gen		9 th Gen
	10 th Gen		10 th Gen		10 th Gen		10 th Gen

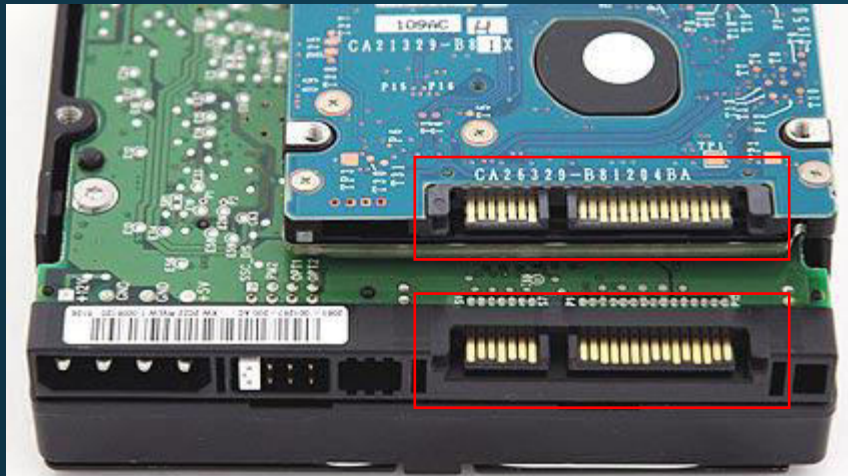
Central Processing Unit (CPU / Processor)

Processor Code	Code Name	Logo
i3-xxx i5-xxx i7-xxx	First Generation (Nehalem) 2009-2011	
i3-2xxx i5-2xxx i7-2xxx	Second Generation (Sandy Bridge) 2011-2012	
i3-3xxx i5-3xxx i7-3xxx	Third Generation (Ivy Bridge) 2012-2013	
i3-4xxx i5-4xxx i7-4xxx	Fourth Generation (Haswell) 2013-2015	
i3-5xxx i5-5xxx i7-5xxx	Fifth Generation (Broadwell) 2015-2016	
i3-6xxx i5-6xxx i7-6xxx	Sixth Generation (Skylake) 2016-2017	
i3-7xxx i5-7xxx i7-7xxx	Seventh Generation (Kaby Lake) 2017-2018	
i3-8xxx i5-8xxx i7-8xxx	Eighth Generation (Coffee Lake) 2018-2019	

Central Processing Unit (CPU / Processor)

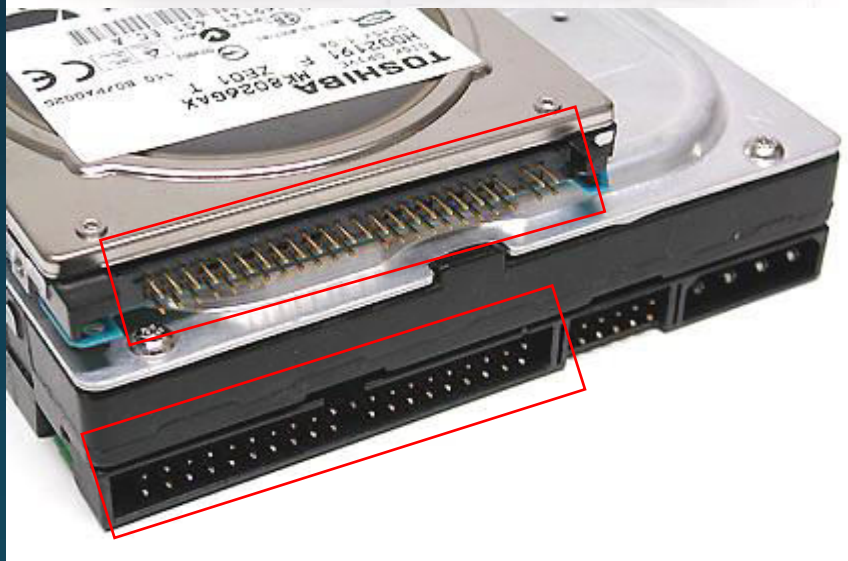
Processor Code	Code Name	Logo
i3-9xxx i5-9xxx i7-9xxx i9-9xxx	9th Generation (Comet Lake) 2018-2021	
i3-10xxx i5-10xxx i7-10xxx i9-10xxx	10th Generation (Ice Lake) 2019-present	

Type of HDD & SSD



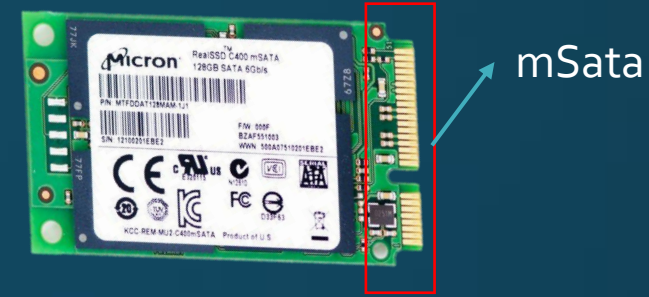
2.5" Sata (Laptop)

3.5" Sata (Desktop)



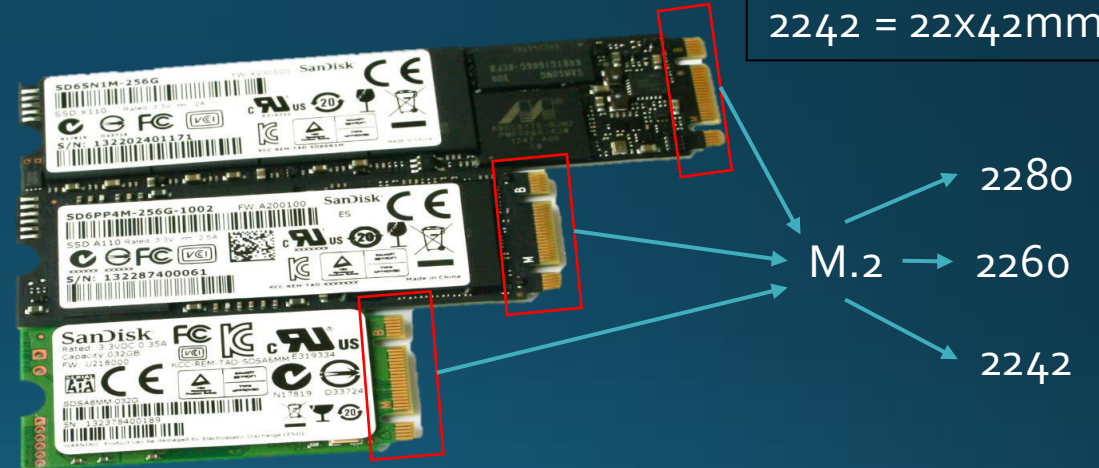
2.5" IDE

3.5" IDE

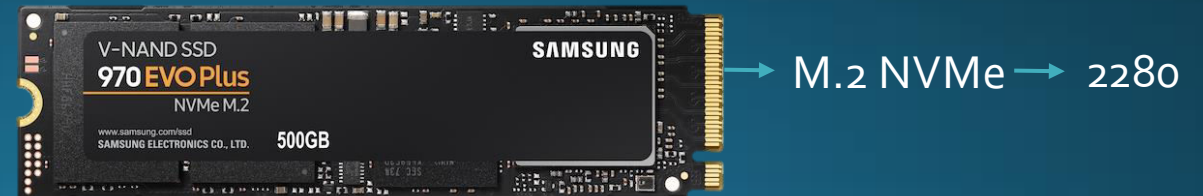


mSata

2280 = 22x80mm
2260 = 22x60mm
2242 = 22x42mm

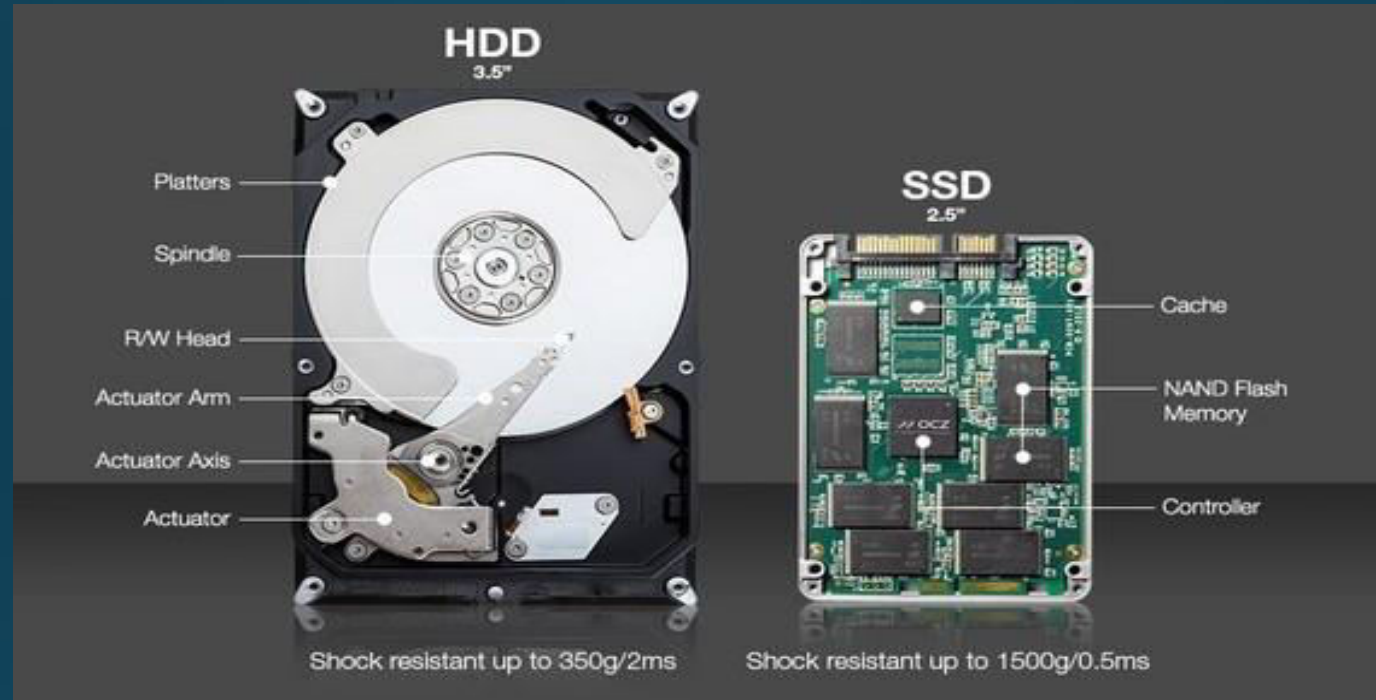


M.2 → 2280
→ 2260
→ 2242

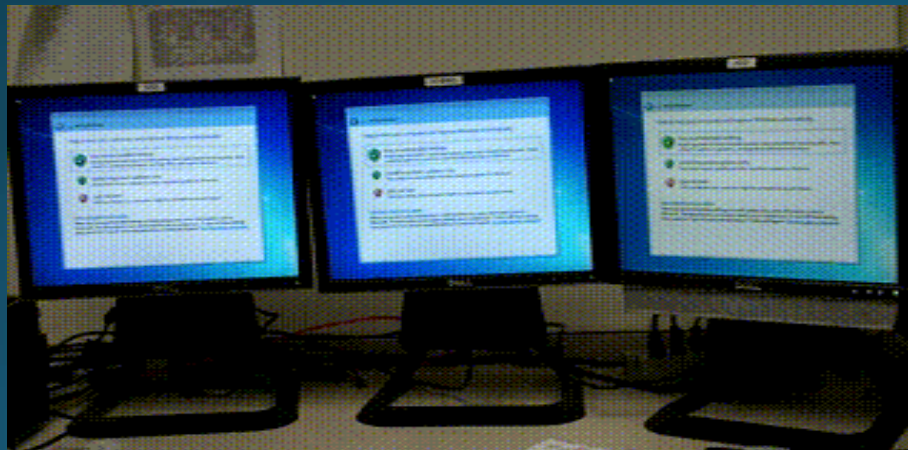


M.2 NVMe → 2280

HDD & SSD



PC: SSD VS Hybrid VS HDD



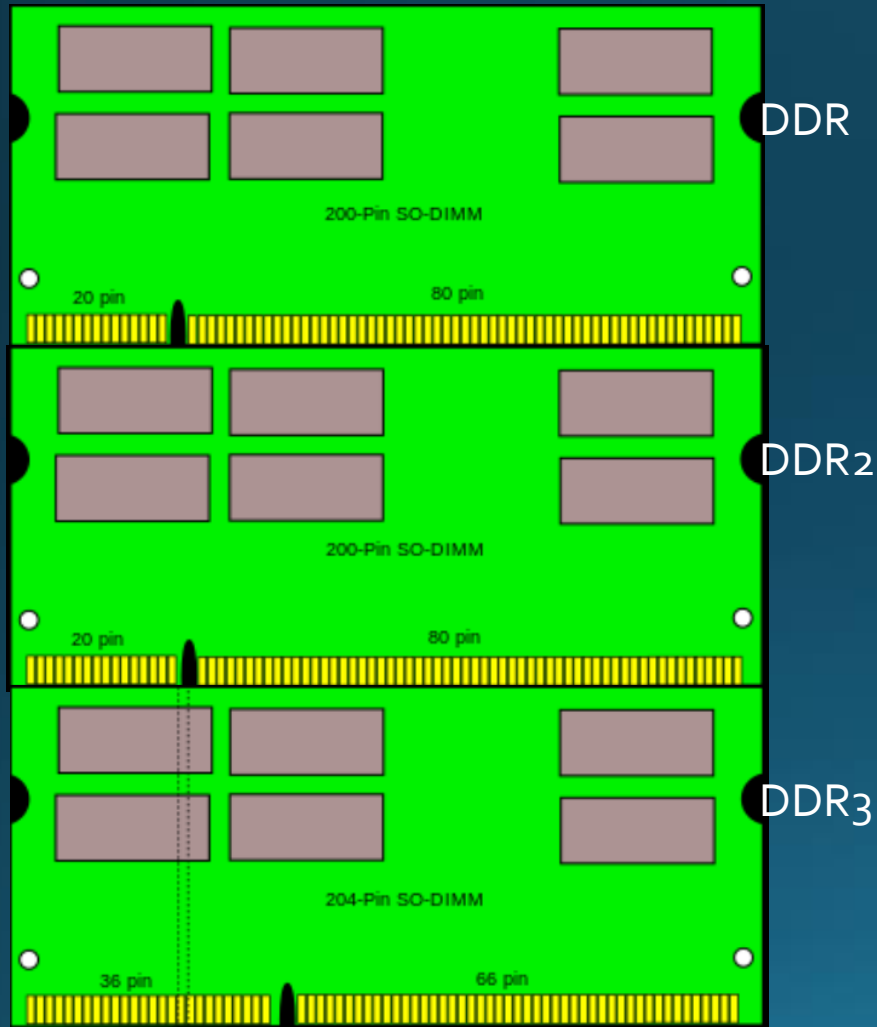
Please proceed
"slideshow"
to view.

PS4: HDD VS SSD

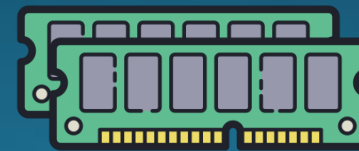


RAM

(Random Access Memory)



Low Memory

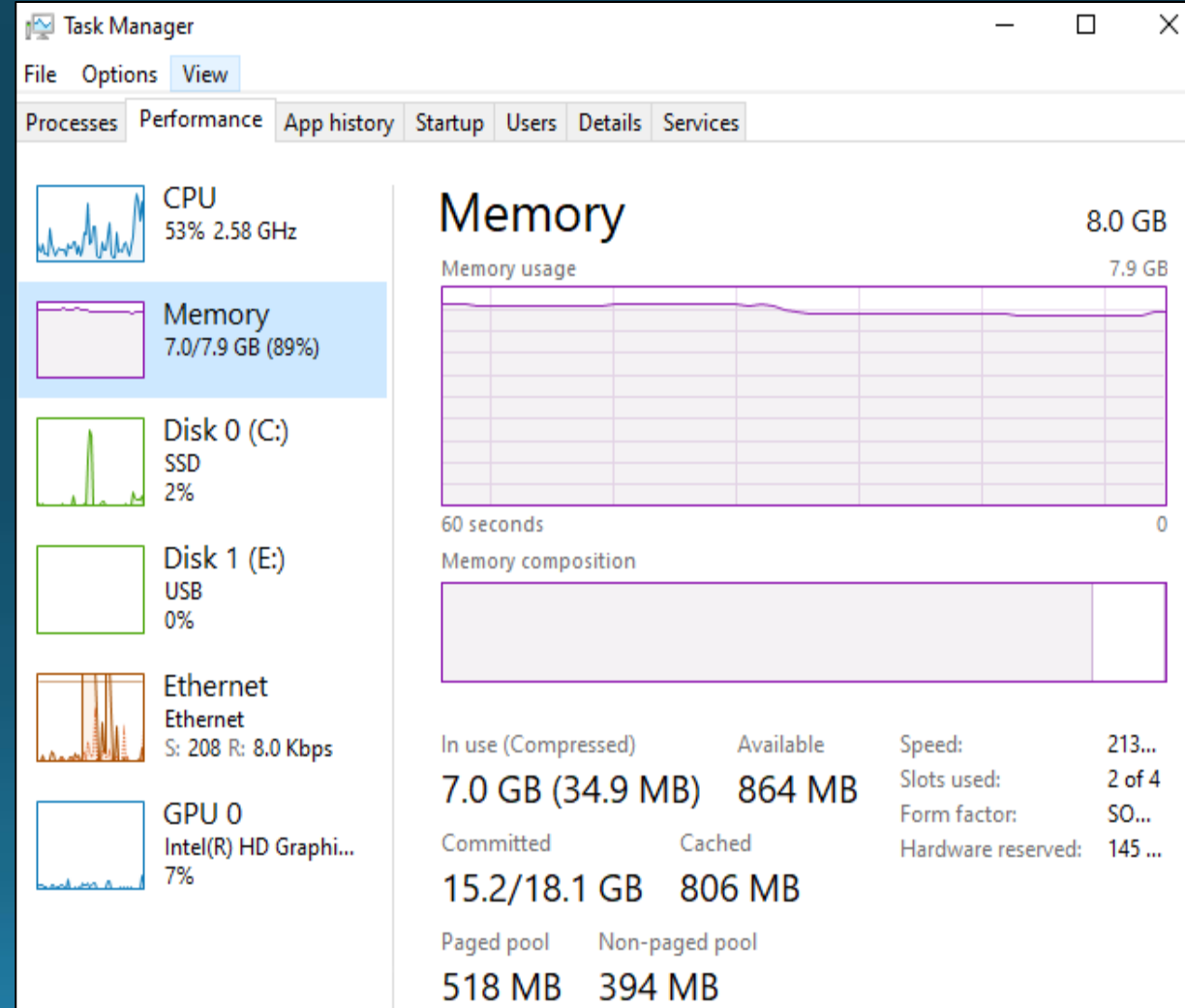
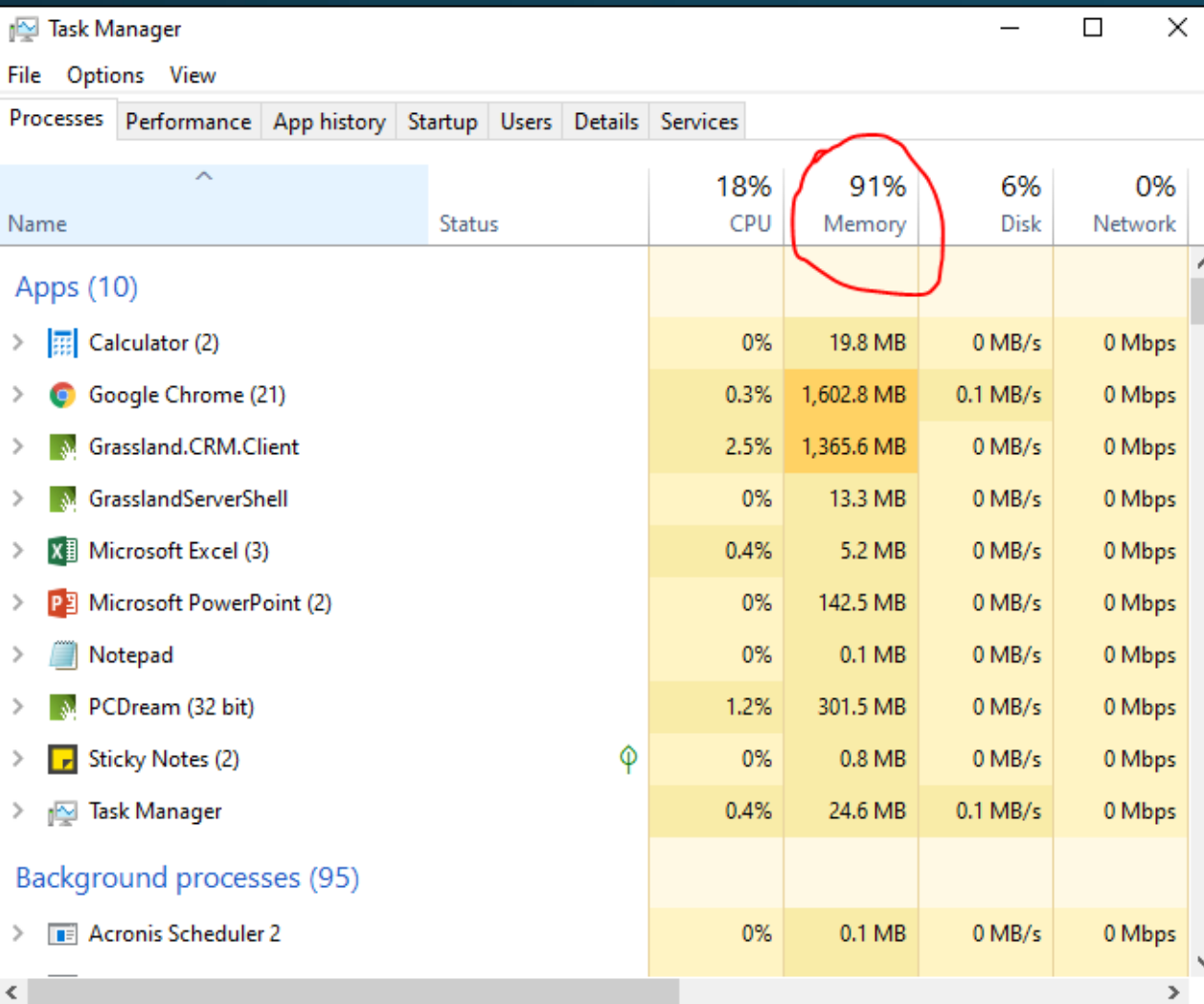


High Memory



How to Check if RAM is Sufficient?

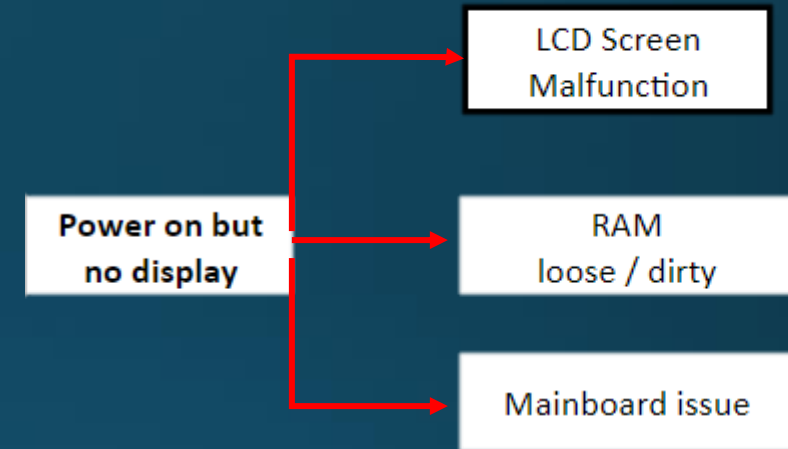
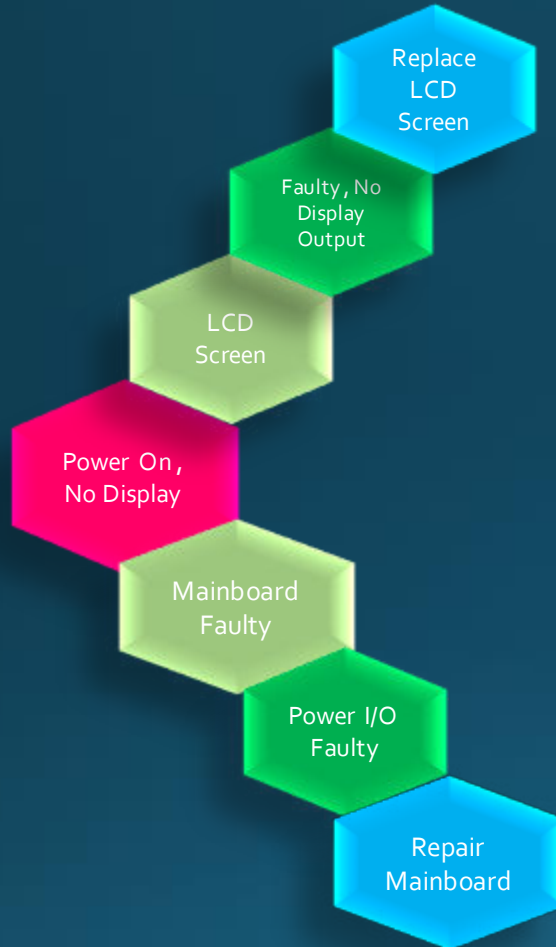
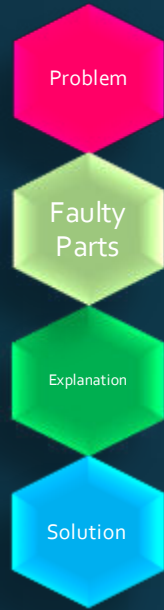
Ctrl + Alt + Delete > Task Manager > Performance



Unable to Power On



Power On , No Display (With Indicator Lights)



LCD Screen

Replace Screen

Screen Faulty

Screen Cracked
Screen Horizontal /
Vertical Lines
Screen Flickering
Dead Pixel
Dim Screen

Screen
Flickering

LCD

Inverter

LED

Screen

Screen Cable

Screen
Dead Pixel and
line

Screen issue for sure

Blank or White
display

LCD

Blank screen :
Inverter

LED

Screen

Distorted Display

Graphics Card issue

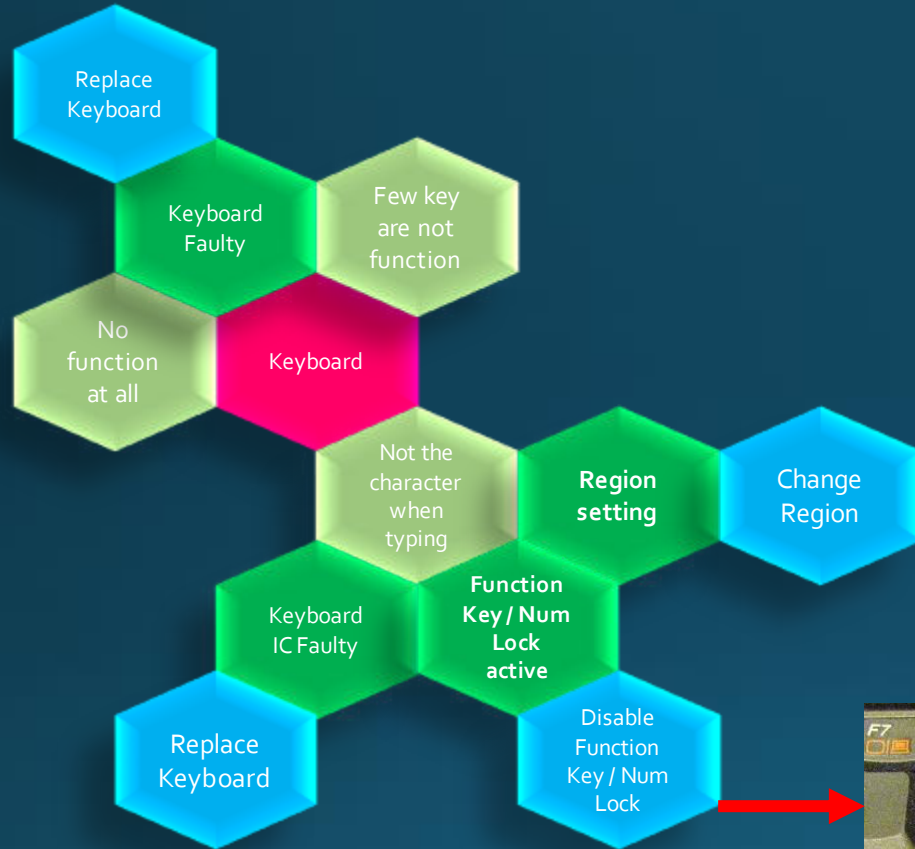
Keyboard

Problem

Faulty Parts

Explanation

Solution



Keyboard

Spam Key

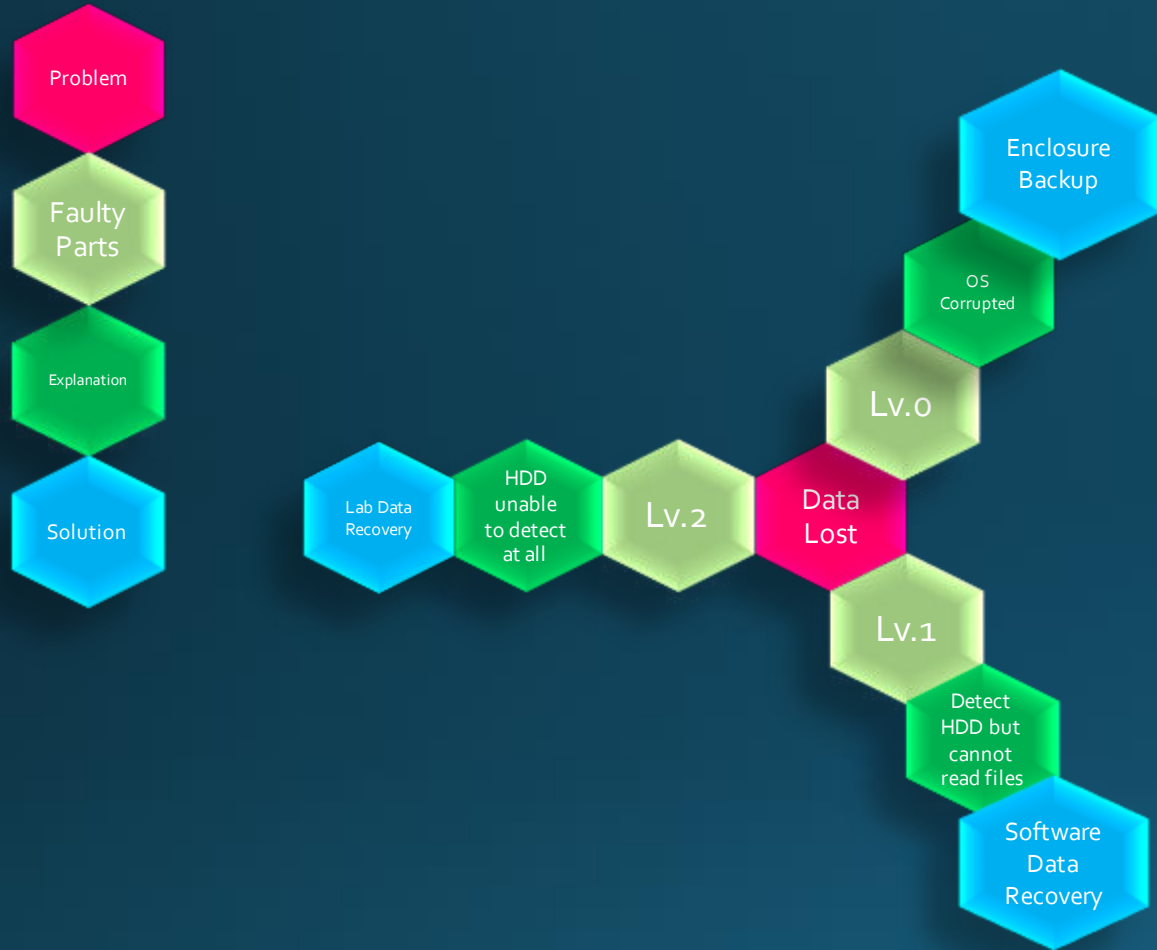
No function or few
key no function

Click A show Z ,

Might cause by
Liquid Damage



Data



Level 0 (HDD is healthy & Detectable):

- Operating System Corrupted, unable to access system.
- Forgotten user login password.

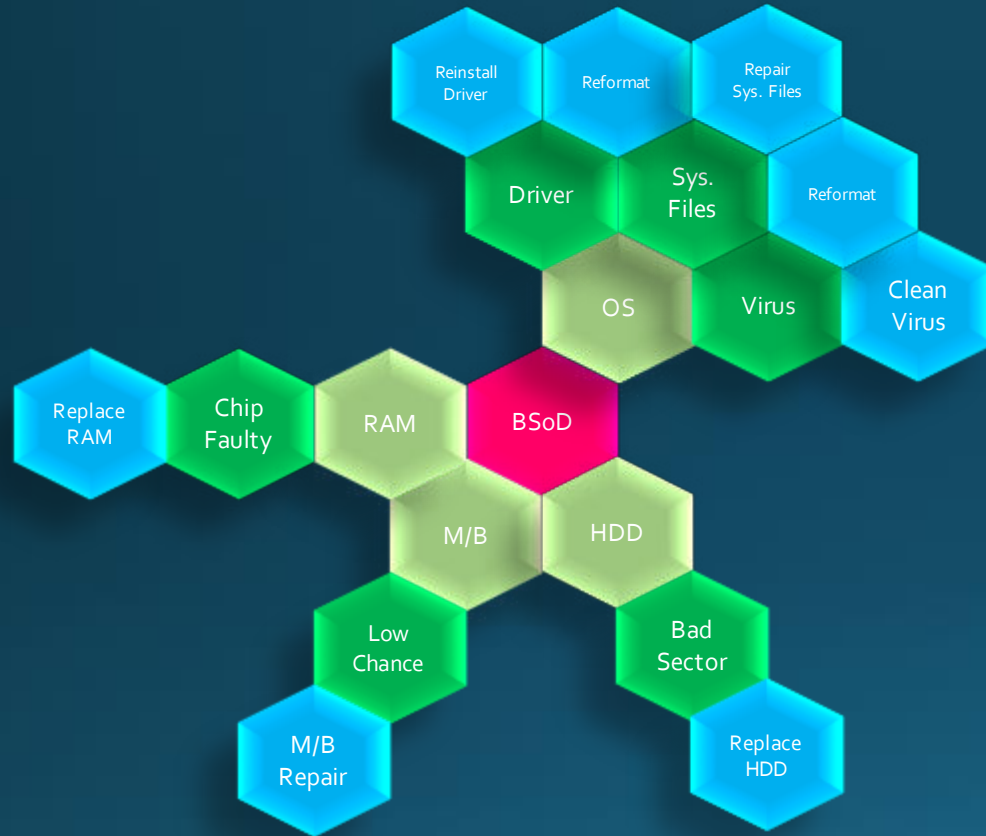
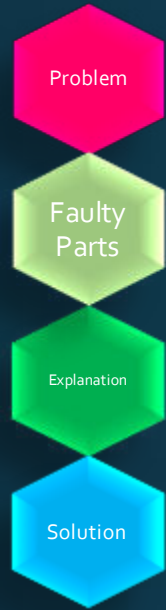
Level 1 (Logical Recovery) Software :

- HDD is still detectable, But unable to read / open files.
- Accidental Deleted Files

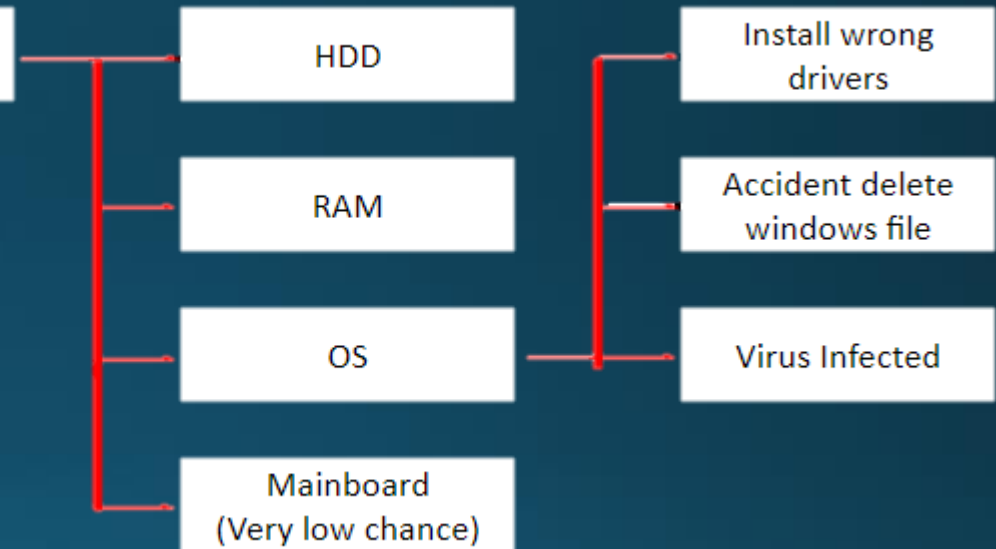
Level 2 (Physical / In-lab Recovery) Hardware :

- HDD unable to detect at all, Plugged in no sign no nothing
- Clicking sound while plugged in

Blue Screen of Death (BSOD)



Blue Screen of Death (BSoD)



End