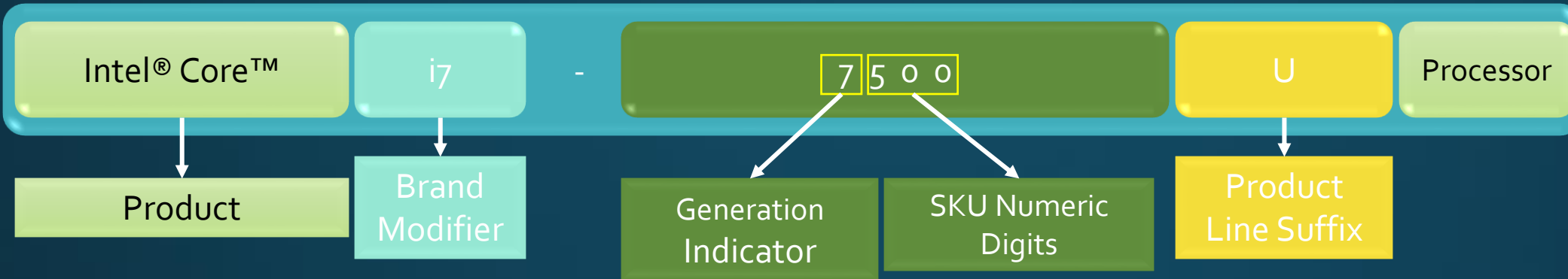


Technician Basic Knowledge

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

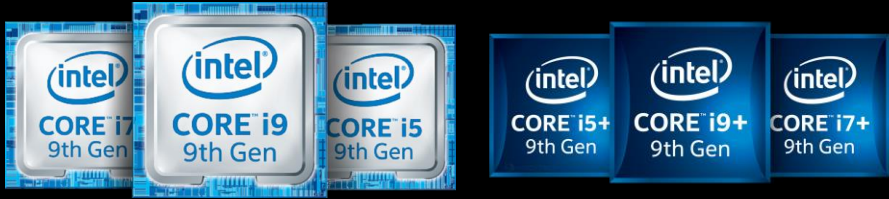



Processor Generation Table							
i3	1 st Gen	i5	1 st Gen	i7	1 st Gen	i9	-
	2 nd Gen		2 nd Gen		2 nd Gen		-
	3 rd Gen		3 rd Gen		3 rd Gen		-
	4 th Gen		4 th Gen		4 th Gen		-
	5 th Gen		5 th Gen		5 th Gen		-
	6 th Gen		6 th Gen		6 th Gen		-
	7 th Gen		7 th Gen		7 th Gen		-
	8 th Gen		8 th Gen		8 th Gen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

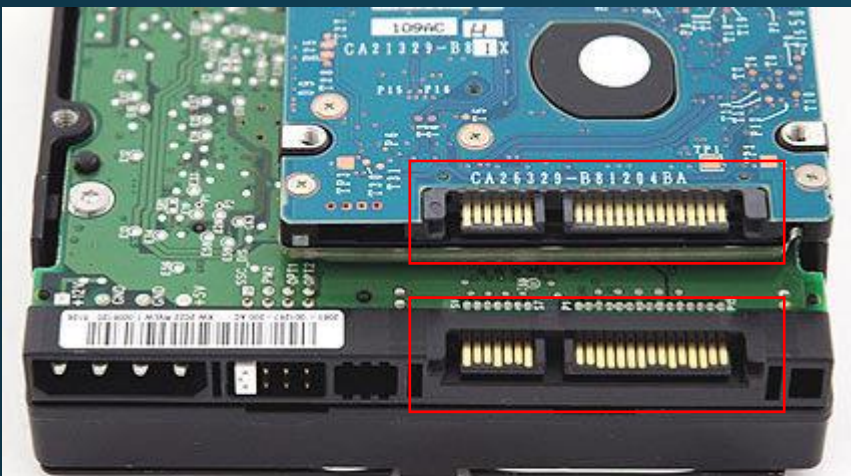
Central Processing Unit (CPU / Processor)

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	

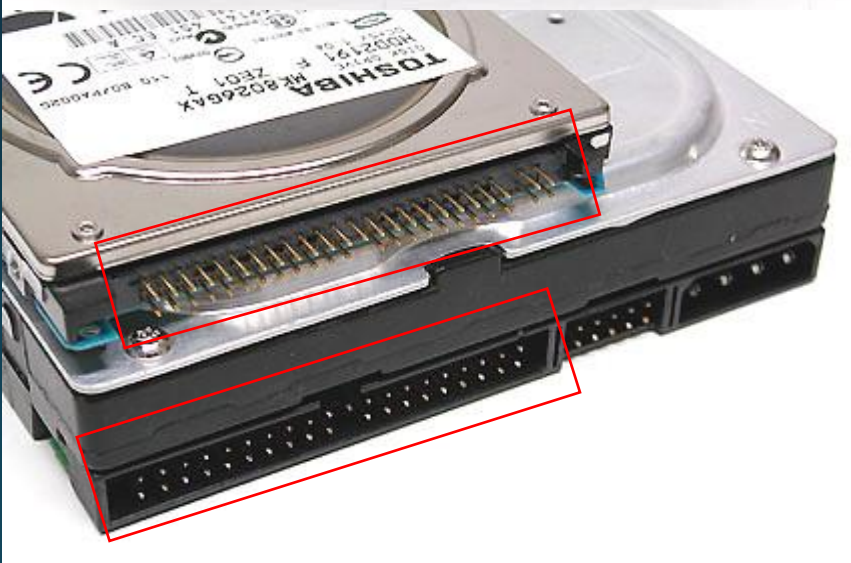
Central Processing Unit (CPU / Processor)

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	

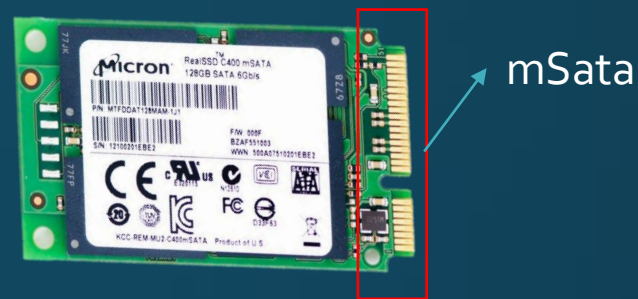
Type of HDD & SSD



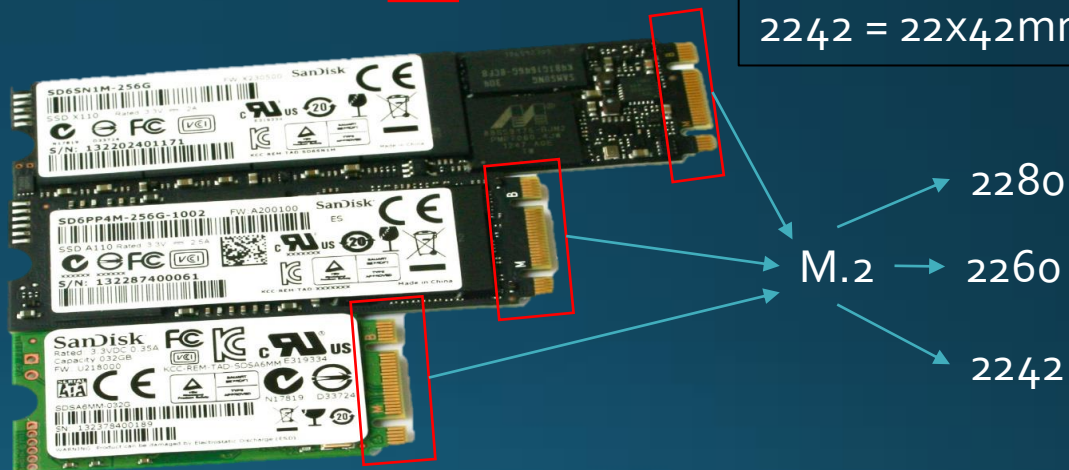
2.5" Sata (Laptop)
3.5" Sata (Desktop)



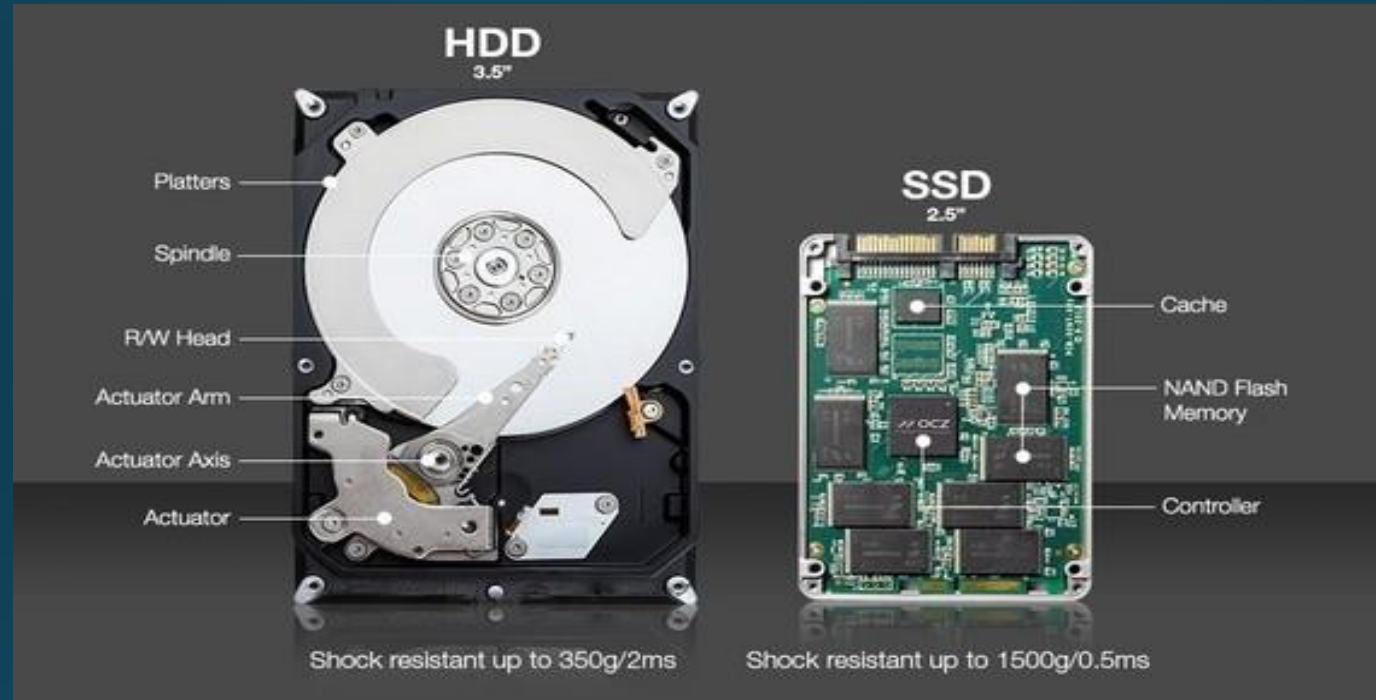
2.5" IDE
3.5" IDE



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



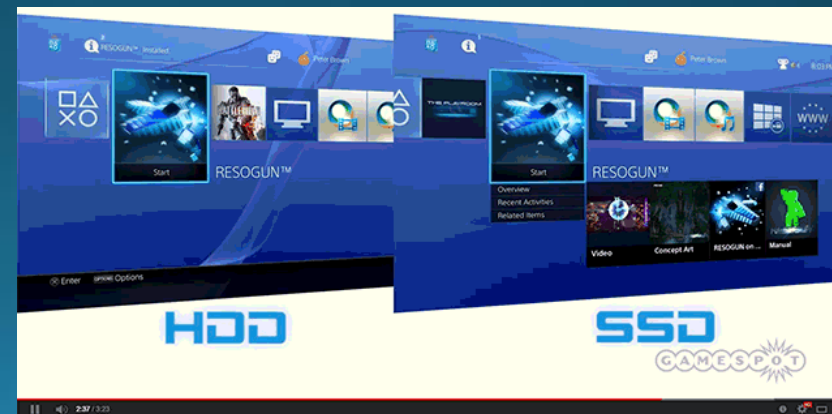
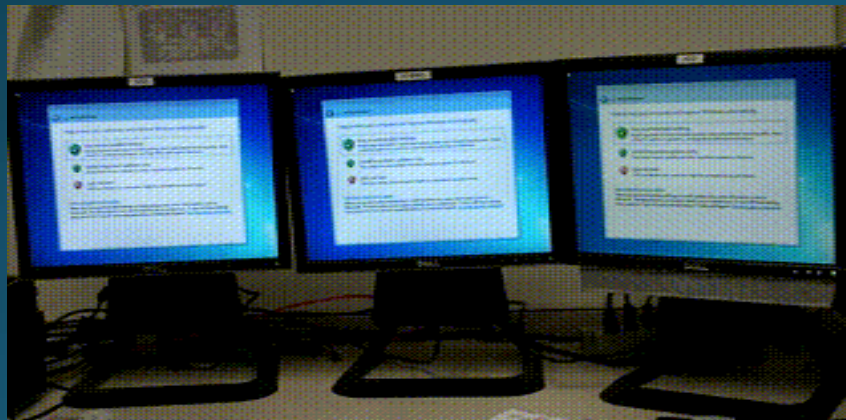
HDD & SSD



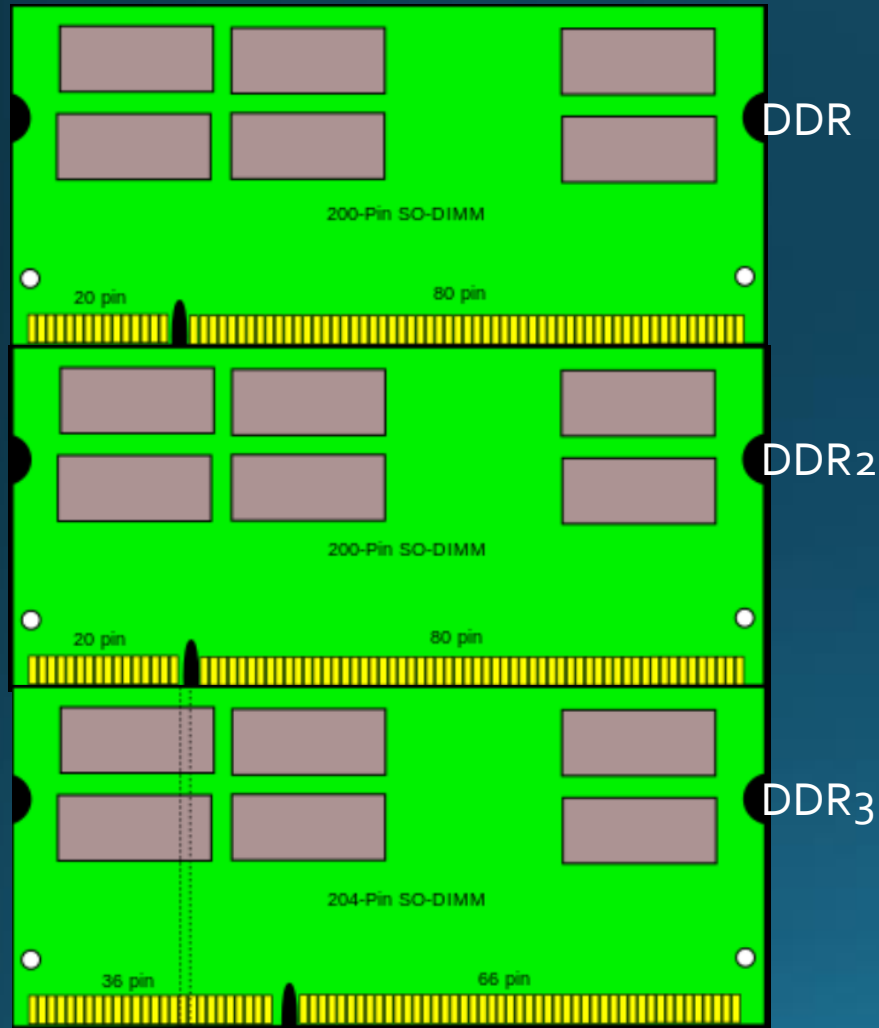
PC: SSD VS Hybrid VS HDD

PS4: HDD VS SSD

Please proceed "slideshow" to view.



RAM (Random Access Memory)



Low Memory

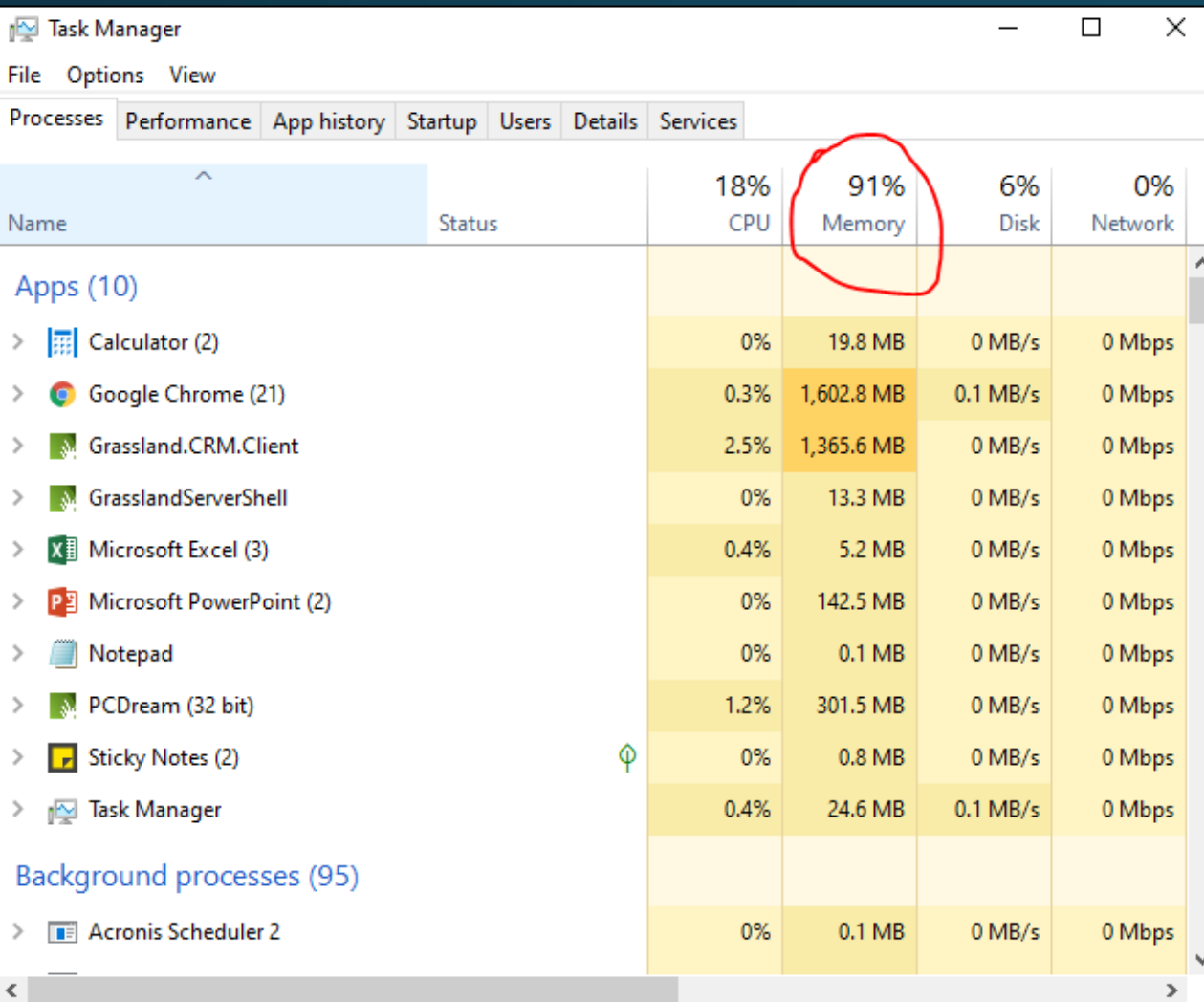


High Memory



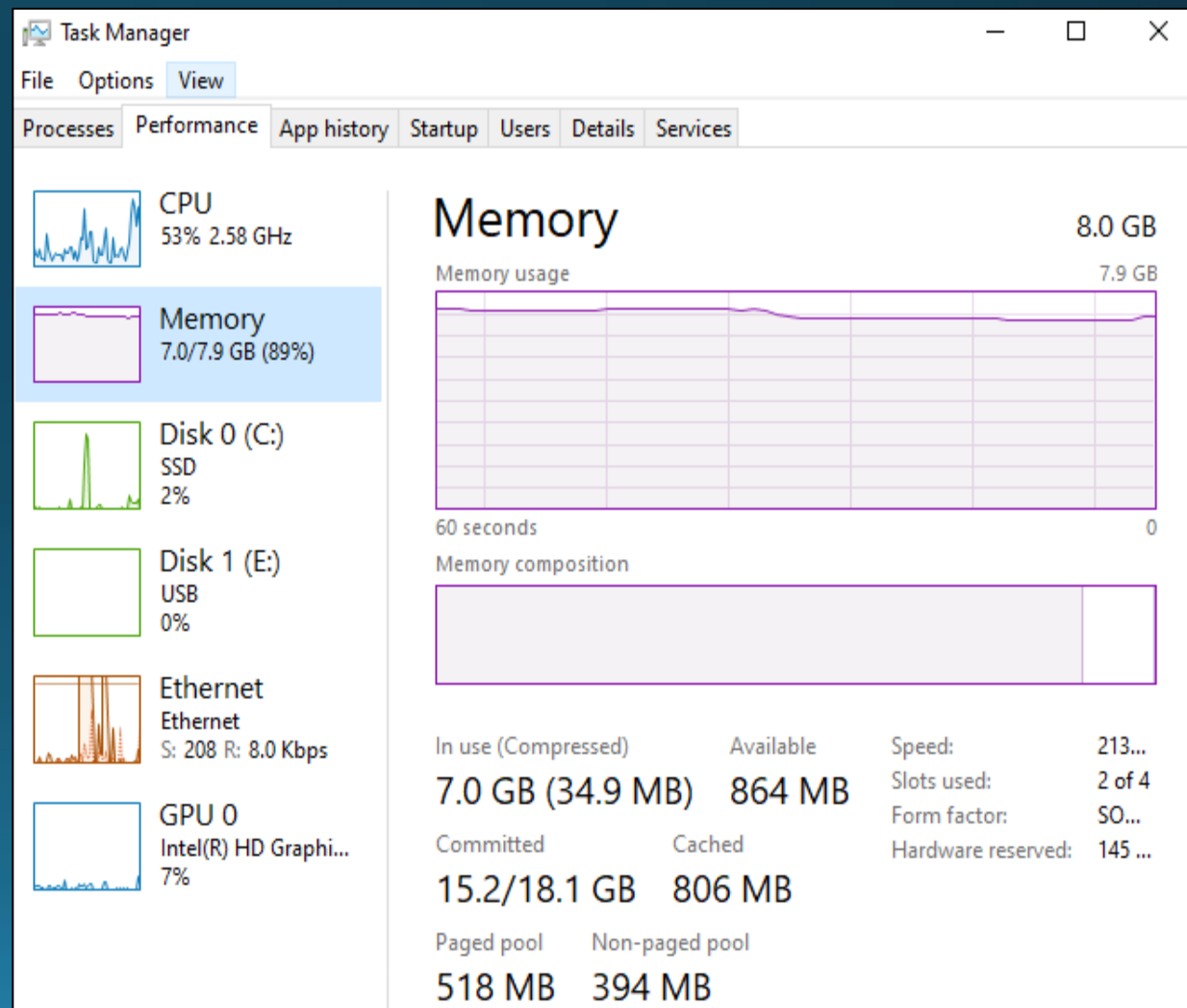
How to Check if RAM is Sufficient?

Ctrl + Alt + Delete > Task Manager > Performance



The screenshot shows the Windows Task Manager Performance tab. The 'Memory' usage is highlighted with a red circle, indicating it is at 91%. The 'CPU' usage is at 18%, 'Disk' at 6%, and 'Network' at 0%.

Name	Status	CPU	Memory	Disk	Network
Apps (10)					
Calculator (2)		0%	19.8 MB	0 MB/s	0 Mbps
Google Chrome (21)		0.3%	1,602.8 MB	0.1 MB/s	0 Mbps
Grassland.CRM.Client		2.5%	1,365.6 MB	0 MB/s	0 Mbps
GrasslandServerShell		0%	13.3 MB	0 MB/s	0 Mbps
Microsoft Excel (3)		0.4%	5.2 MB	0 MB/s	0 Mbps
Microsoft PowerPoint (2)		0%	142.5 MB	0 MB/s	0 Mbps
Notepad		0%	0.1 MB	0 MB/s	0 Mbps
PCDREAM (32 bit)		1.2%	301.5 MB	0 MB/s	0 Mbps
Sticky Notes (2)		0%	0.8 MB	0 MB/s	0 Mbps
Task Manager		0.4%	24.6 MB	0.1 MB/s	0 Mbps
Background processes (95)					
Acronis Scheduler 2		0%	0.1 MB	0 MB/s	0 Mbps



The screenshot shows the Windows Task Manager Performance tab with the 'Memory' section selected. It displays a graph of memory usage over 60 seconds, showing a steady increase from 7.0 GB to 7.9 GB. Below the graph, the 'Memory composition' bar shows 7.0 GB (34.9 MB) in use and 864 MB available. The 'Memory' section also shows 7.0/7.9 GB (89%) usage.

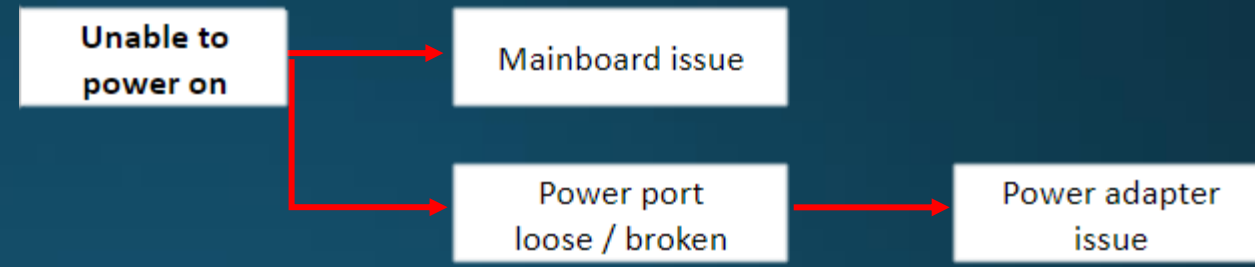
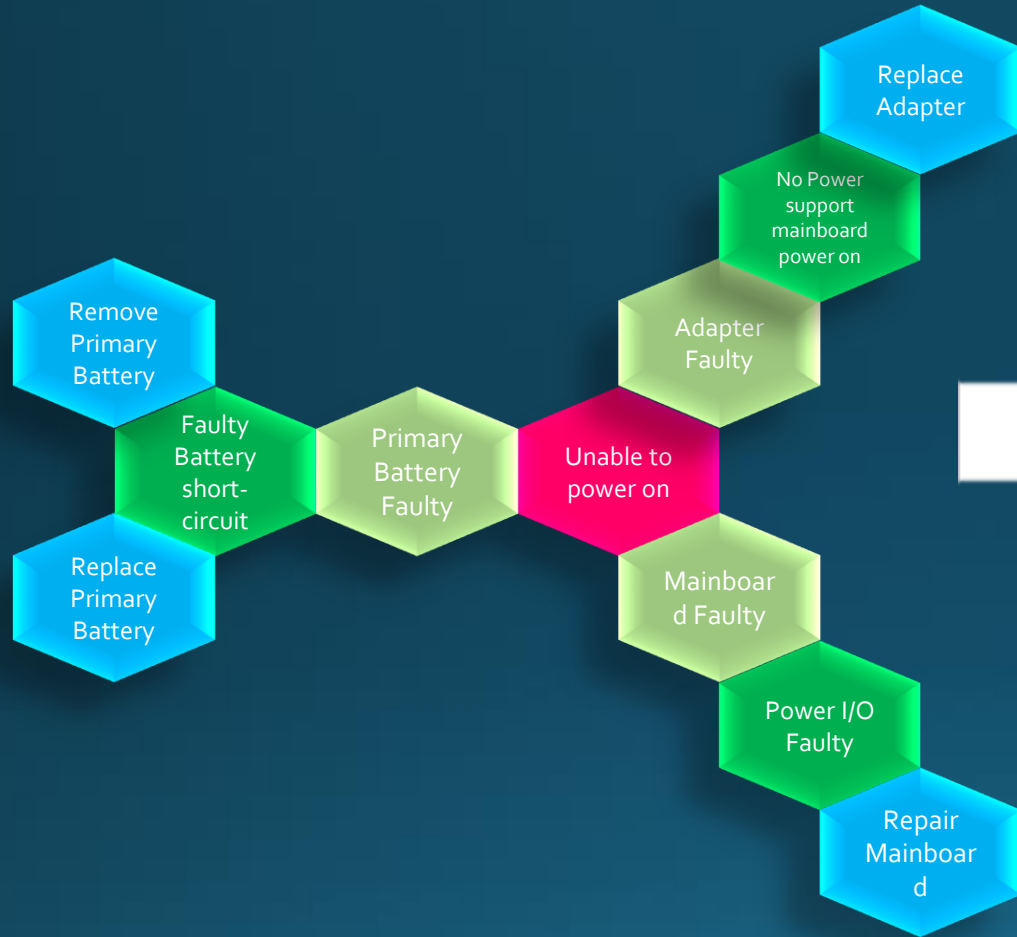
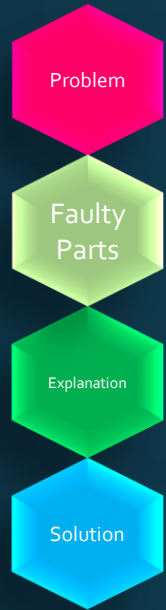
Memory
8.0 GB
Memory usage: 7.9 GB

60 seconds

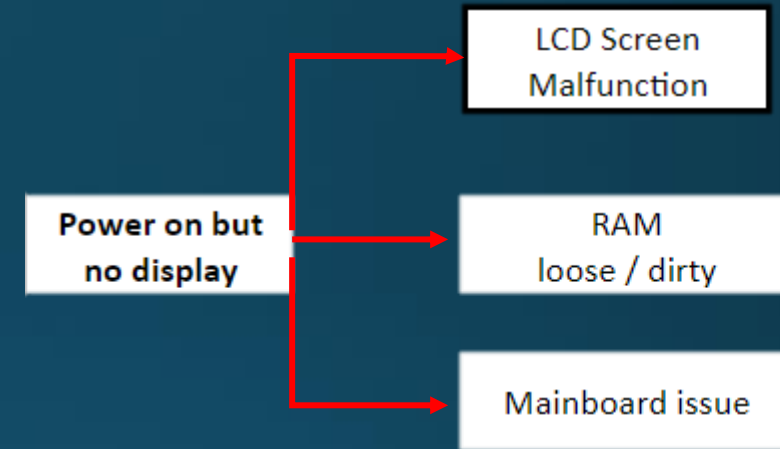
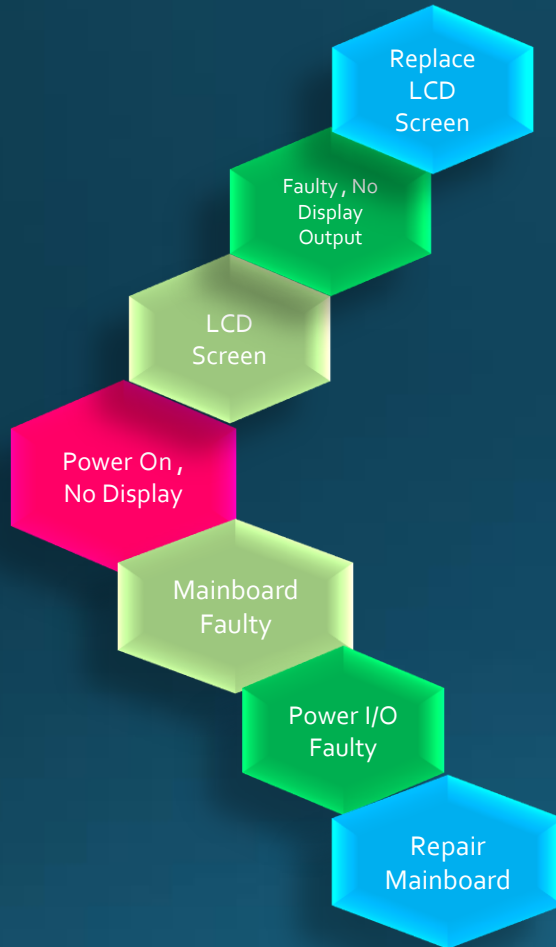
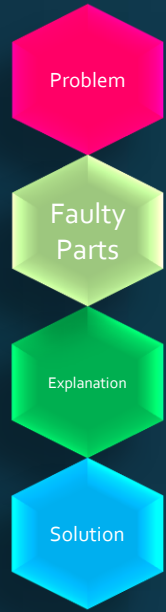
Memory composition

In use (Compressed)	Available	Speed:	213...
7.0 GB (34.9 MB)	864 MB	Slots used:	2 of 4
Committed	Cached	Form factor:	SO...
15.2/18.1 GB	806 MB	Hardware reserved:	145 ...
Paged pool	Non-paged pool		
518 MB	394 MB		

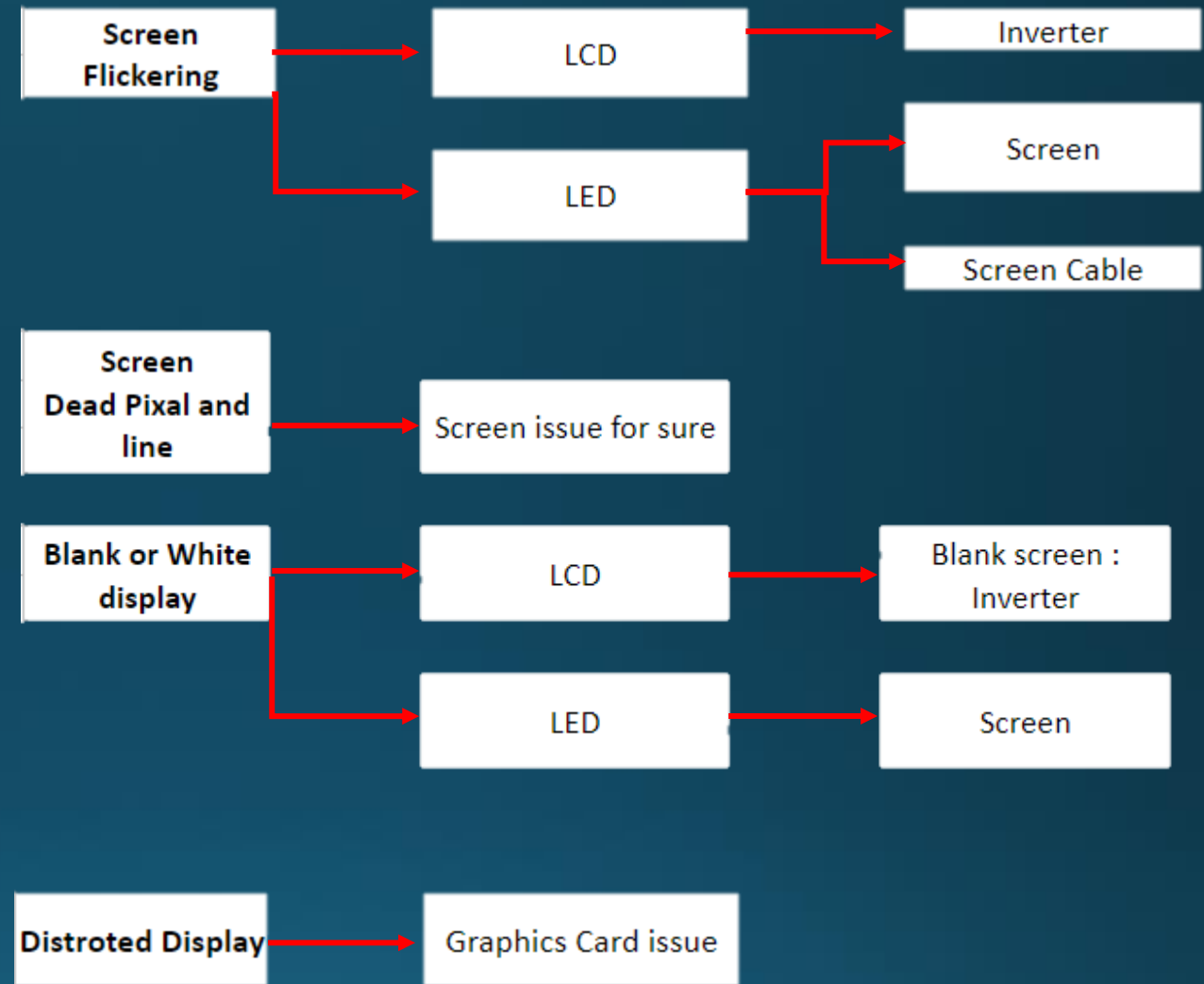
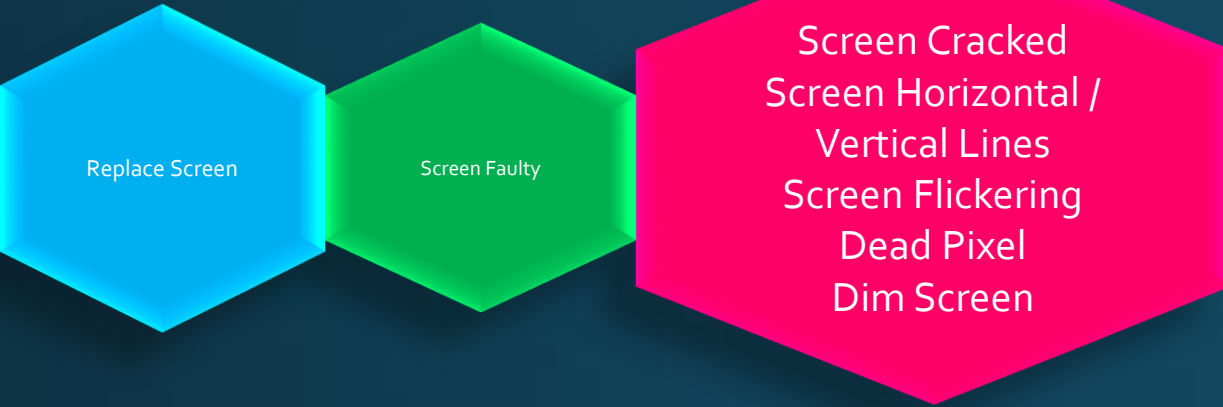
Unable to Power On



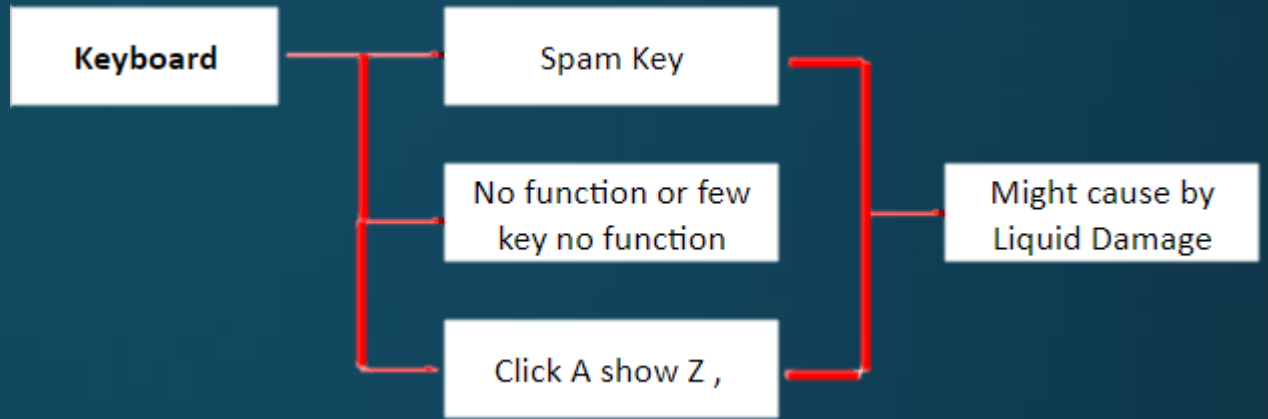
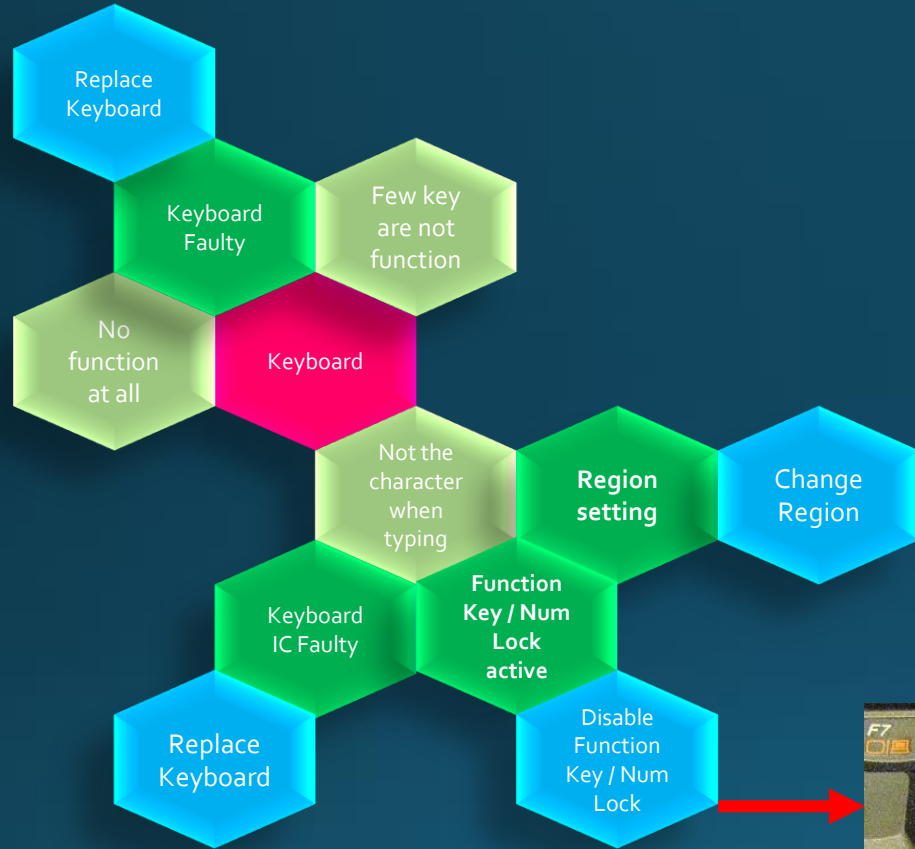
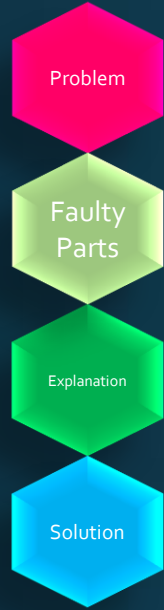
Power On , No Display (With Indicator Lights)



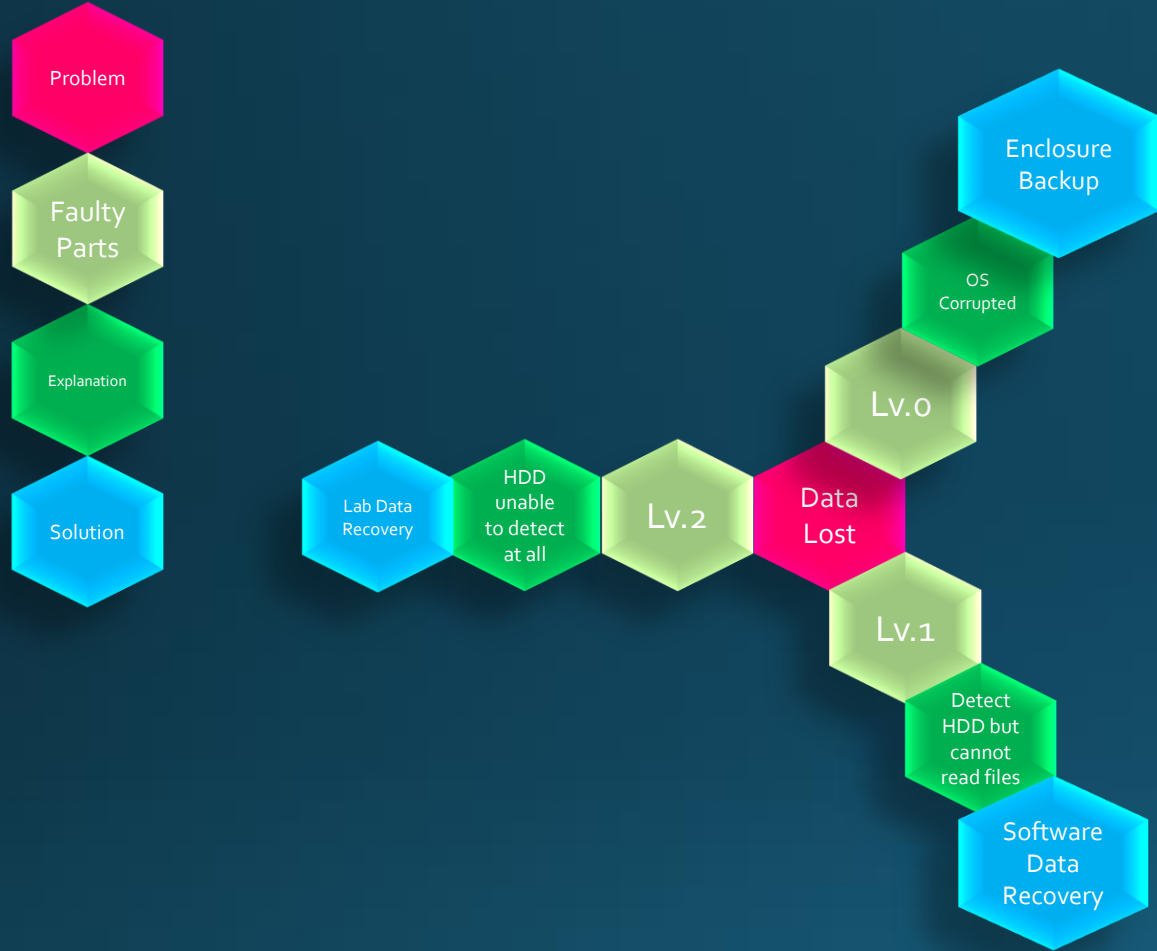
LCD Screen



Keyboard



Data



Level 0 (HDD is healthy & Detectable):

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

Level 1 (Logical Recovery) Software :

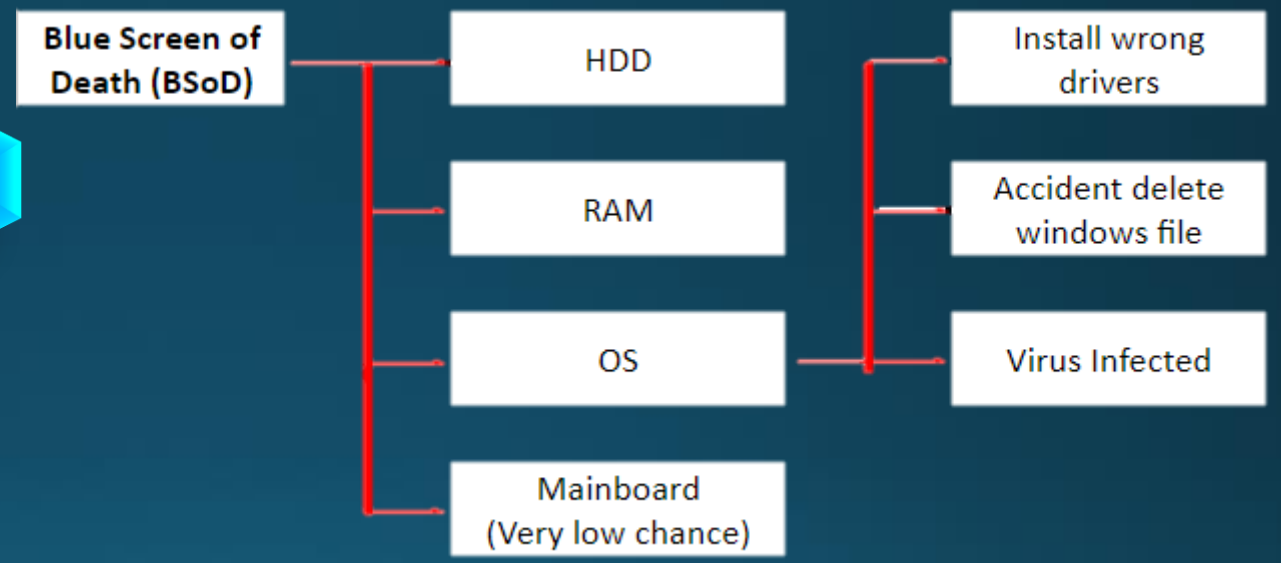
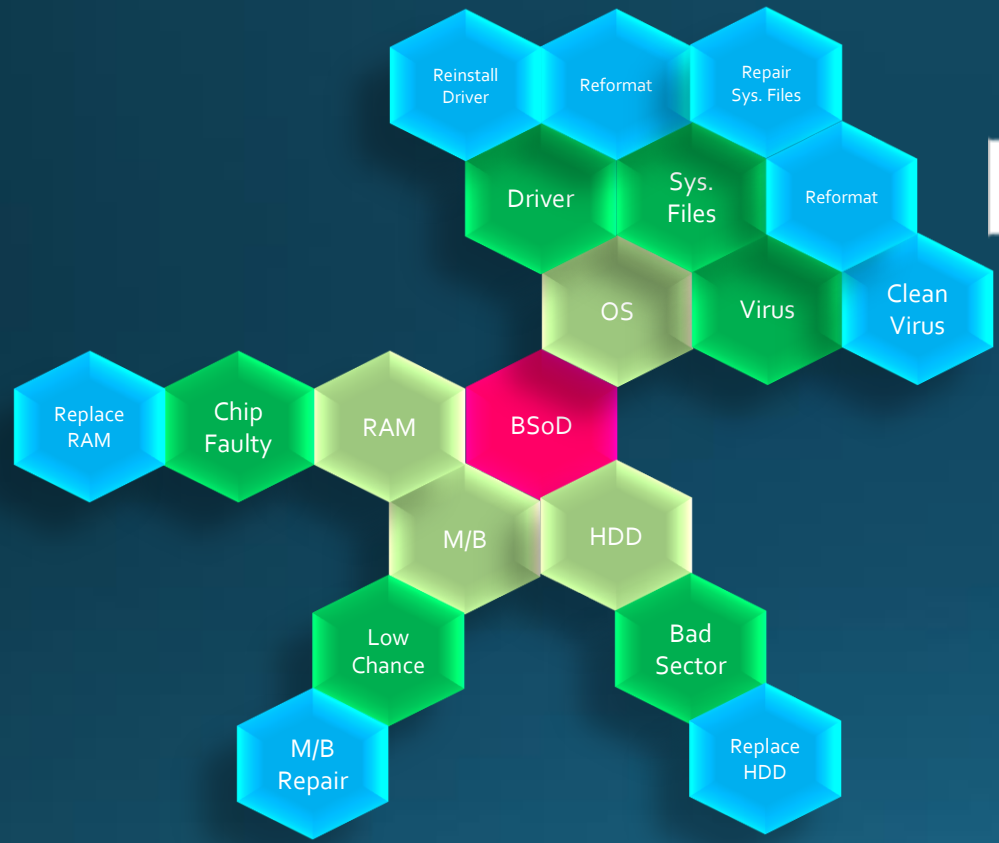
- HDD is still detectable, But unable to read / open files.
- Accidental Deleted Files

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)

- Problem
- Faulty Parts
- Explanation
- Solution



End