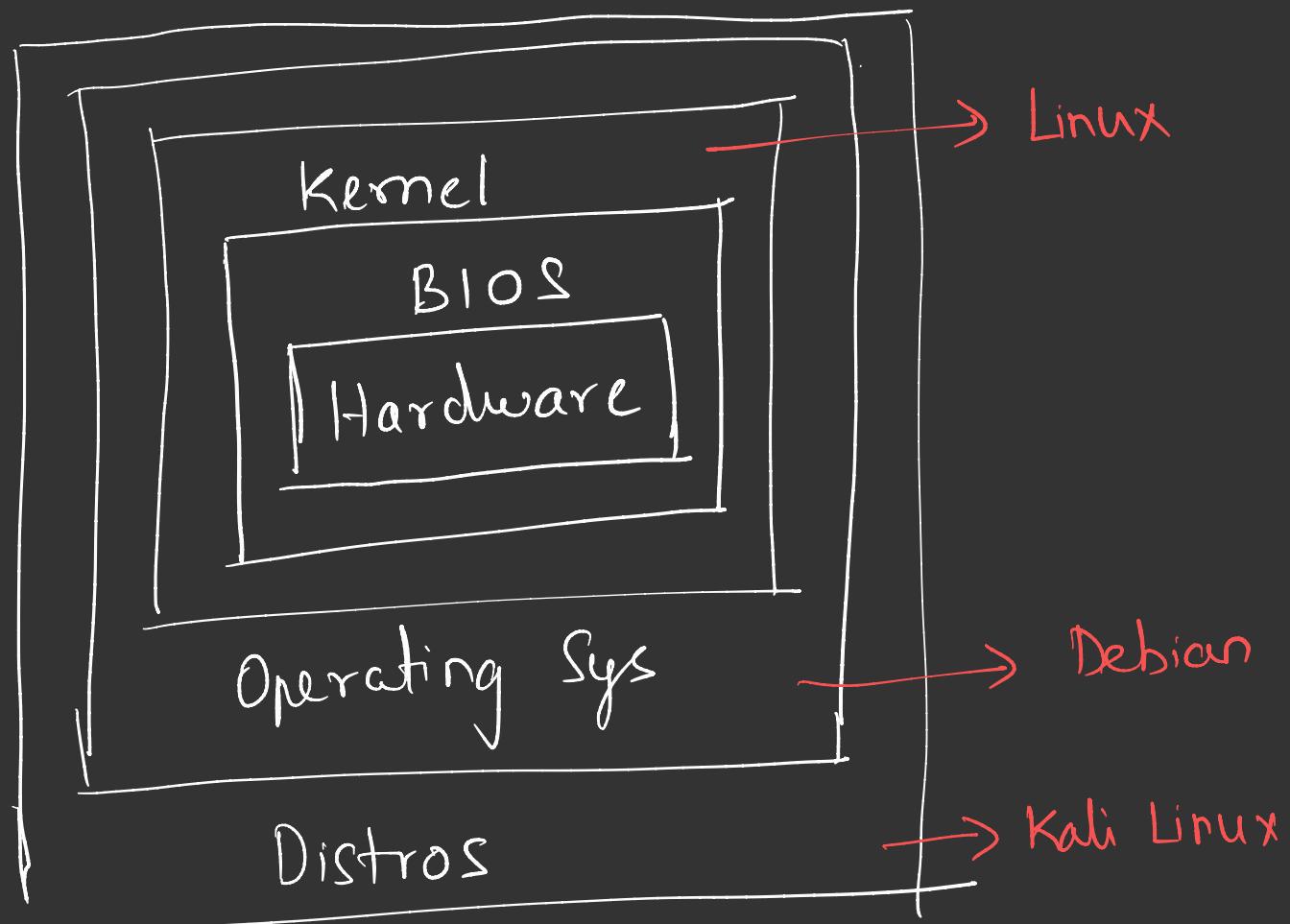




The
Bigger Picture





What is considered as a Computer ?

→ TV

→ Fridge

→ Washing Machine

→ Lift

→ AC

→ PSP, Xbox

→ Oven

→ BT Speaker



99%.

Run

Linux

Qualifications:

① Processor

② RAM

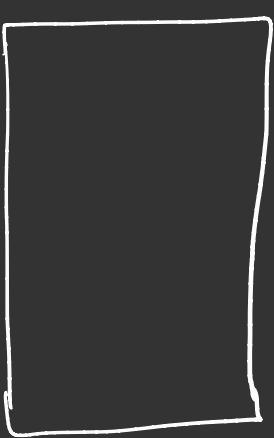
③ I/O

④ Storage

⑤ OS

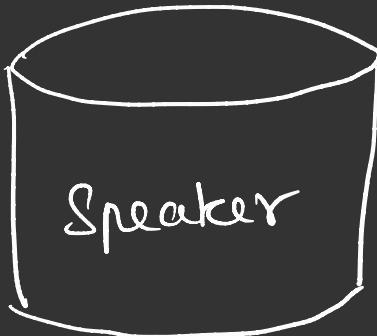
→ Most electronics
are computers.

BLIE Speaker



)))

(((

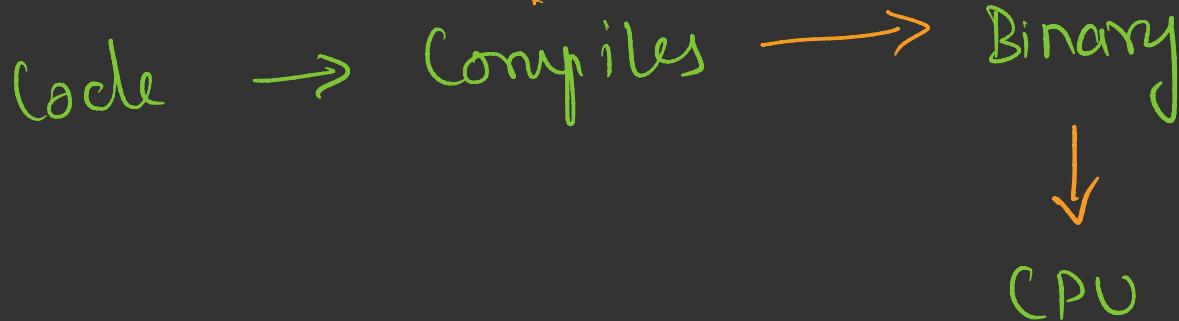


Speaker

- Sockets } ① Receive Audio
 } ② Send Stats
 } ③ Decode
 } ④ Plays ,

Types of Hardware:

Compilers	-	Intel	32-bit		64-bit
			x86	x64	x64 (and 64)
	-	AMD	x86	x64	x64 (and 64)
	-	ARM	armv7	armv8	armv8 64



gcc → C Compiler

google this : "define hack"

C C++ PHP Python Java Go Dart...



The knowledge of Debugging :

- objdump
 - gdb
- } Intel & AT&T

Numbering System:

- Base 10 = {0 ... 9} \Rightarrow Decimal
- Base 2 = {0, 1} \Rightarrow Binary
- Base 8 = {0 ... 7} \Rightarrow Octal
- Base 16 = {0 ... 9, A - F} \Rightarrow Hexa

Units of Memory:

$$1 \text{ bit} = 0 \text{ or } 1$$

$$1 \text{ byte} = 8 \text{ bits}$$

$$1 \text{ kbyte} = 1024 \text{ bytes}$$

$$1 \text{ mbyte} = 1024 \text{ kbytes}$$

$$1 \text{ gbyte} = 1024 \text{ mbytes}$$

$$1 \text{ tbyte} = 1024 \text{ gbytes}$$

An assembly instruction:

operation

destination, source

$$2^8 = 256 \Rightarrow \text{Binary Representation}$$
$$16^2 = 256 \Rightarrow \text{Hexa Rep.}$$

0 0 0 0 0 0 0 0

:

1 1 1 1 1 1 1 1

Each op code
will be sent to
CPU like this.

Clock = 2 G Hz, 1 G Hz.

1 bits, 0, 1 0 - 0
 1 - 1

2 bits 0 0 - 0 } 0 - 3
 0 1 - 1
 1 0 - 2
 1 1 - 3

3 bits 0 0 0 - 0 } 0 - 7
 0 0 1 - 1
 0 1 0 - 2
 0 1 1 - 3
 1 0 0 - 4
 1 0 1 - 5
 1 1 0 - 6
 1 1 1 - 7

$C7 = \underline{11000111}$

$A5 =$

-

-

