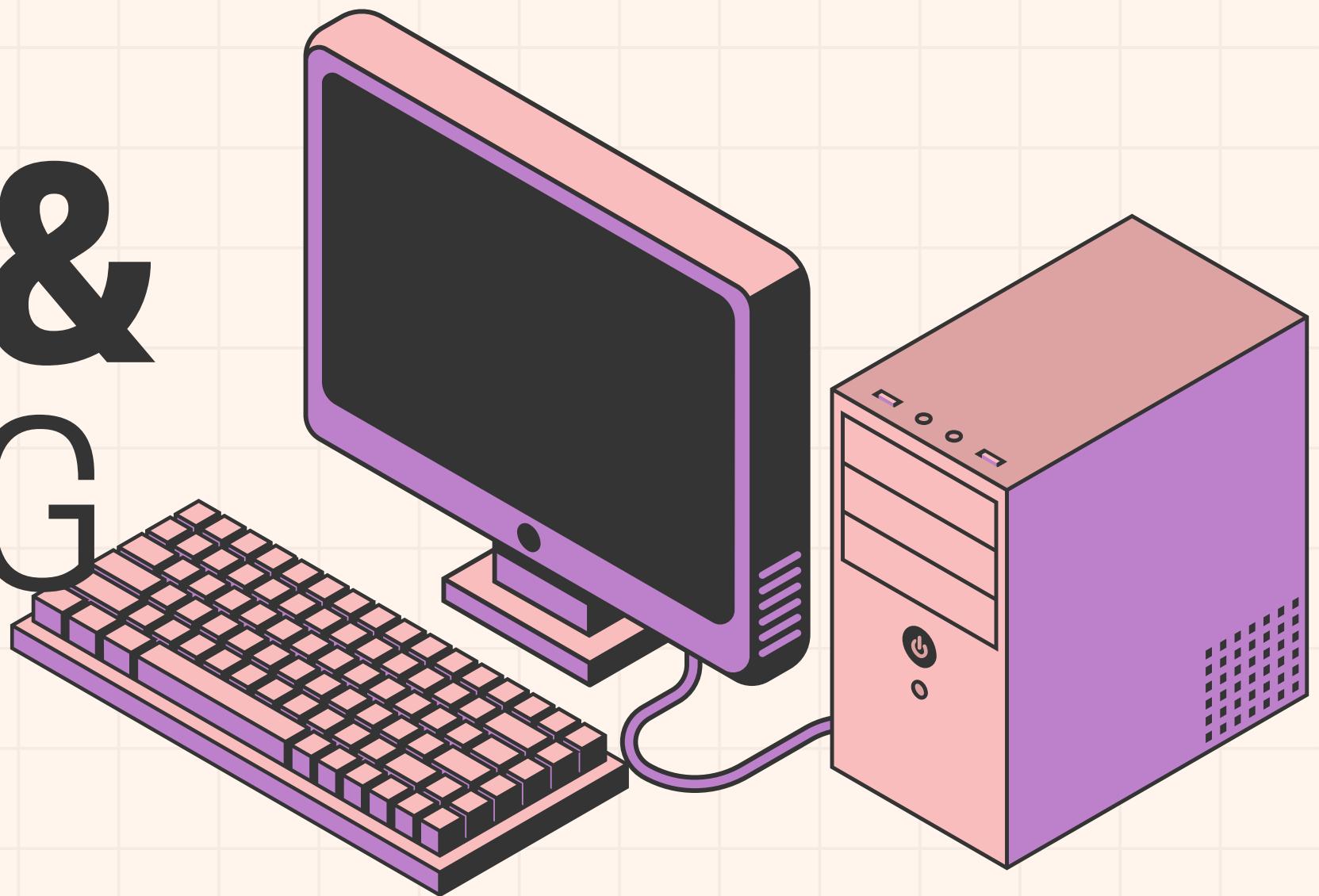


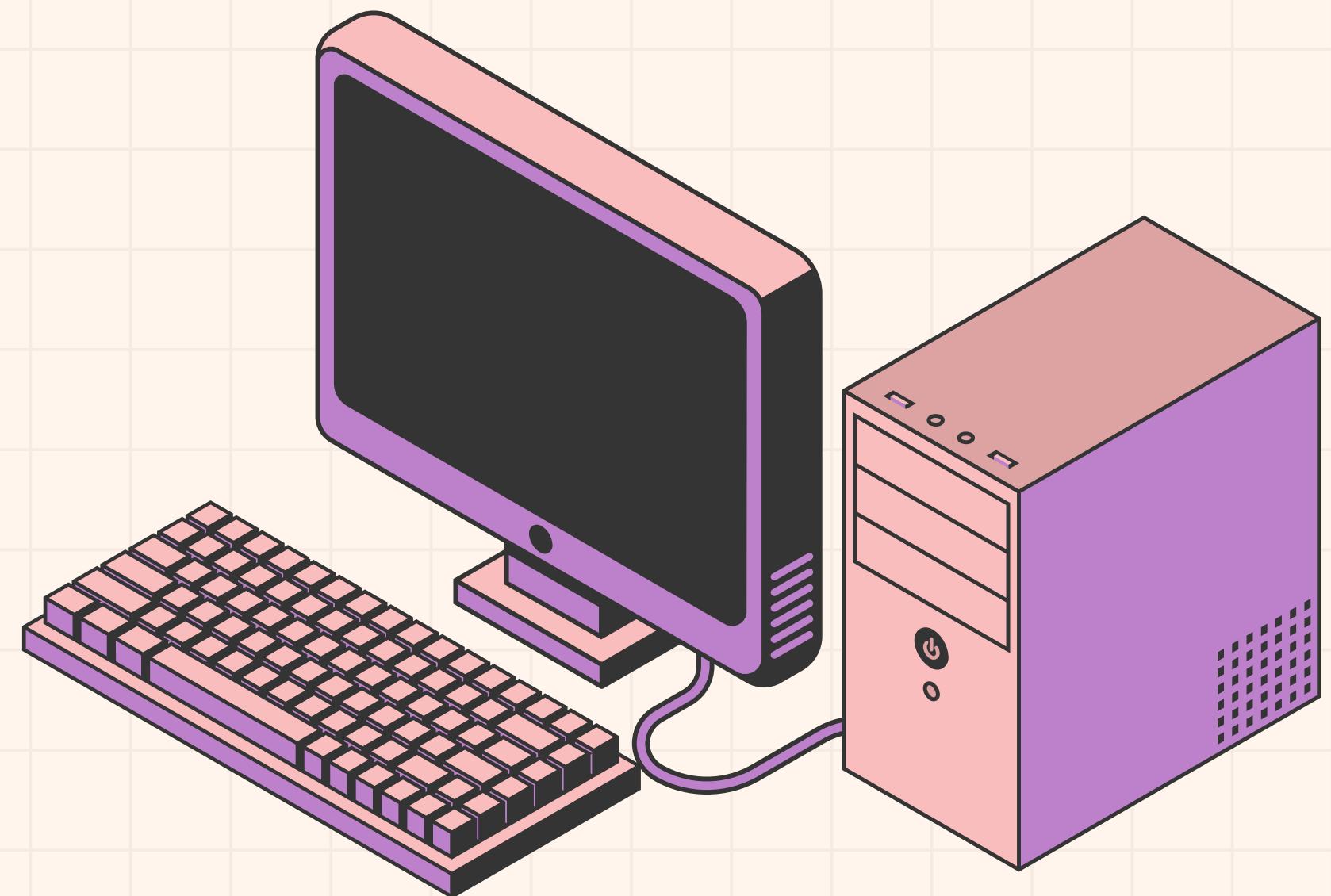
FOUNDATIONS OF COMPUTER & PROGRAMMING

github.com

/kintsugi-programmer



WHAT IS A COMPUTER ?



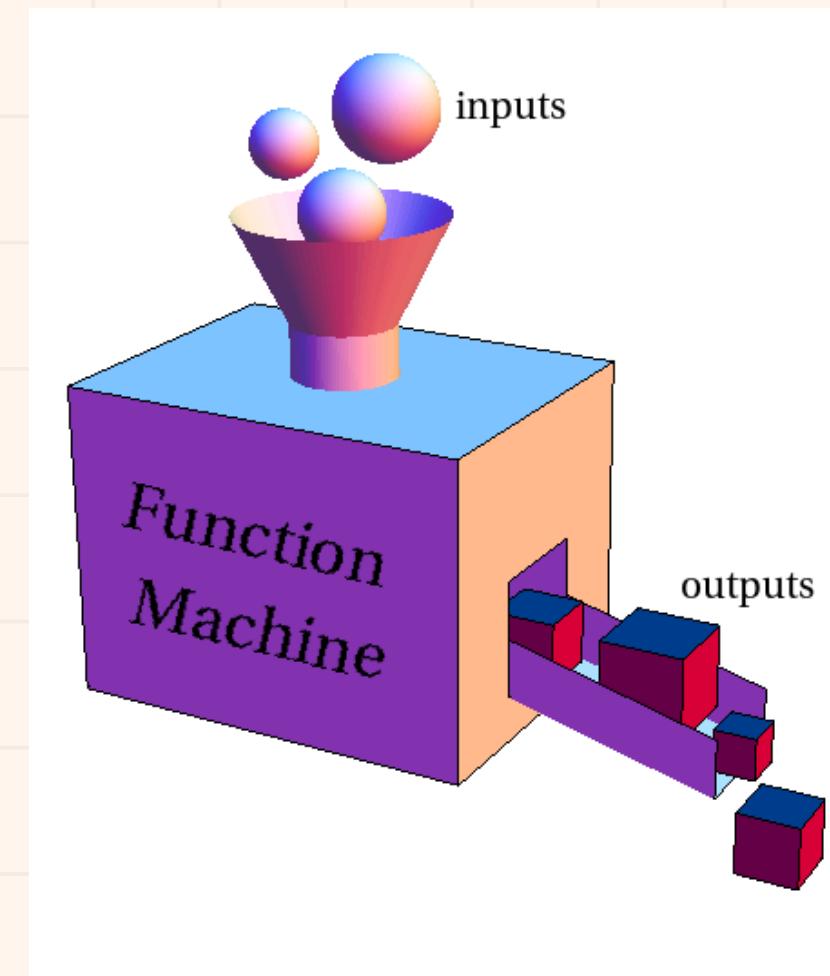
A DEVICE WHICH TAKES
INSTRUCTIONS YOU GIVE IT—
THROUGH PROGRAMS OR
APPS—AND CARRIES THEM
OUT TO HELP YOU WITH
EVERYDAY ACTIVITIES, WORK,
LEARNING, AND FUN.



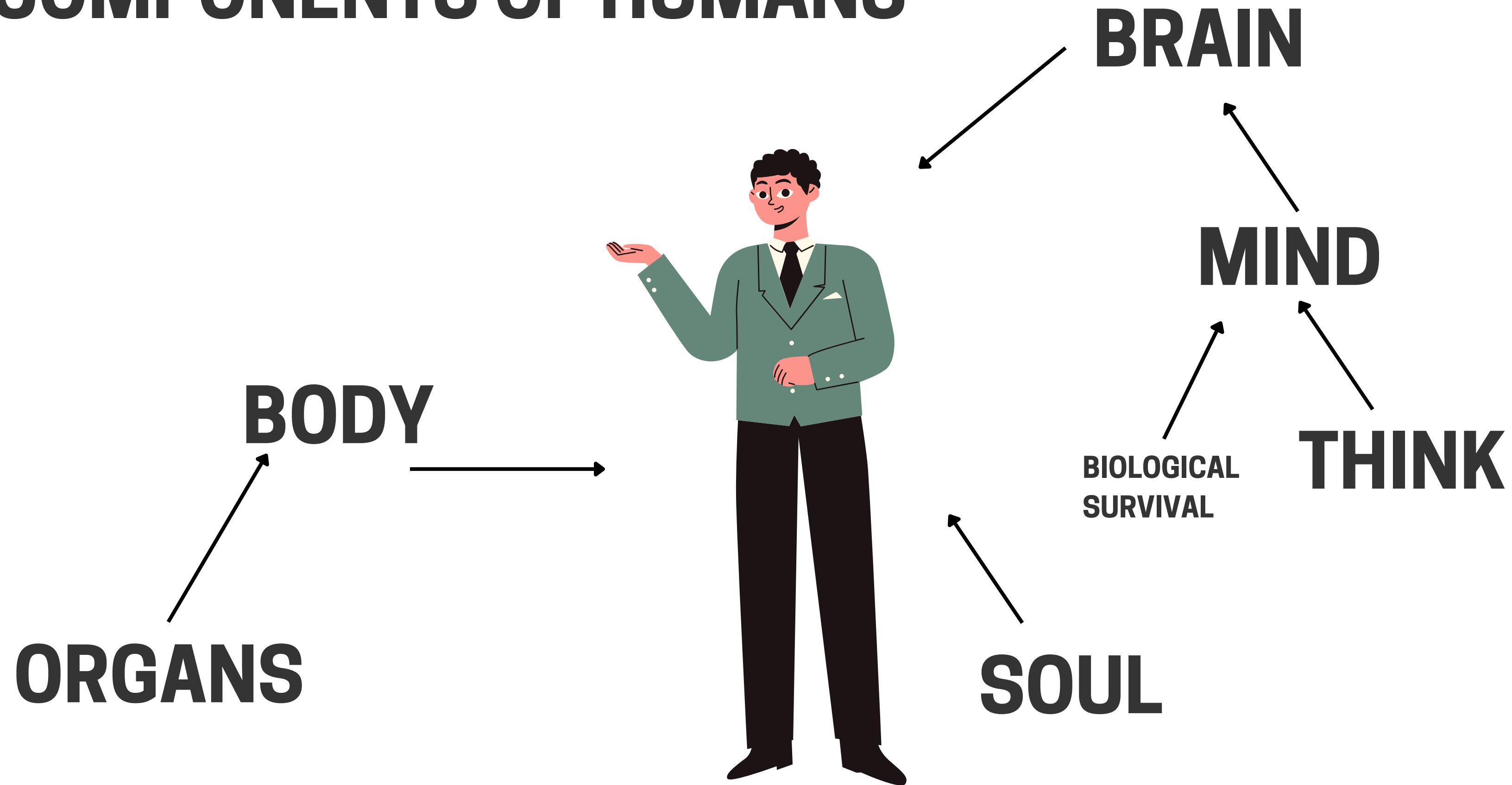
- FAST
- DUMB
- NEED DATA
- NEED INSTRUCTIONS
- DIFFERENT LANG.



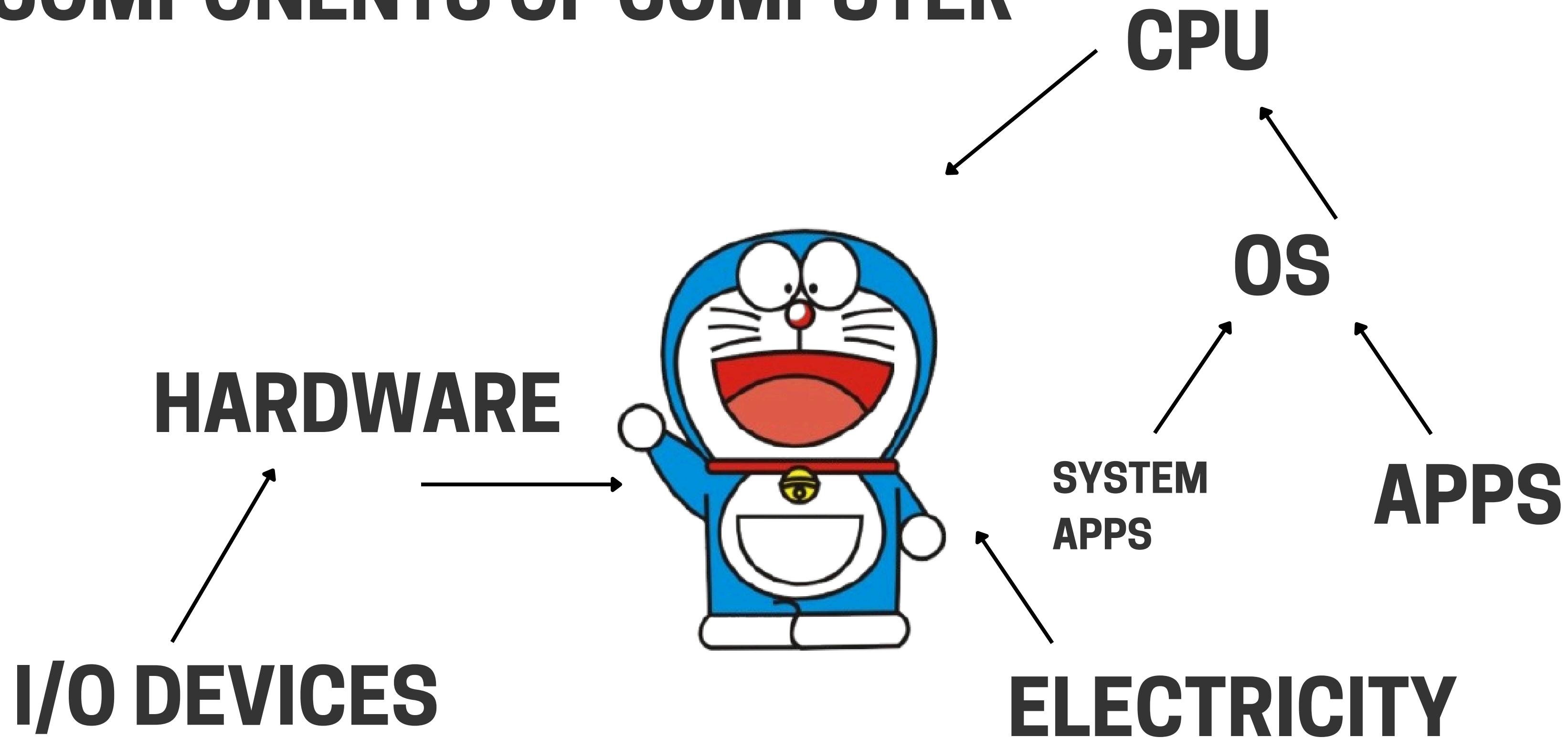
- Computers make work easier and help complete tasks quickly and efficiently.
- Unlike humans, computers don't have a brain and cannot think on their own.
- Humans must provide detailed instructions to computers for various situations, including:
 - Defining the type of data to be used
 - Determining how to perform calculations and handle data
 - Deciding where and how to store the processed data
 - Humans communicate using languages composed of words and letters, but computers do not understand human languages or words.
 - Computers operate using binary language, which consists of two symbols: 0 and 1, True and False, On and Off.
 - Computers execute tasks based on binary instructions, following the precise commands given by humans.



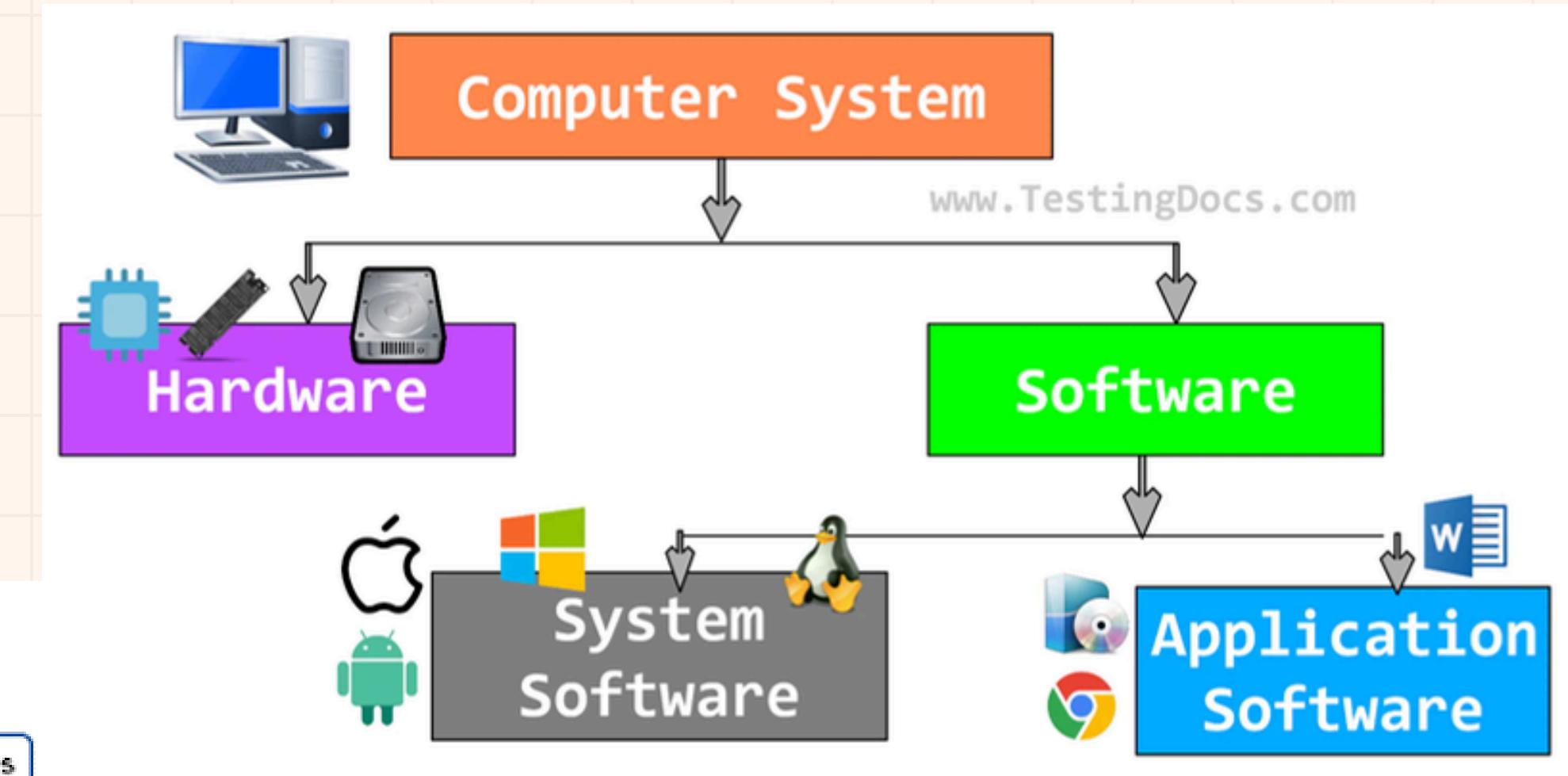
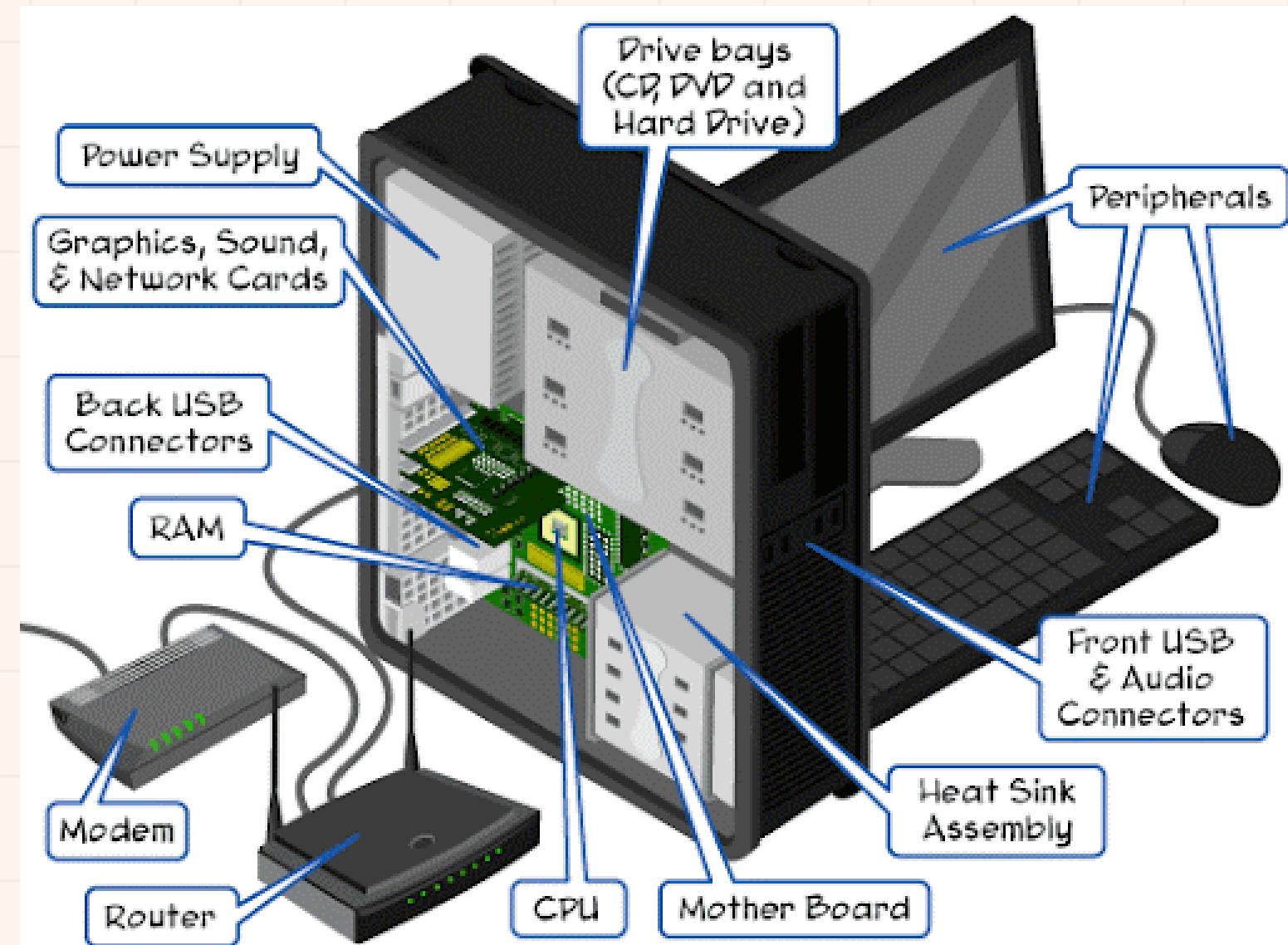
COMPONENTS OF HUMANS



COMPONENTS OF COMPUTER

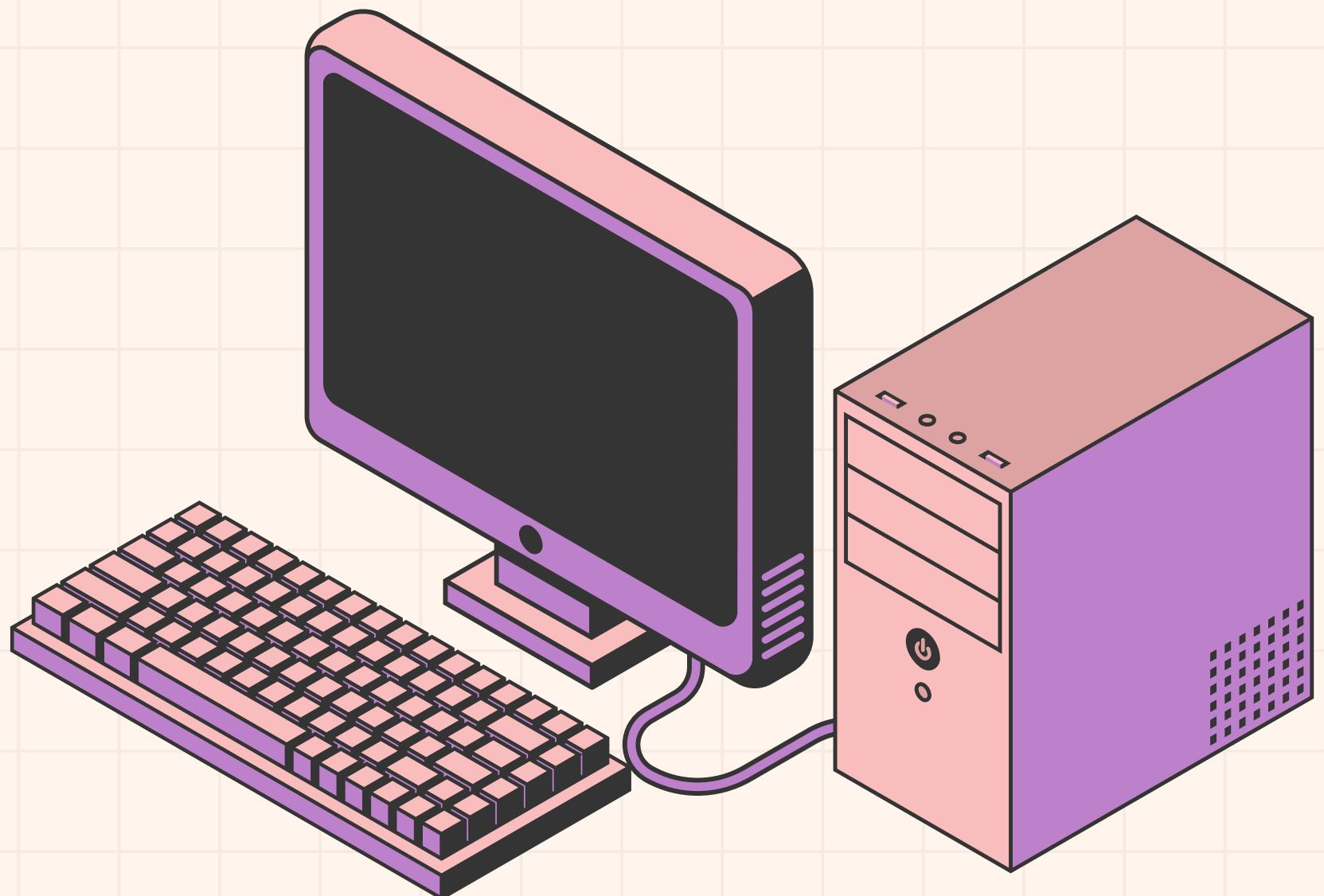


COMPONENTS OF COMPUTER



FUN FACT !!

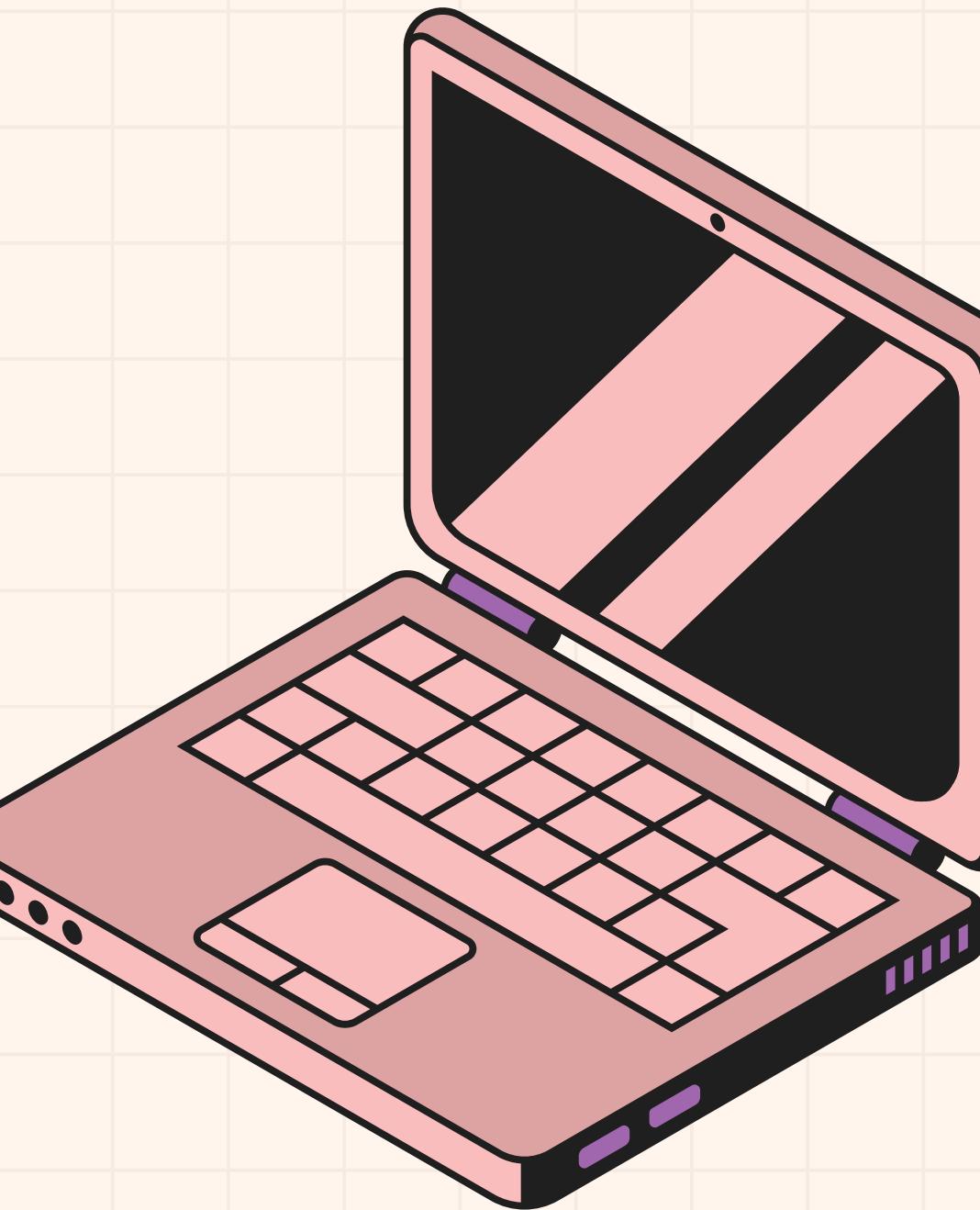
**COMMON
ORIENTED
MACHINE
PARTICULARLY
UNITED AND USED UNDER
TECHNICAL AND
EDUCATIONAL RESEARCH.**



PROGRAMMING

Giving instructions to Computer

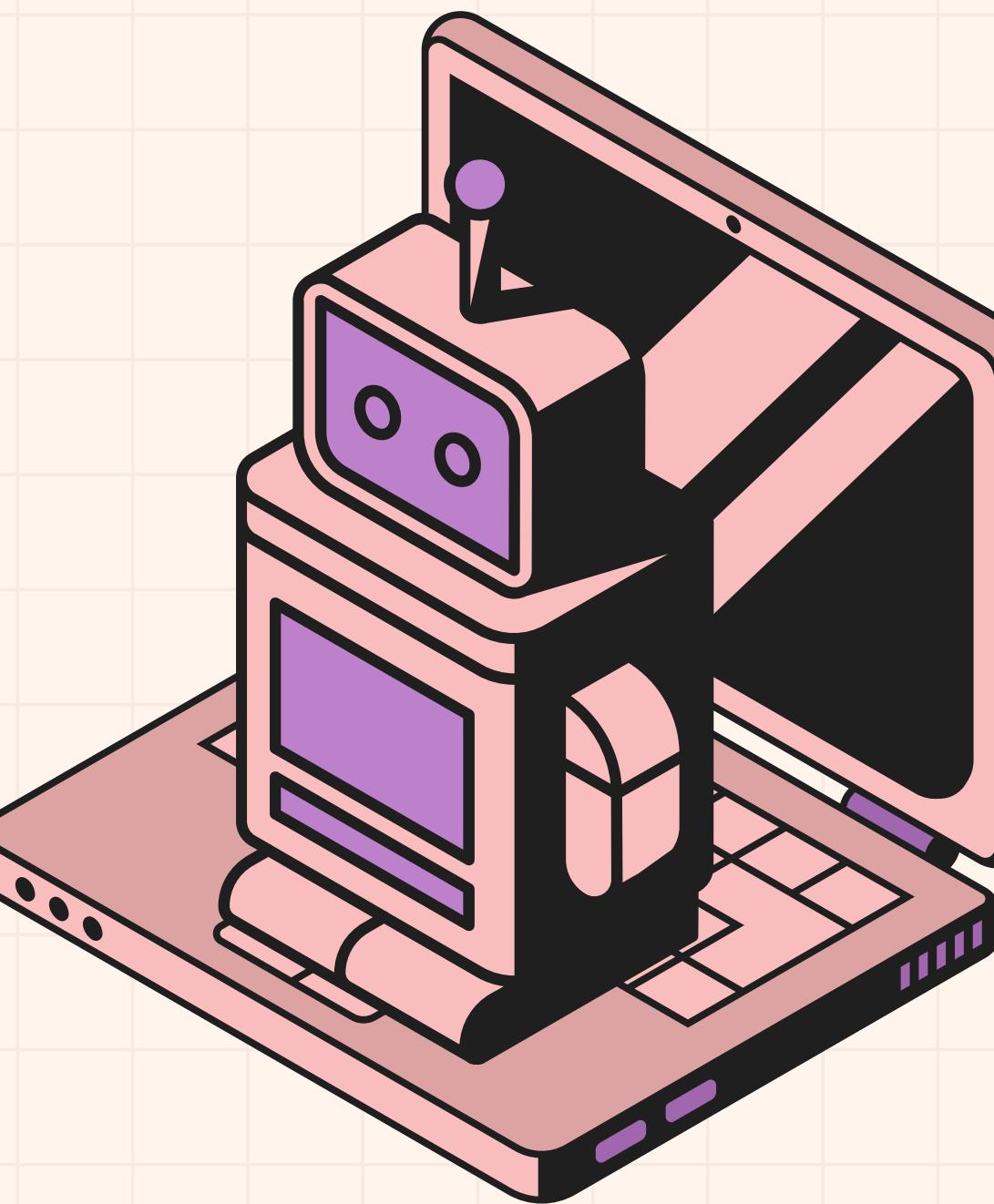
Think of programming as giving instructions to a robot. Just as you would provide step-by-step directions to perform a task, programming involves writing detailed instructions for the computer to follow.



**BUT
THEY UNDERSTAND
ONLY 0 AND 1S**

***LANGUAGE
OF BITS***

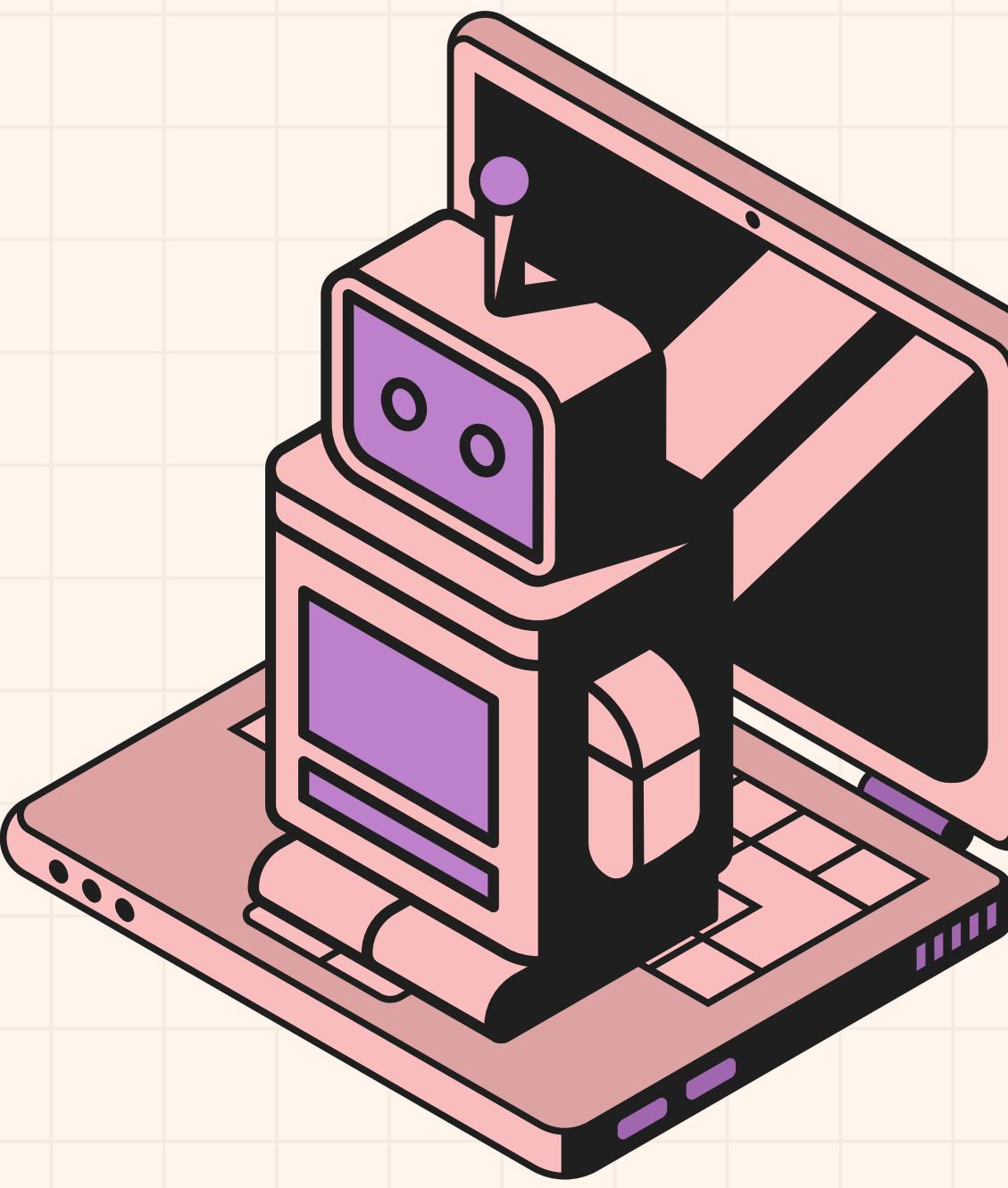
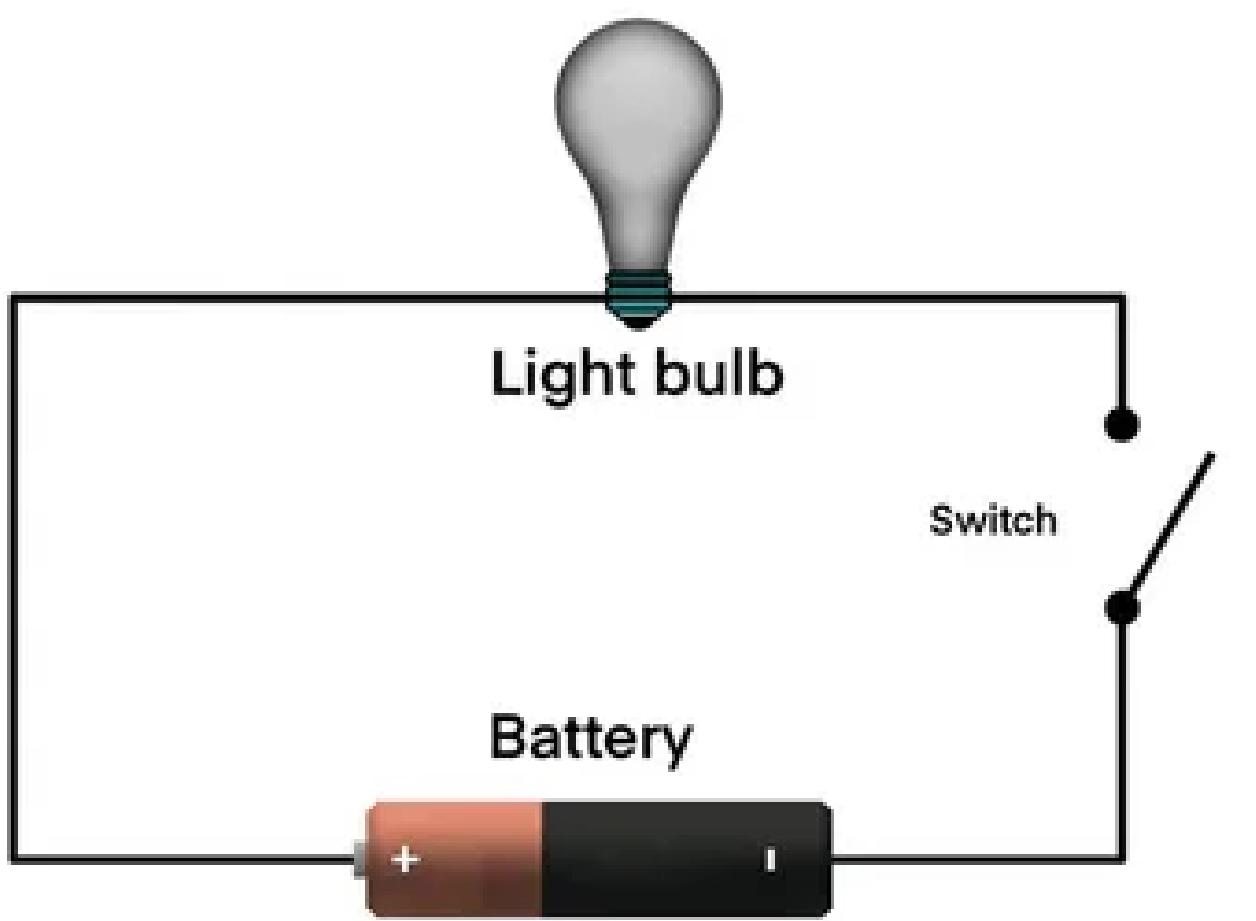
101010101010111000



BITS

1 = TRUE/ ON

0 = FALSE/ OFF



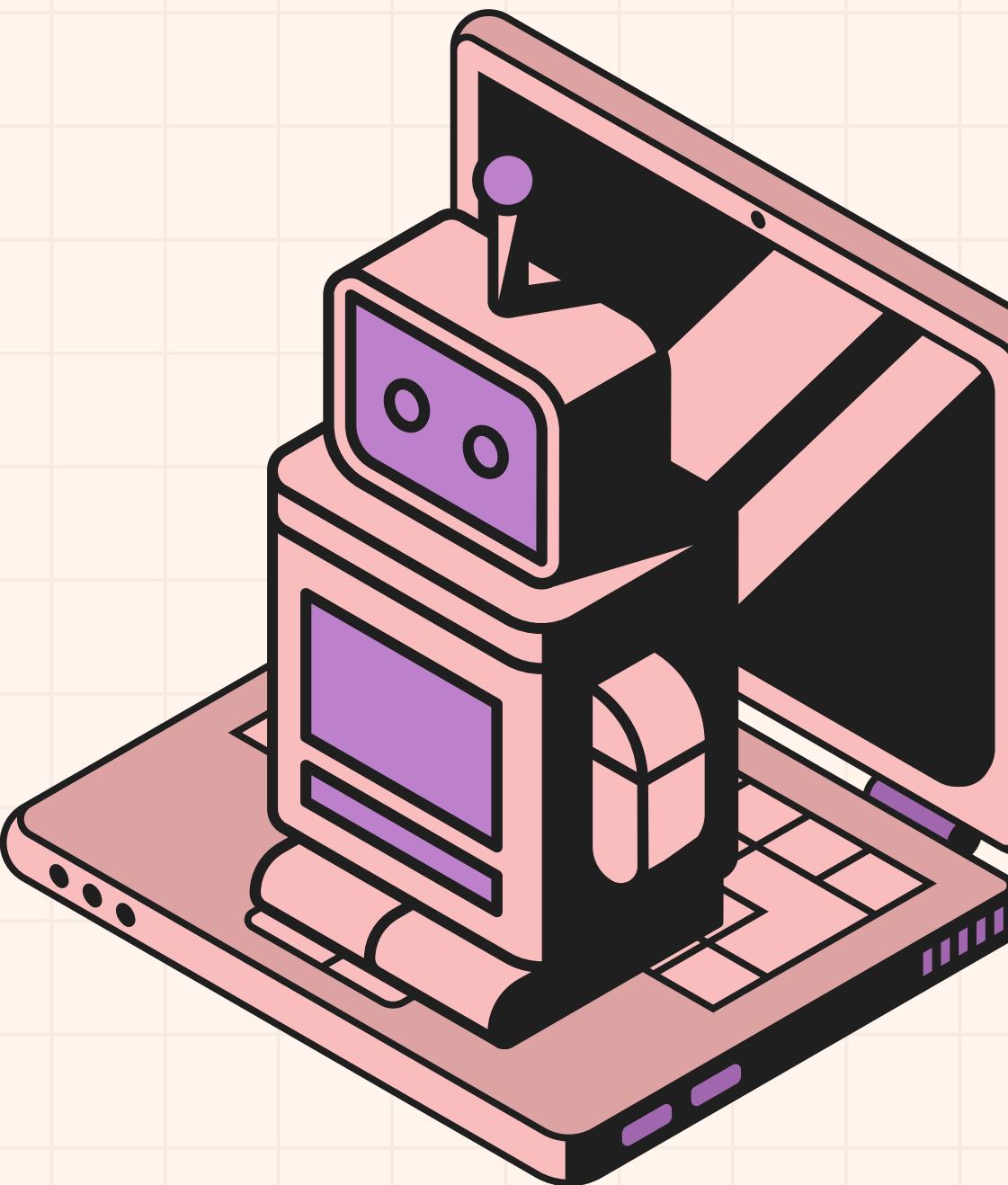
COMBINATIONS OF THESE LEADS TO MESSAGES

Binary to Octal Table

MATH
MONKS

Binary (Base 2)	Octal (Base 8)
000	0
001	1
010	2
011	3

Binary (Base 2)	Octal (Base 8)
100	4
101	5
110	6
111	7



COMBINATIONS OF THESE LEADS TO MESSAGES

Did you mean: why storage in *multiples* of 4

AI Overview

हिं इंग्रिजी Listen

Storage devices often come in powers of two, including multiples of four, because it's more efficient to use binary to represent memory addresses.

Explanation

Memory addresses

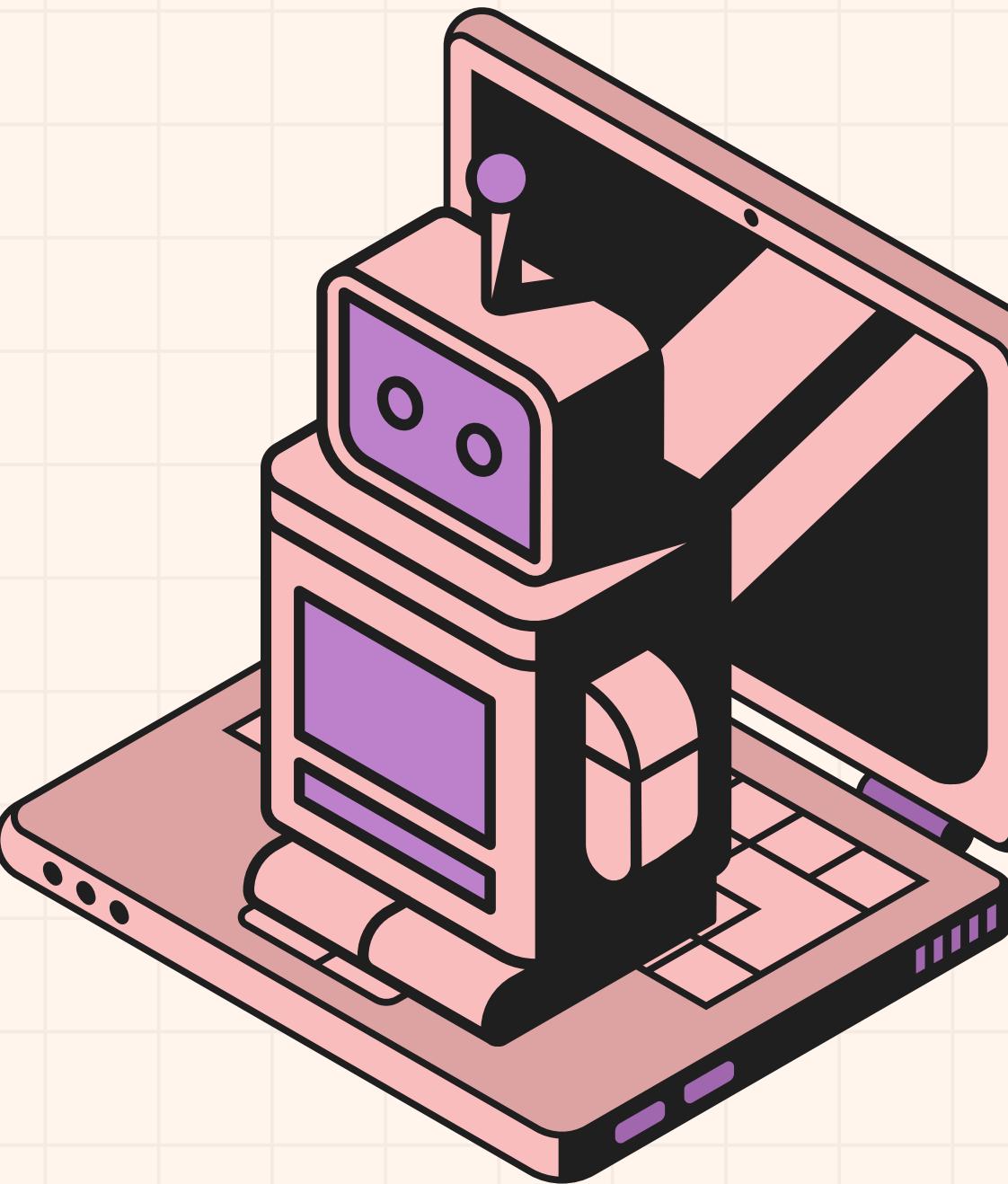
To store data in memory, a storage device needs to be told where to put it. This is done by providing a memory address, which is represented in binary.

Increasing storage

As the size of memory increases, the number of address bits also increases. This doubles the number of available storage locations.

Wasting memory

If a storage device isn't at least double the size of the previous largest one, some memory regions might not be addressable. This can lead to wasted memory.



Unlock Bumper Rewards worth '5,000

Top deals | Shop now

*T&C apply

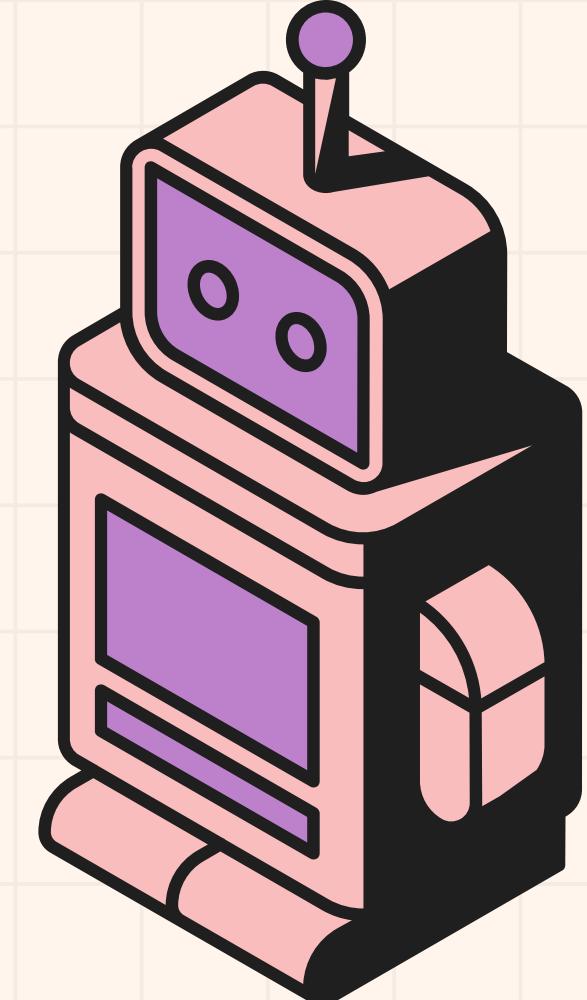
Crucial X9 SSD	Seagate One Touch HDD	Samsung Evo Plus	Hp x796w Pendrive	Seagate One Touch SSD	Seagate Expansion HDD
					
• 1TB SSD • Drop Proof upto 7.5 ft '45,400 ' 7,999 Effective price ' 7,159	• 2TB HDD • 6 Month Mylio Free '40,999 ' 7,199 Effective price ' 6,479	• 128GB • SD Adapter Included '5,499 ' 1,749 Effective price ' 1,749	• 250 GB • Light Weight '6,199 ' 2,439 Effective price ' 2,439	• 1TB SSD • 6 Month Mylio Free '40,999 ' 6,999 Effective price ' 6,299	• 4TB HDD • Windows & Mac Compatible '12,999 ' 11,999 Effective price ' 10,799
SanDisk Extreme	SanDisk Dual Drive	Samsung T7 SSD	WD Elements HDD	Samsung Pro Ultimate	SanDisk Ultra Shift
 SanDisk Extreme 256GB <small>SSD V30</small> <small>A2</small> • 256GB • 150 MB/s Speed '3,700 ' 1,899 Effective price ' 1,899	 SanDisk Dual Drive • 256GB • 5 Year Warranty '3,300 ' 1,769 Effective price ' 1,769	 Samsung T7 SSD • 1TB SSD • Password Protection '27,409 ' 8,999 Effective price ' 8,099	 WD Elements HDD • 2TB HDD • Password Protection '9,000 ' 6,379 Effective price ' 5,741	 SAMSUNG 256 PRO Ultimate <small>SSD A2 V30</small> • 256GB • 10 Year Warranty '2,569 ' 2,499 Effective price ' 2,499	 SanDisk Ultra Shift • 128GB • Type C Compatible '3,500 ' 1,499 Effective price ' 1,499
SanDisk E61 SSD	Hp 712w Flash Drive	SanDisk Extreme SD Card	amazon basics- 1TB SSD		

WHY WE CAN'T COMMUNICATE MANUALLY ?

SUPPOSE WE
WANT
TO COMMUNIATE
THIS SMALL
MESSAGE

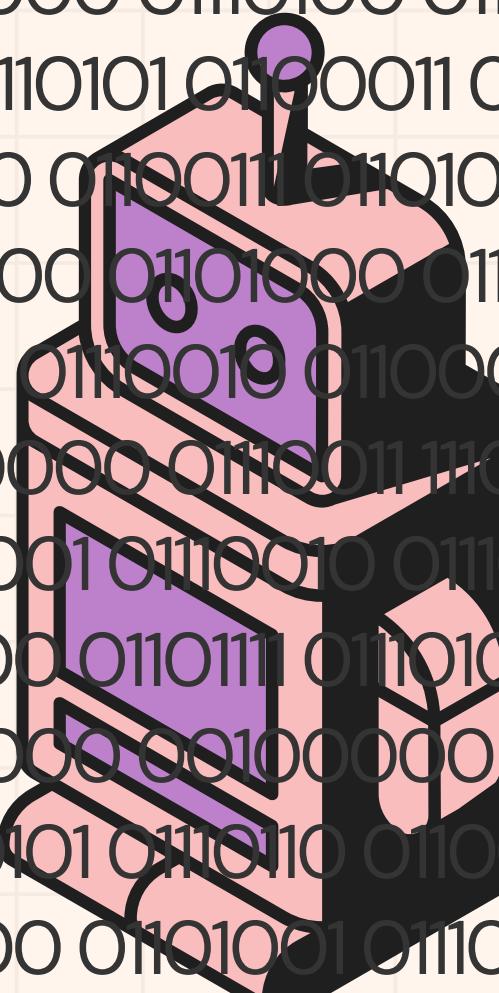
TEXT

COMPUTER IS A DEVICE
WHICH TAKES
INSTRUCTIONS YOU GIVE IT
—THROUGH PROGRAMS
OR APPS—AND CARRIES
THEM OUT TO HELP YOU
WITH EVERYDAY
ACTIVITIES, WORK,
LEARNING, AND FUN.



WHY WE CAN'T COMMUNICATE MANUALLY ?

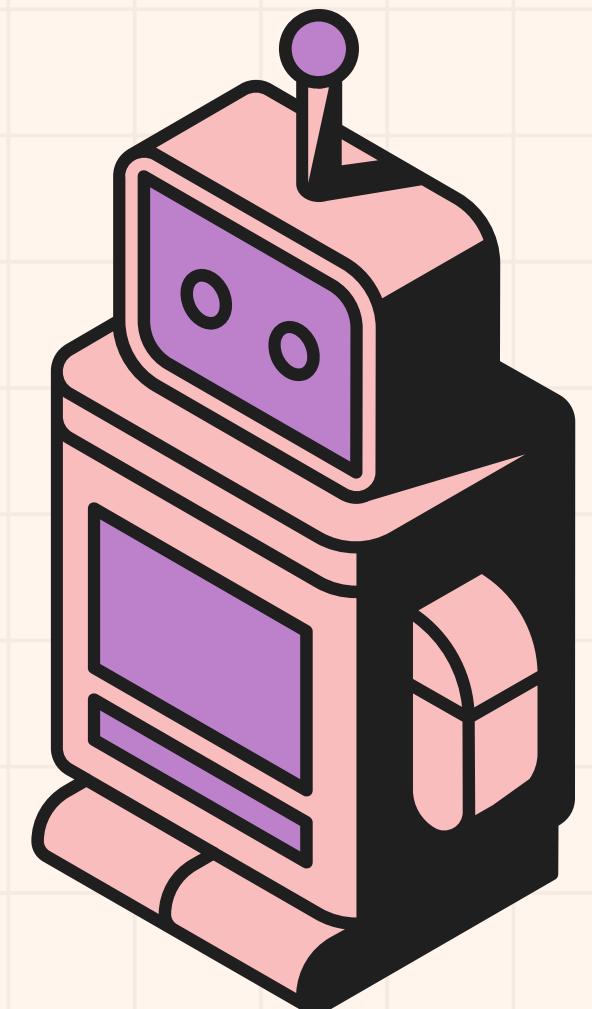
01000011 01101111 01101101 01110000 01110101 01110100 01100101 01110010 00100000 01101001 01110011
00100000 01100001 00100000 01100100 01100101 01110110 01101001 01100011 01100101 00100000 01110111
01101000 01101001 01100011 01101000 00100000 01110100 01100001 01101011 01100101 01110011 00100000
01101001 01101110 01110011 01110100 01110010 01110101 01100011 01110100 01101001 01101111 01101110 01110011
00100000 01110001 01101111 01110101 00100000 01100110 01101001 01110110 01100101 00100000 01101001
01110100 11100010 10000000 10010100 01110100 01101000 01110010 01101111 01110101 01100111 01101000
00100000 01110000 01110010 01101111 01100111 01100101 01100001 01101101 01110011 00100000 01101111
01110010 00100000 01100001 01110000 01110000 01110000 01110000 01110000 10000000 10010100 01100001
01101110 01100100 00100000 01100011 01100001 01110010 01110010 01100101 01101001 01110011 00100000
01110100 01101000 01100101 01101101 00100000 01101111 01110101 01110100 00100000 01110100 01101111
00100000 01101000 01100101 01101100 01110000 00100000 01111001 01101111 01110101 00100000 01110111
01101001 01110100 01101000 00100000 01100101 01110100 01100101 01110010 01111001 01100100 01100001
01111001 00100000 01100001 01100011 01110100 01101001 01110110 01101001 01110100 01101001 01100101
01110011 00101100 00100000 01110111 01101111 01110010 01101011 00101100 00100000 01101100 01100101
01100001 01110010 01101110 01101001 01101110 01100111 00101100 00100000 01100001 01101110 01100100
00100000 01100110 01110101 01101110 00101110



BIN

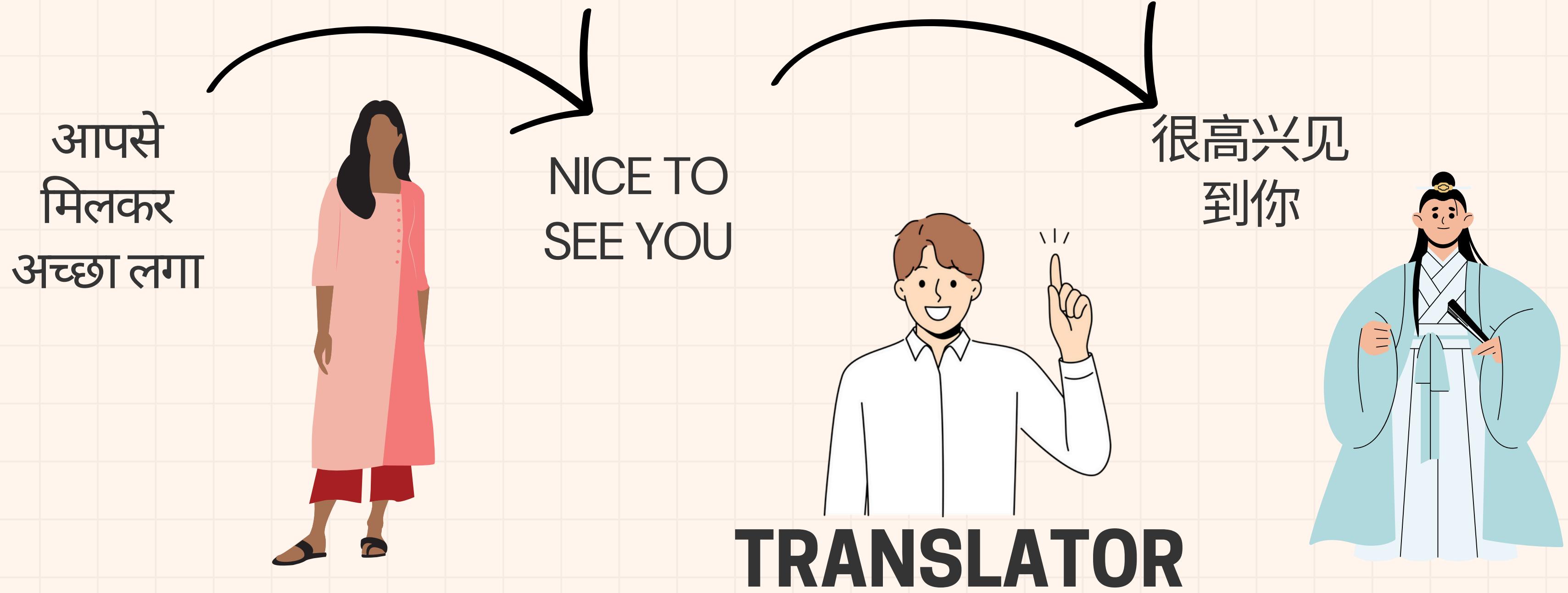
**WHY WE CAN'T COMMUNICATE MANUALLY ?
WHICH LEAD US TO**

**PROGRAMMING LANGUAGE AND
INTERPRETER**



INTERPRETER/ COMPILER

IT'S A TRANSLATOR



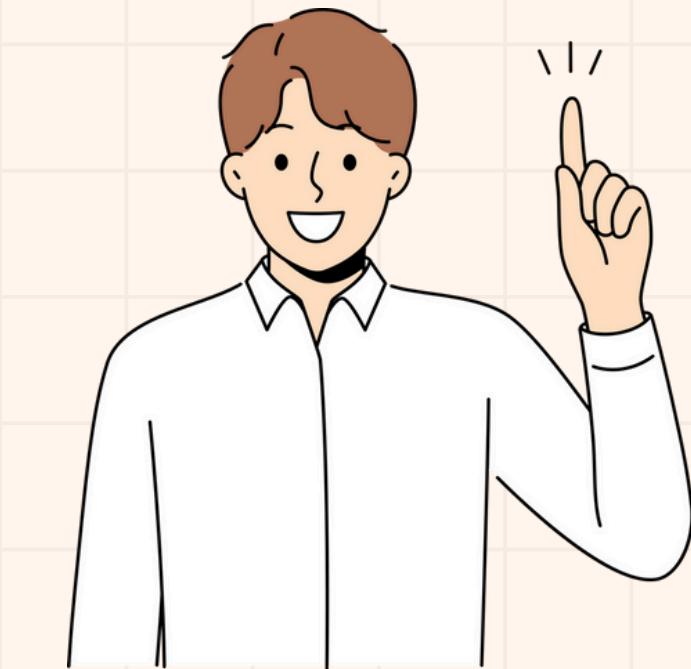
INTERPRETER/ COMPILER

IT'S A TRANSLATOR

आपसे
मिलकर
अच्छा लगा



NICE TO
SEE YOU



很高兴见
到你

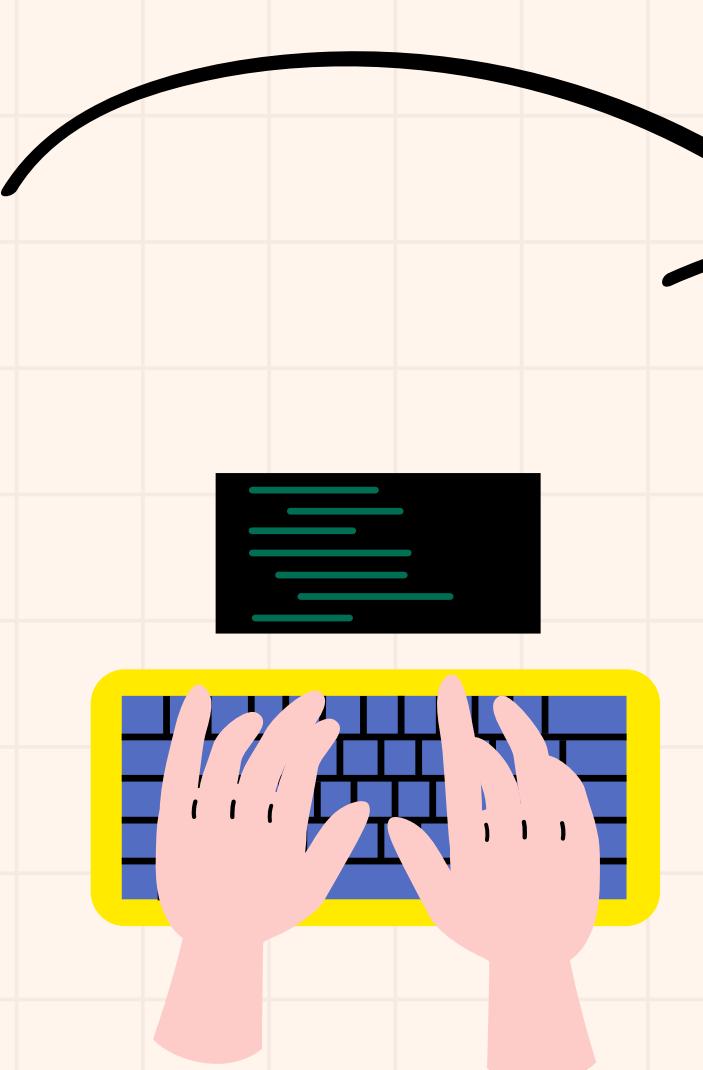


TRANSLATOR

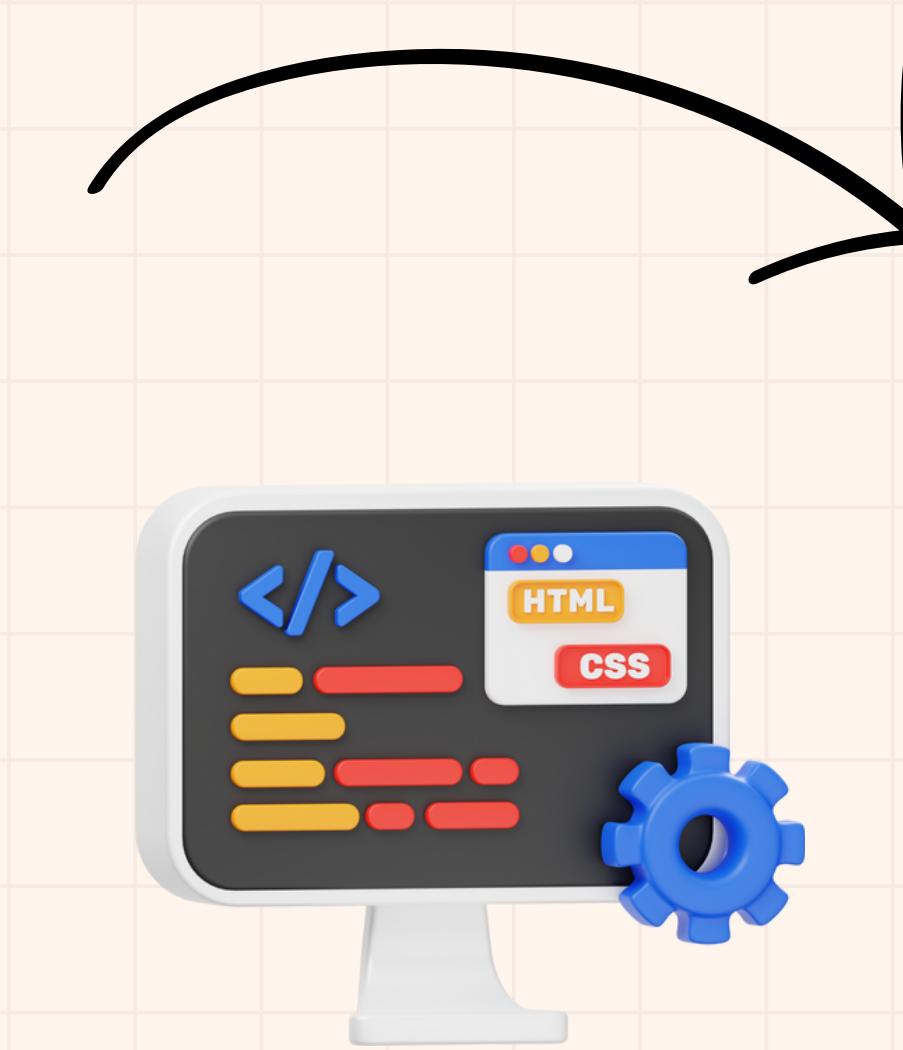
INTERPRETER/ COMPILER

IT'S A TRANSLATOR

make
folders
/memes
/study
/home



mkdir
memes
study
home



COMPILER

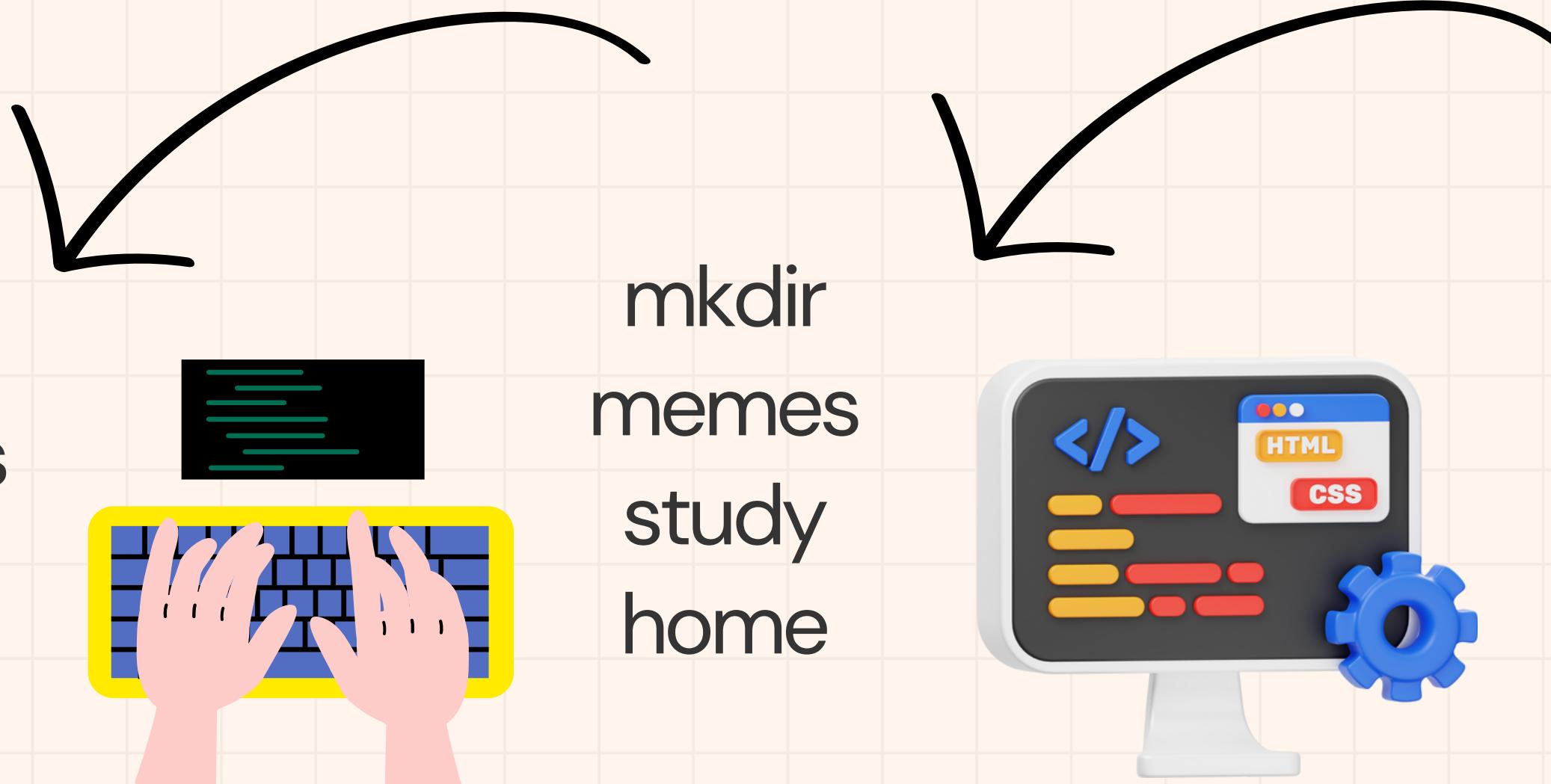
```
01101101 01101011 01100100  
01101001 01110010 00100000  
01101101 01100101 01101101  
01100101 01110011 00100000  
01110011 01110100 01110101  
01100100 01111001 00100000  
01101000 01101111 01101101  
01100101
```



INTERPRETER/ COMPILER

IT'S A TRANSLATOR

make
folders
/memes
/study
/home

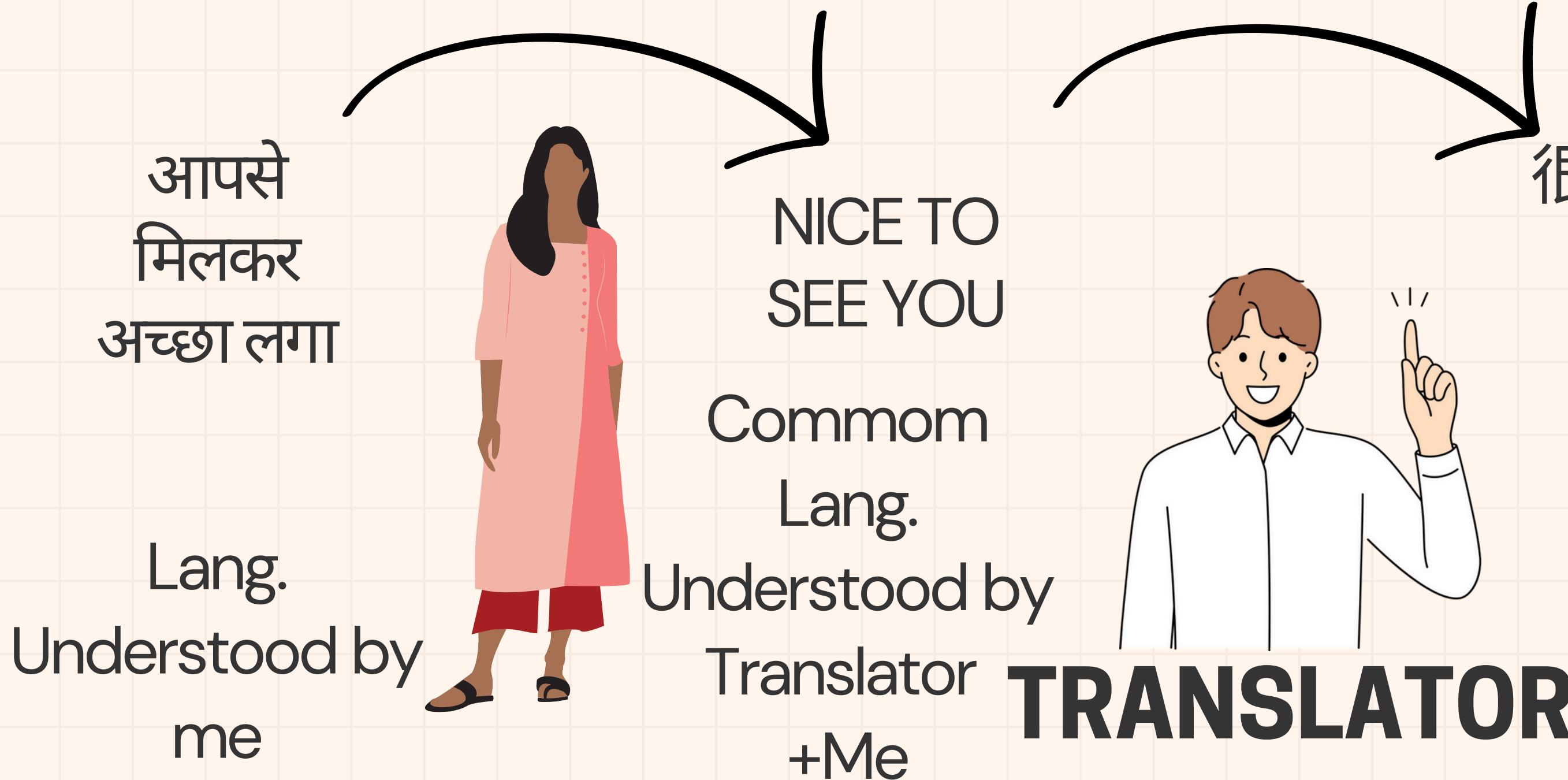


01101101 01101011 01100100
01101001 01110010 00100000
01101101 01100101 01101101
01100101 01110011 00100000
01110011 01110100 01110101
01100100 01111001 00100000
01101000 01101111 01101101
01100101



INTERPRETER/ COMPILER

IT'S A TRANSLATOR



Lang.
Understood by
Them

很高兴见
到你



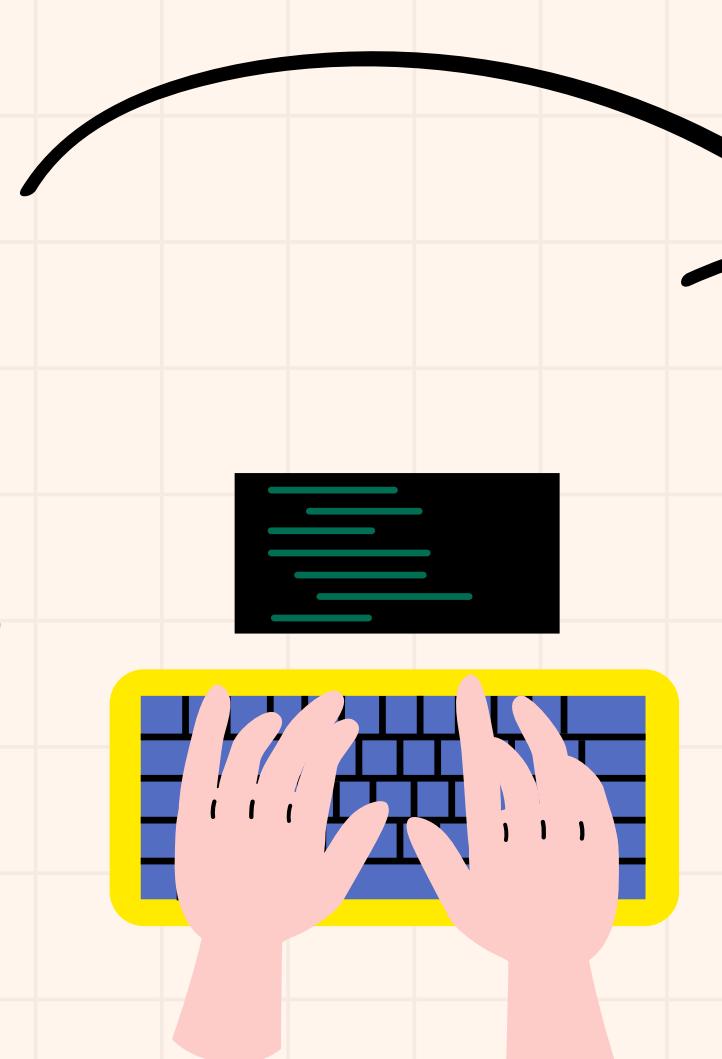
TRANSLATOR

INTERPRETER/ COMPILER

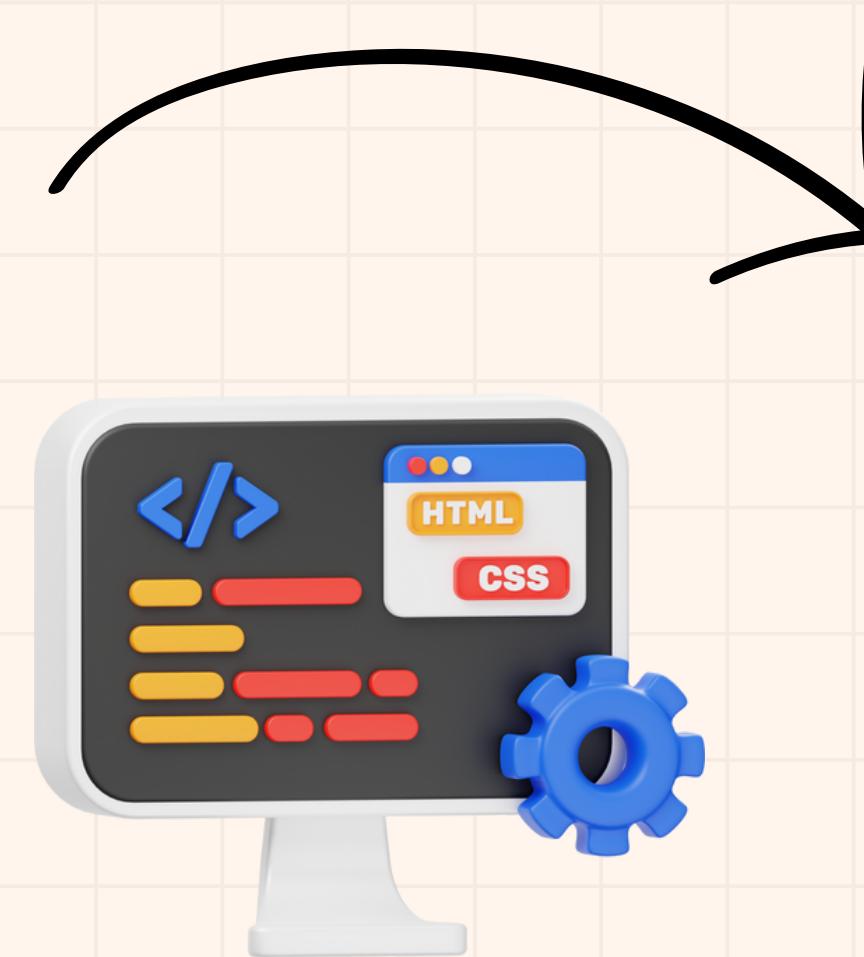
IT'S A TRANSLATOR

make
folders
/memes
/study
/home

Lang of
Humans



mkdir
memes
study
home



COMPILER

Common Lang Humans + Compiler Program of
computers

Lang of Computers

```
01101101 01101011 01100100  
01101001 01110010 00100000  
01101101 01100101 01101101  
01100101 01110011 00100000  
01110011 01110100 01110101  
01100100 01111001 00100000  
01101000 01101111 01101101  
01100101
```



PROGRAMMING LANGUAGE

Programming languages allow humans to communicate with computers by providing a structured way to write commands that the computer can understand and execute.

Like any Language it has it's Grammar(**Syntax**)



SYNTAX

The set of rules that defines the combinations of symbols considered correctly structured programs in that language. It's similar to grammar in human languages.

COMMUNICATION TO HUMAN BODY

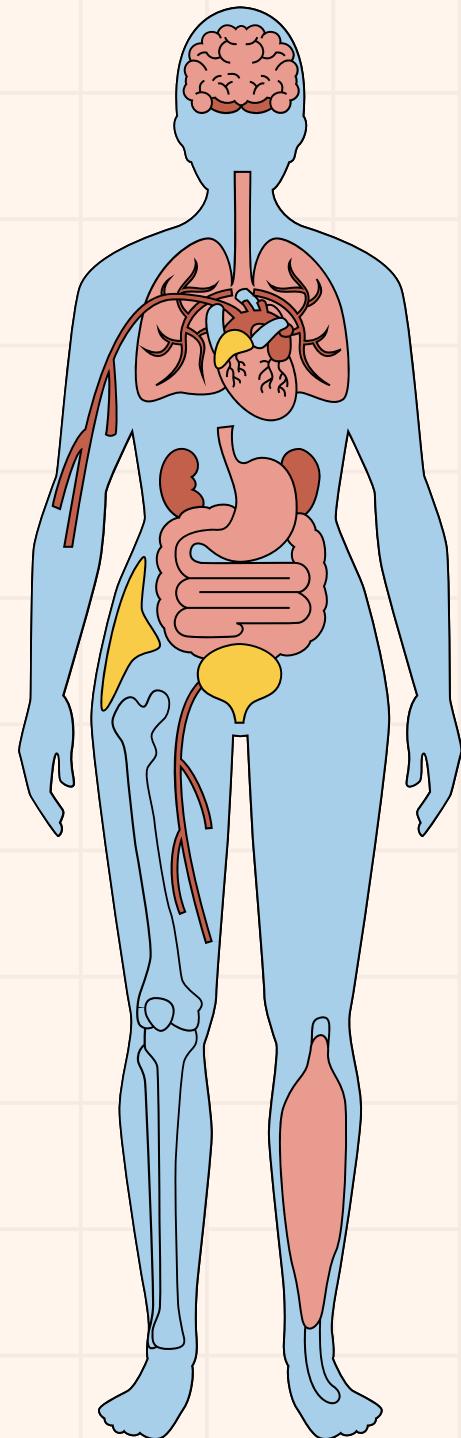
FOR DIFF. PARTS => DIFF. STUDY

BRAIN => NEUROSCIENCE

HEART => CARDIOLOGY

JOINTS => ORTHOPAEDICS

,ETC...



COMMUNICATION TO COMPUTER SCIENCE

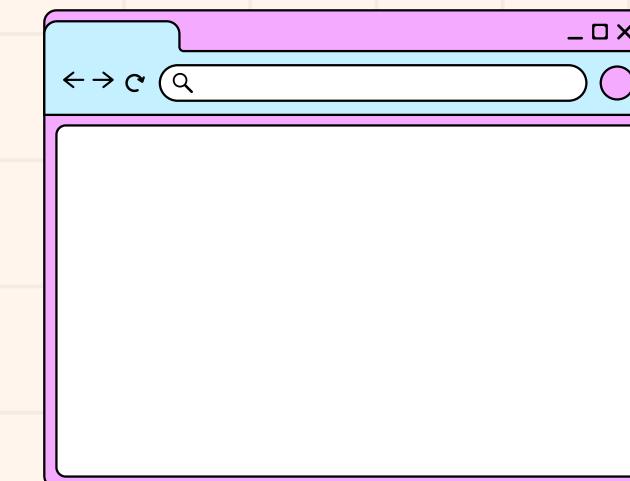
FOR DIFF. PARTS => DIFF. LANGUAGES

KOTLIN, JAVA => ANDROID APPS



android

JAVASCRIPT, PHP => WEBSITES

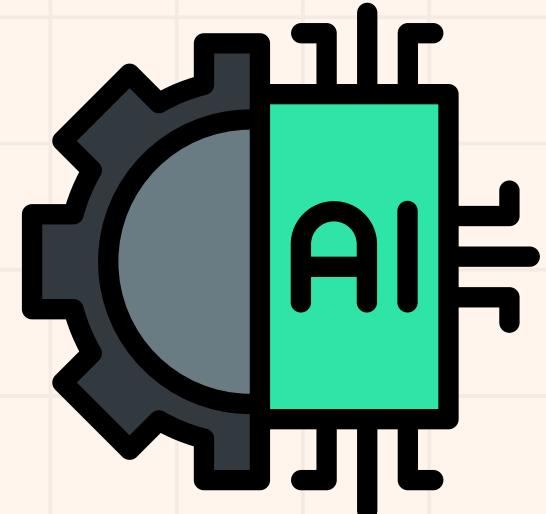
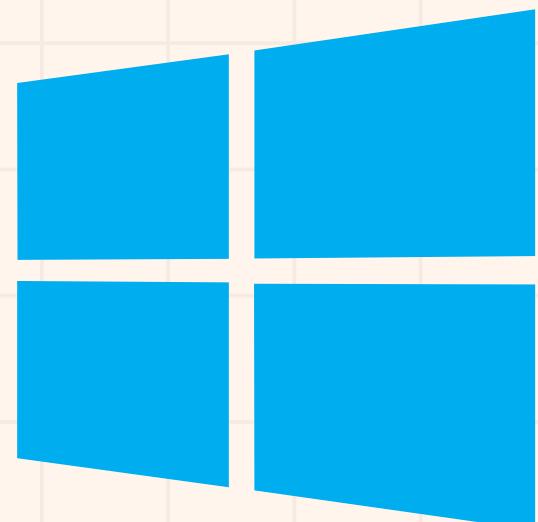


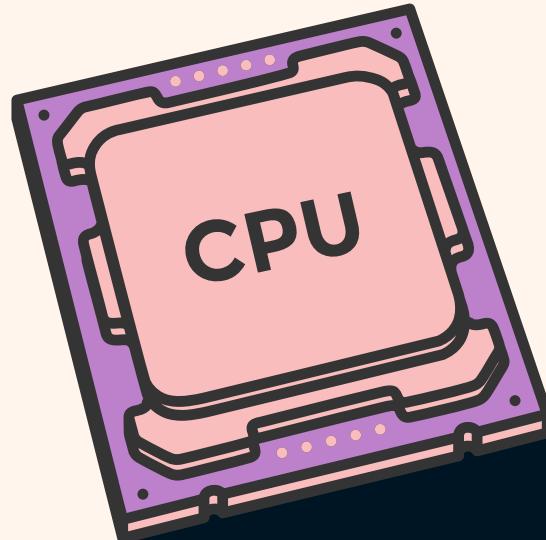
PYTHON, R => ANALYSIS, ML

C, RUST, BATCH => SYSTEM OS



Kotlin





BATCH SCRIPTING



it's like NeuroScience,
directly comm. with
brain



Batch Scripting is Prog.
Lang. for Windows to
Directly Communicate
and control OS.

Shell/ CMD/ terminal is
the doorway/Interface
to Communicate with
OS.

#Quote #Programming #Selfcare

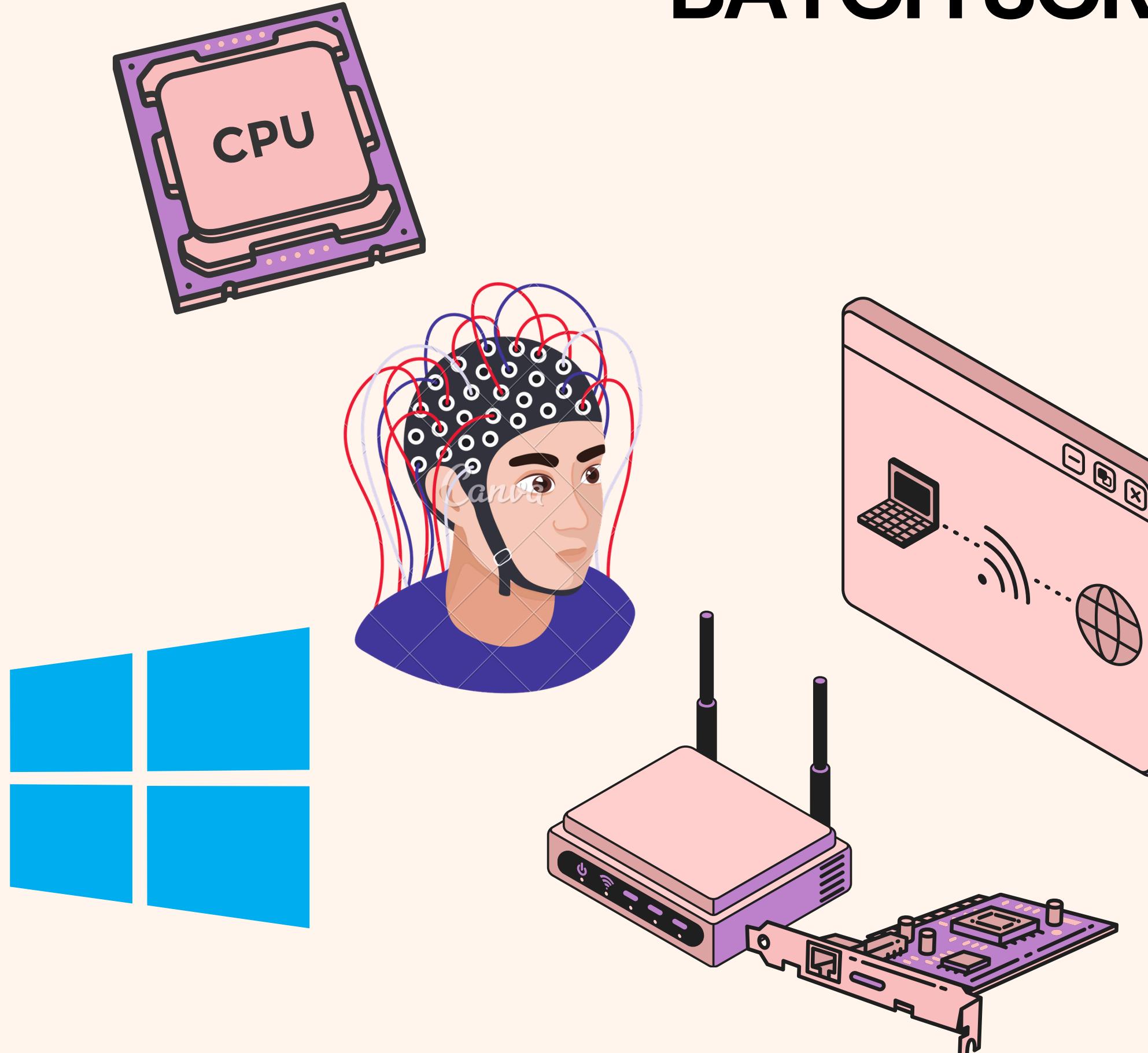
BATCH SCRIPTING



NOTE:

Communicating
Directly to Brain is Very
Sensitive Domain.

Make sure to know what
are you doing; as
unknowingly wrong
message may leads to
unfortunate Results.



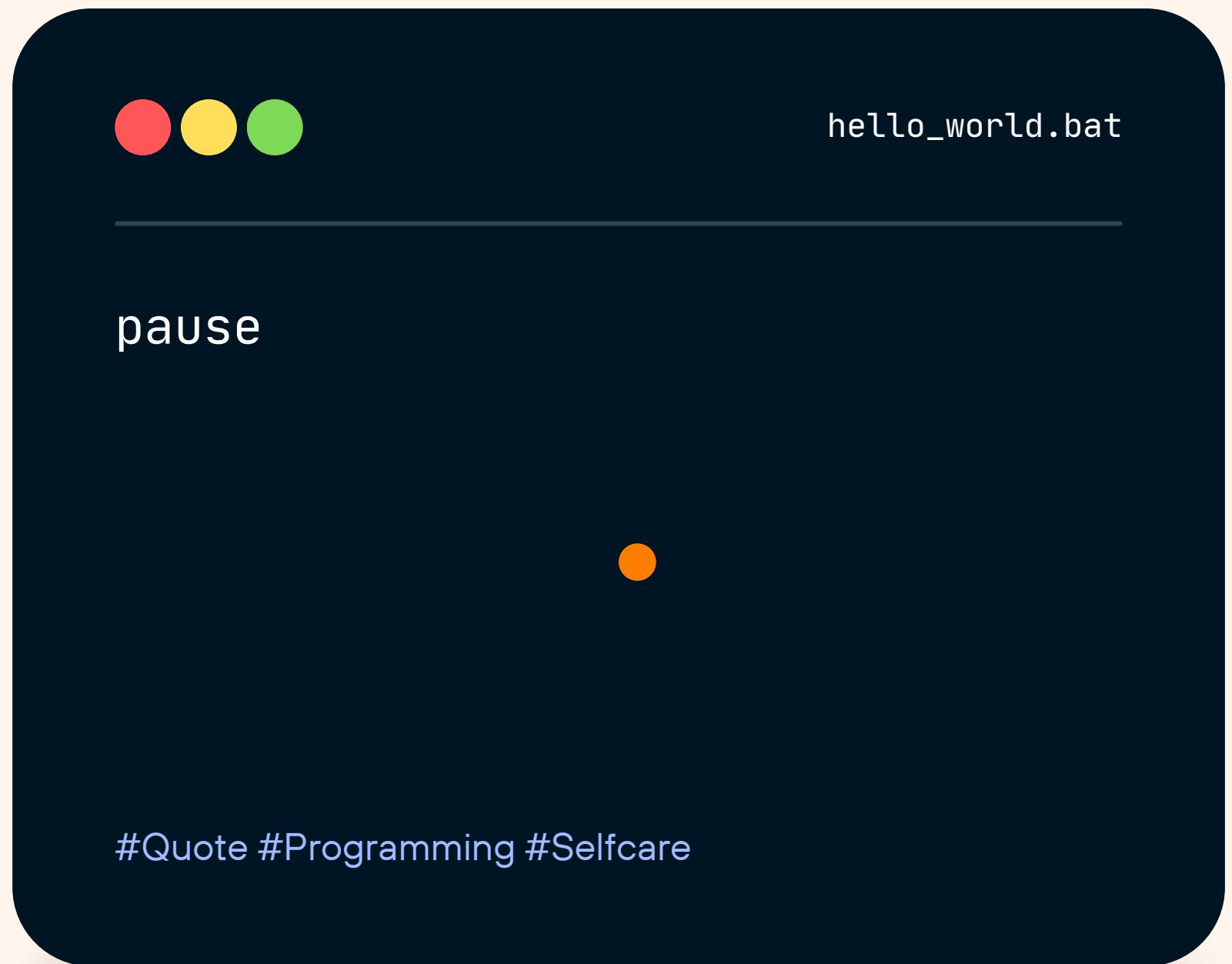
SYNTAX OF BATCH SCRIPTING



echo

Displays messages.

SYNTAX OF BATCH SCRIPTING



#Quote #Programming #Selfcare

pause

*Pauses the process and
waits for user input.*

SYNTAX OF BATCH SCRIPTING



cls

Clears the screen.

SYNTAX OF BATCH SCRIPTING



hello_world.bat

```
shutdown /s /t 30  
shutdown /r /t 30  
shutdown /a  
shutdown /p /f
```

#Quote #Programming #Selfcare

shutdown

Shuts down or restarts the computer.

shutdown /r

Restarts the computer.

shutdown /a

Aborts a shutdown in progress.

/t

timeout set

/p

no timeout/ warning

/f

force

SYNTAX OF BATCH SCRIPTING



hello_world.bat

```
start https://www.google.com
start example.pdf
start C:\Users\YourUsername\Documents
start chrome
start chrome --incognito
start notepad
start .
start chrome https://www.github.com
```

#Quote #Programming #Selfcare

start

start is a command used to open a new window or initiate a process. It can be used to open files, directories, programs, or URLs with the default application associated with them.

SCRIPT 1

ROUTINE FAV. APPS OPENER



hello_world.bat

```
@echo off  
echo Opening websites and apps...  
start chrome https://www.github.com  
start notepad  
start calc  
echo All tasks launched.  
pause
```

#Quote #Programming #Selfcare

*Opens a set of favorite websites &
apps ,etc.*

IN ONE CLICK :)
*.cmd or .bat is batch file
extensions
that's it for today
:)*

ALSO

File extensions are the characters (usually 2–4) after the last dot (.) in a file name that indicate the file type and associated program or format

The @ symbol prevents the display of the command itself.
echo off Turns off the display of all subsequent commands in the script (except commands specifically designed to display output, like echo).

@echo off

Typically placed at the beginning of a batch file to ensure a clean output.

ALSO

A **program** is a set of *instructions written in a programming language that a computer can understand and execute to perform a specific task. It is a structured set of commands that tells the computer how to process data, interact with hardware, or provide meaningful output for the user.*

A **script** is a type of program that consists of a sequence of *instructions written in a scripting language to automate tasks. Scripts are typically interpreted line by line by a scripting engine or runtime environment, making them easy to execute and modify.*

NOTABLE MENTION

Margaret Hamilton

A woman who helped land humans on the Moon

- She led the team that built the software for NASA's Apollo missions
- When Apollo 11's computer faced errors, her software didn't fail – it adapted
- Because of her work, the Moon landing continued instead of aborting
- She proved that software can be as critical as hardware

Inspiration: One person's code, vision, and belief in quality

changed history 🌟



👉 AROUND 10,000–12,000 PAGES OF PRINTED CODE

THANK YOU

<https://github.com/kintsugi-programmer>

