

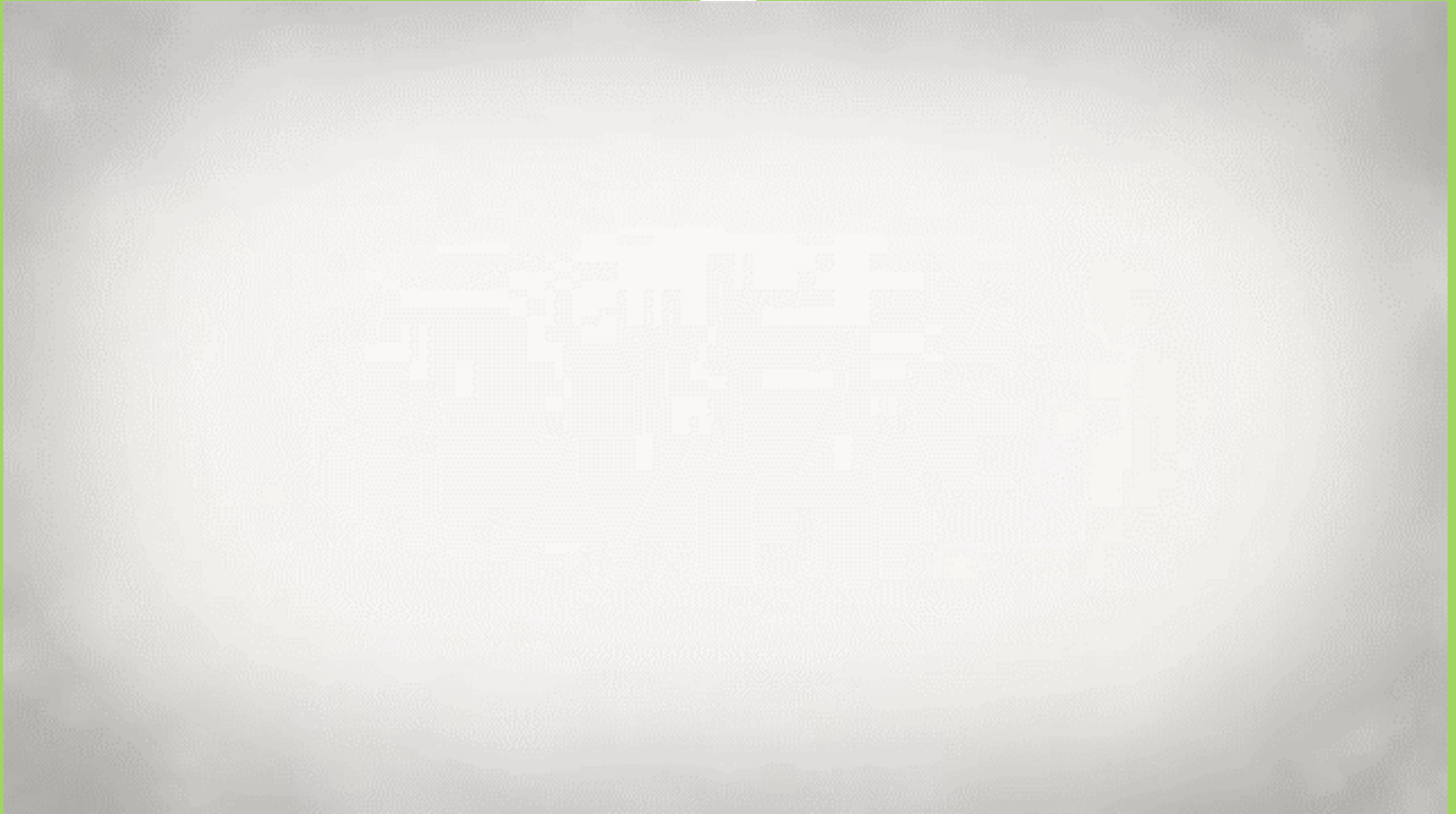
COMPUTE ♦ PROGRAM ♦ CREATE



Raspberry Pi



What is a Raspberry Pi?



From raspberrypi.org



What to do with a Raspberry Pi

LEARN:

- About how computers work!
- Computer programming
- Electronics!

MAKE:

- a media center
- a retro gaming station
- a robot
- a motion-activated video bird feeder
- a weather station
- a mini laptop
- a supercomputer
- a Pi-phone
- a thermometer
- a radio or jukebox
- a case for your Pi out of Lego

SHARE:

- Your games and creations with the Raspberry Pi community and the rest of the world!

CREATE:

- your own graphics, video games and animations
- a musical instrument
- a system to automatically water your plants
- a new software program
- a Santa detector
- A facial-recognition lock box
- Minecraft worlds
- Christmas light displays that flash to music
- time lapse videos

... and so much more!

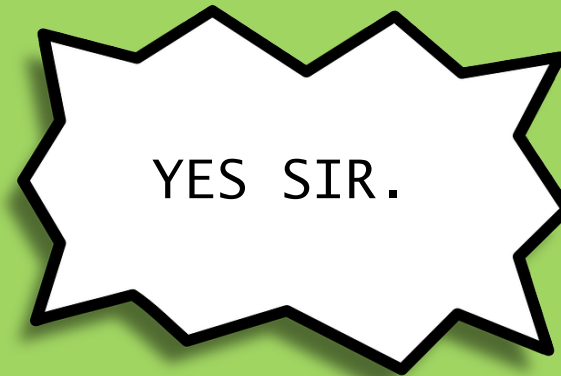
What is a computer?



- A **COMPUTER** is a programmable machine.
- That means that it can store information and follow instructions.

A white speech bubble with a black outline and a tail pointing towards the bottom left. It contains the text: "Computer... fetch me my slippers."

Computer...
fetch me my
slippers.

A white starburst-shaped speech bubble with a black outline. It contains the text: "YES SIR."

YES SIR.

- A list of instructions is called a **PROGRAM**.

Which of these is a type of computer?



**Cell
phone**



Airplane



Xbox



**Sports
watch**



Car



**Digital
piano**



Hardware vs. Software



- **HARDWARE :**

The parts of a computer that you can see and touch.

- keyboard
- mouse
- SD memory card
- power supply
- monitor
- Raspberry Pi

Hardware vs. Software



- **SOFTWARE:**

Programs on a computer that allow a user to tell it what to do (a set of instructions)!

- Windows
- Microsoft Office
- Google Chrome
- Minecraft

Inputs and Outputs and the CPU

Input Device

An input device is something that sends information **into** a computer.

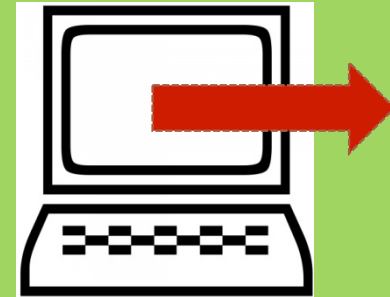
Example: keyboard, mouse.




Output Device

An output device is a piece of hardware that sends information **out** to the user.

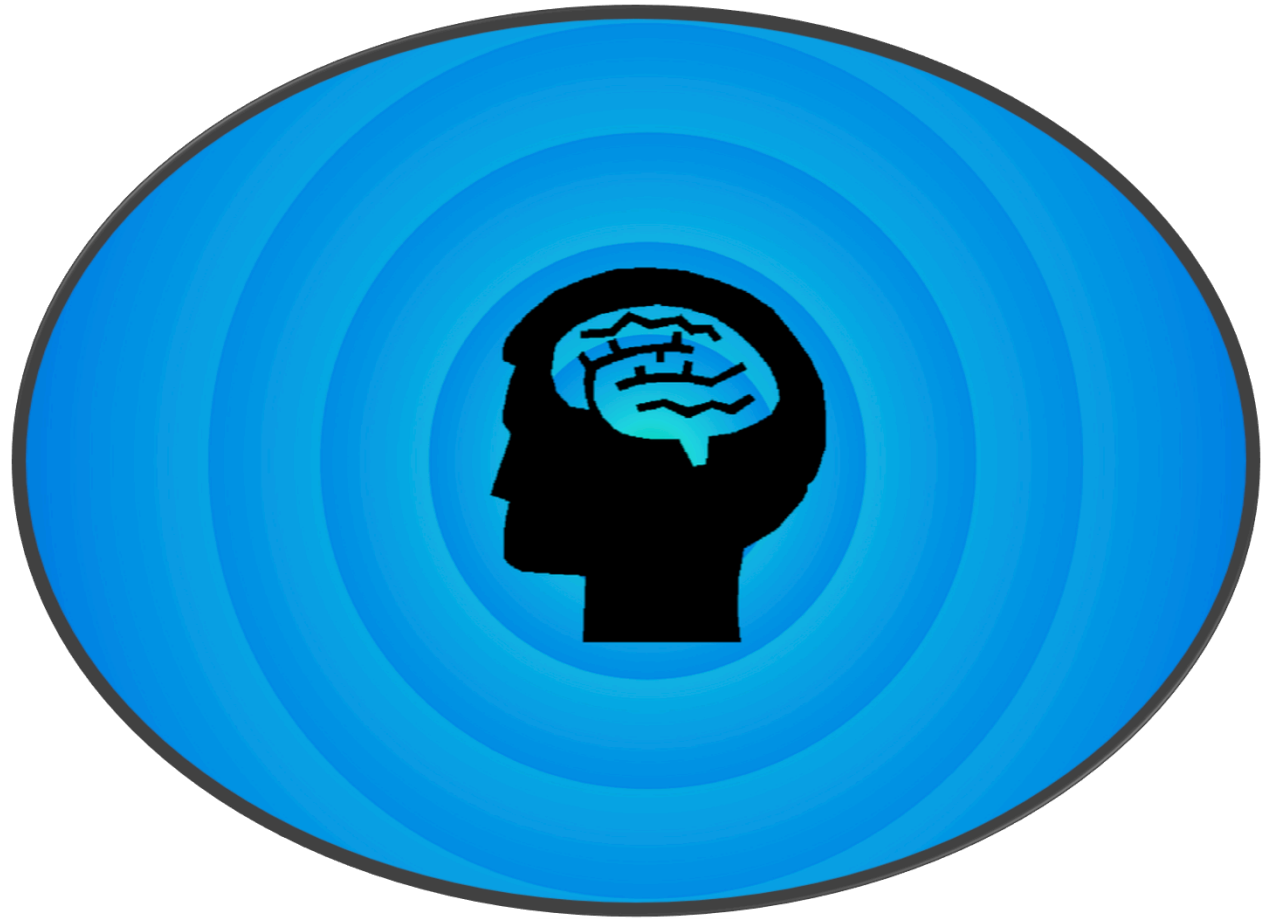
Example: speakers.



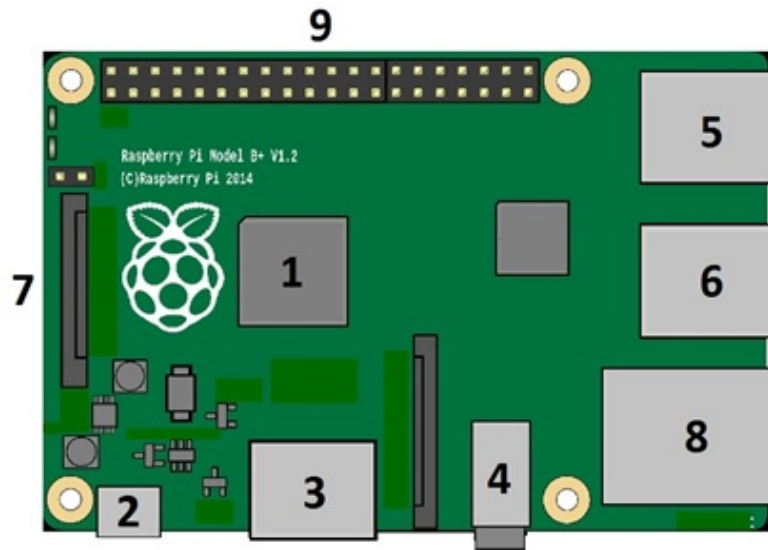


The **CPU** is the **brain** of the computer. It does the work.

For example, if the instructions are to add $2 + 3$, the CPU does the math and answers with 5.

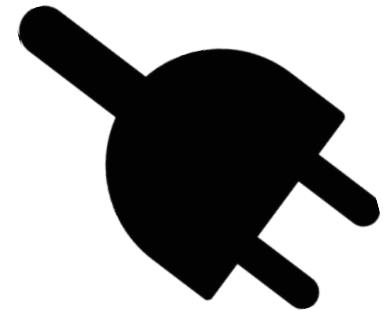
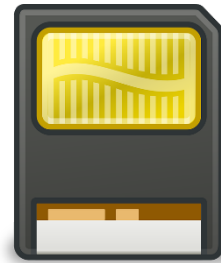


CPU
Central Processing Unit



NUMBER	PART	CIRCLE INPUT OR OUTPUT
5	USB Port	Input / Output
6	USB Port	Input / Output
1	CPU (Central processing unit)	Input / Output
7	SD Card	Input / Output
2	Micro USB power	Input / Output
4	Audio (Headphones/Speaker)	Input / Output
3	HDMI (TV/Monitor)	Input / Output
9	GPIO Pins	Input / Output
8	Ethernet cable (internet)	Input / Output

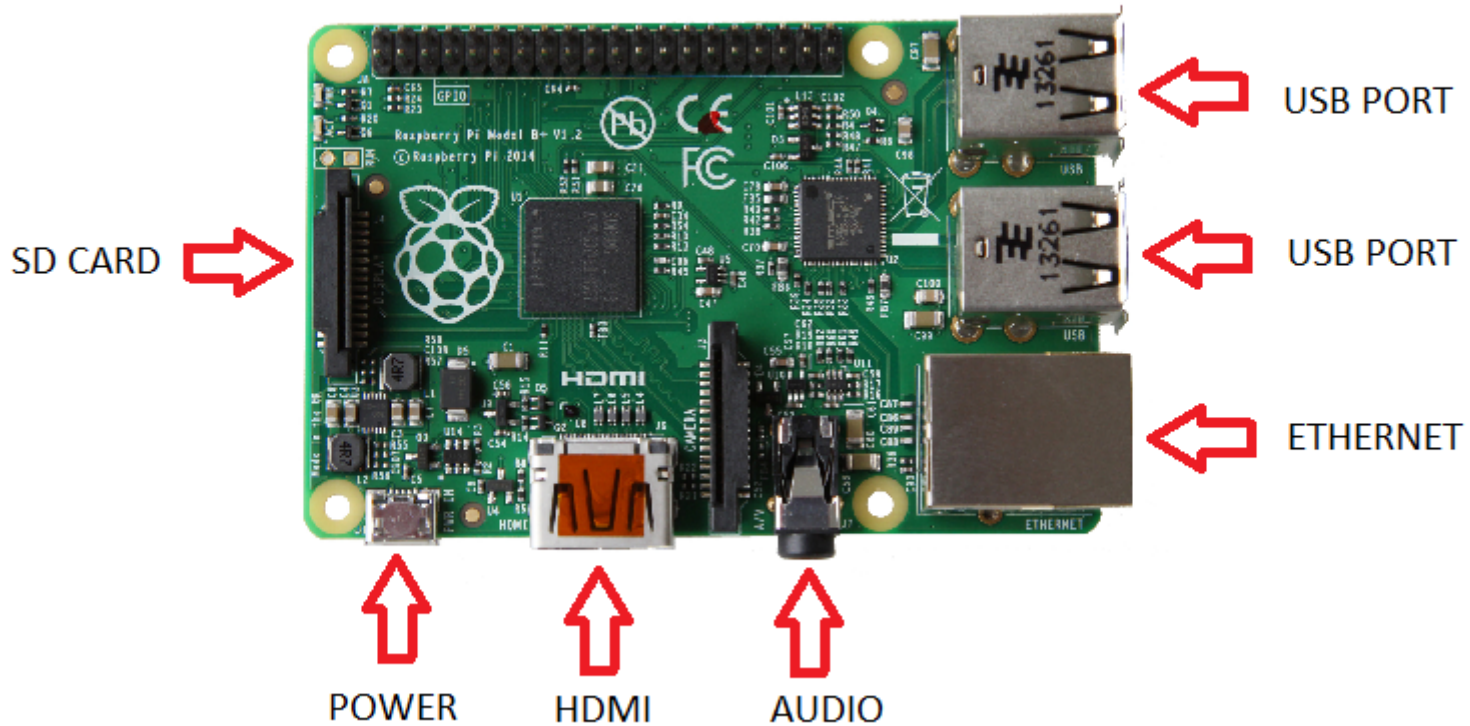
What does a **Raspberry Pi** need to work?



Get connected!



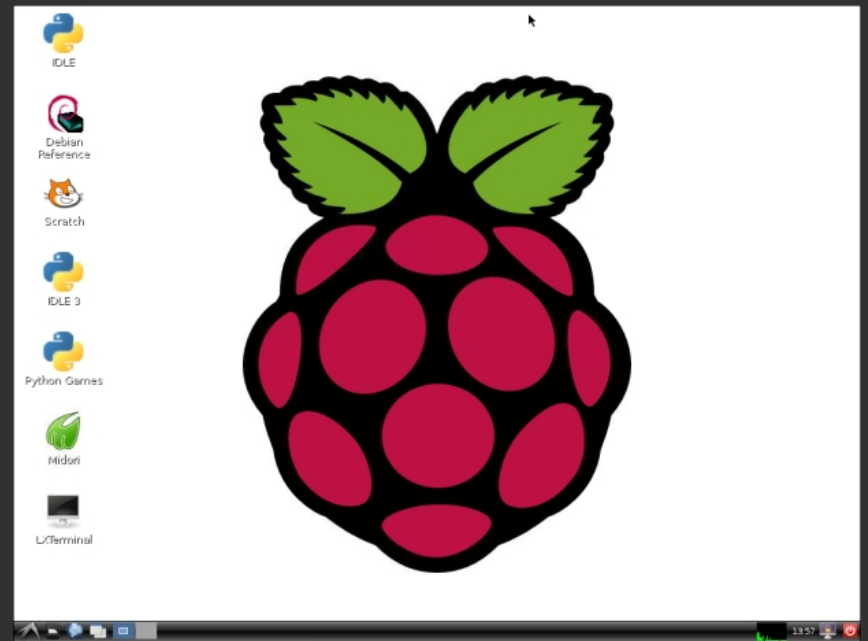
****CONNECT THE POWER LAST!!!**



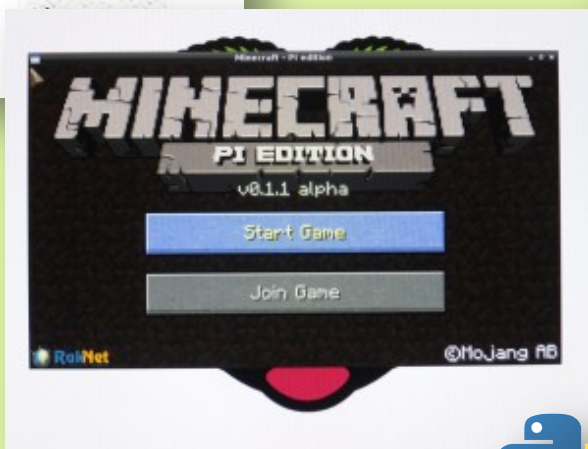
Logging in and getting started



- LOGIN:
 - username: **pi**
 - password: **raspberrypi**
- **pi@raspberrypi ~ \$**
 - This line is called a Command Prompt. It means that the computer is waiting for instructions.
 - Instruct it to load the desktop by typing **startx** and then press enter.



Explore!



LXTerminal

Wolfram
Mathematica



π)))
Sonic Pi

SCRATCH



python



WiFi Config