

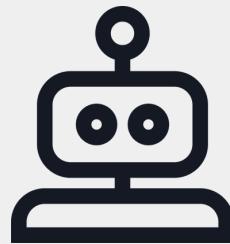
The background features two sets of abstract, thin black lines. On the left, several lines radiate from a central point, creating a fan-like or ribbon-like effect that curves upwards and to the right. On the right, a single, thick, wavy line forms a similar organic shape. A large, solid black rectangular box is positioned in the center of the image, containing the word "ROBOT" in a bold, sans-serif font.

ROBOT

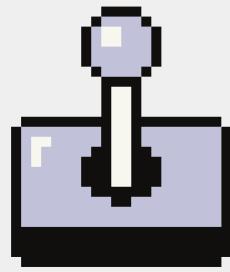
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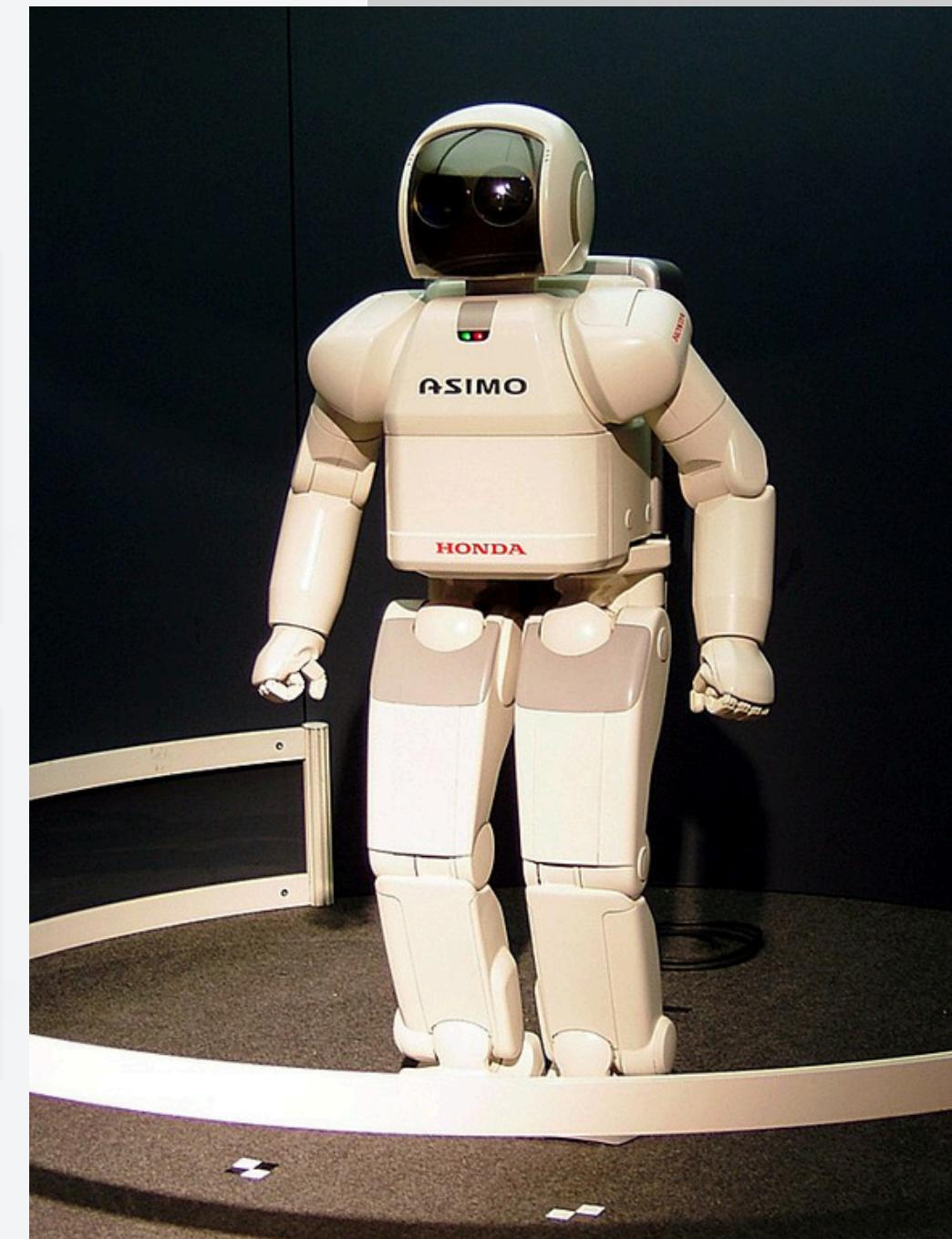
WHAT IS IT?



A robot is a machine—especially one programmable by a computer—capable of carrying out a complex series of actions automatically.



Robots can be autonomous or semi-autonomous. A robot can be guided by an external control device, or the control may be embedded within





useful

As electronics continue to play an integral role in our daily lives, it's important for enthusiasts and professionals to have the right tools to tinker, troubleshoot, and innovate. Here are some essential tools for anyone working with electronics.

Multimeter

A multimeter is a versatile device that can measure voltage, current, and resistance in electronic circuits. It's a fundamental tool for troubleshooting and testing electronic components.

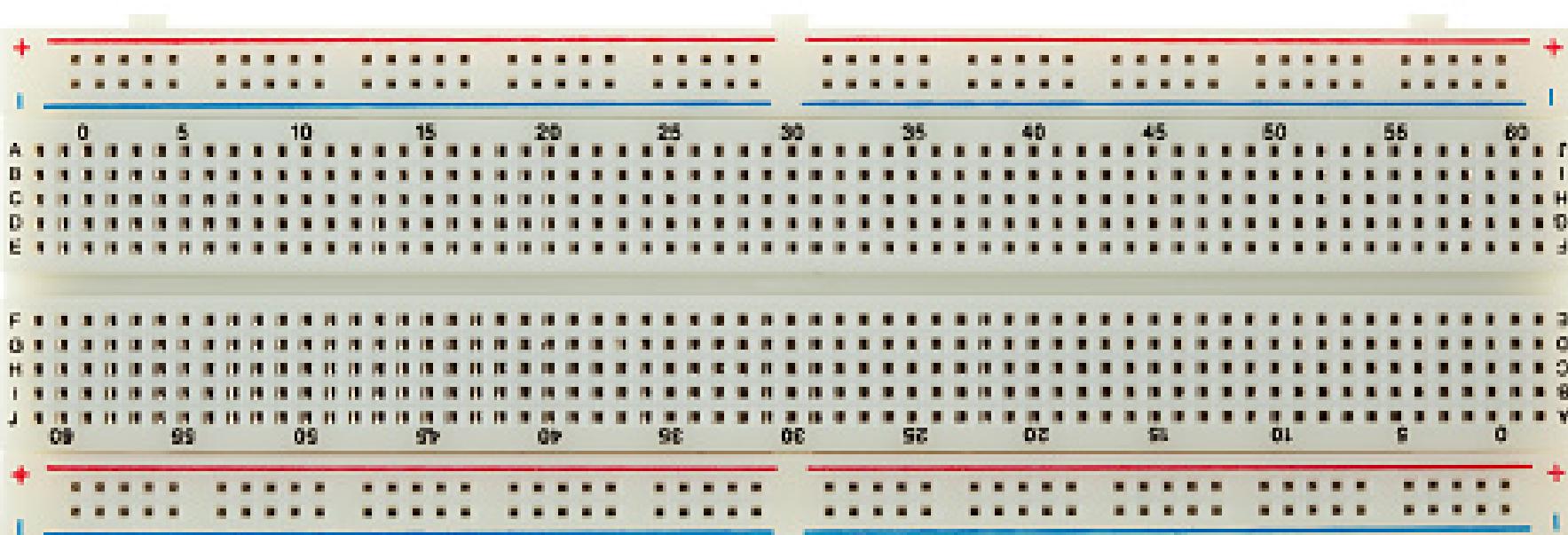
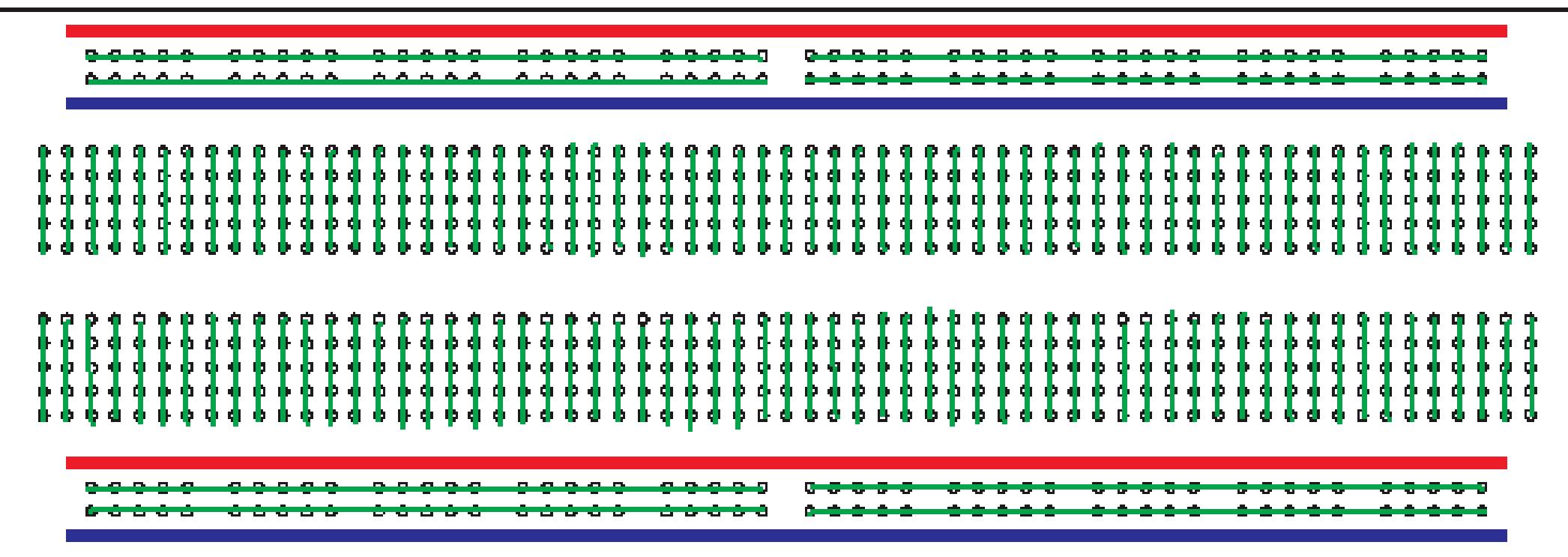


Power Supply:

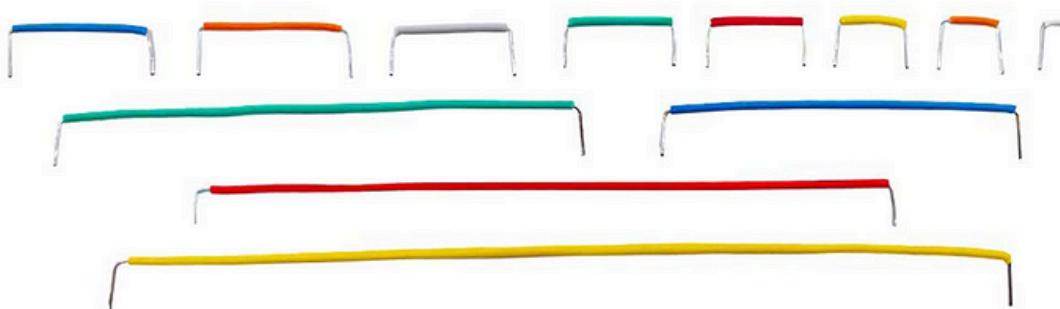
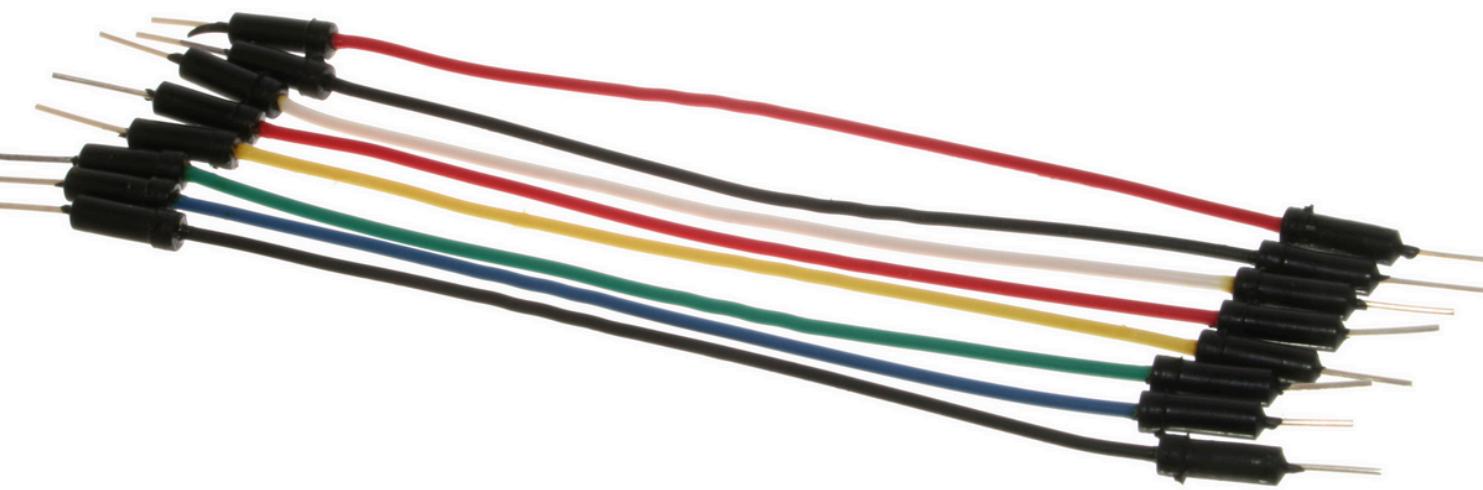
A reliable power supply with adjustable voltage and current settings is crucial for testing and powering electronic circuits during development and troubleshooting.



BREAD BOARD



BREAD BOARD WIRE



Soldering Iron and Solder

A good soldering iron and high-quality solder are indispensable for assembling and repairing electronic circuits. Look for a soldering iron with adjustable temperature settings for versatility.



RESISTOR



ROBOT BRAIN

What

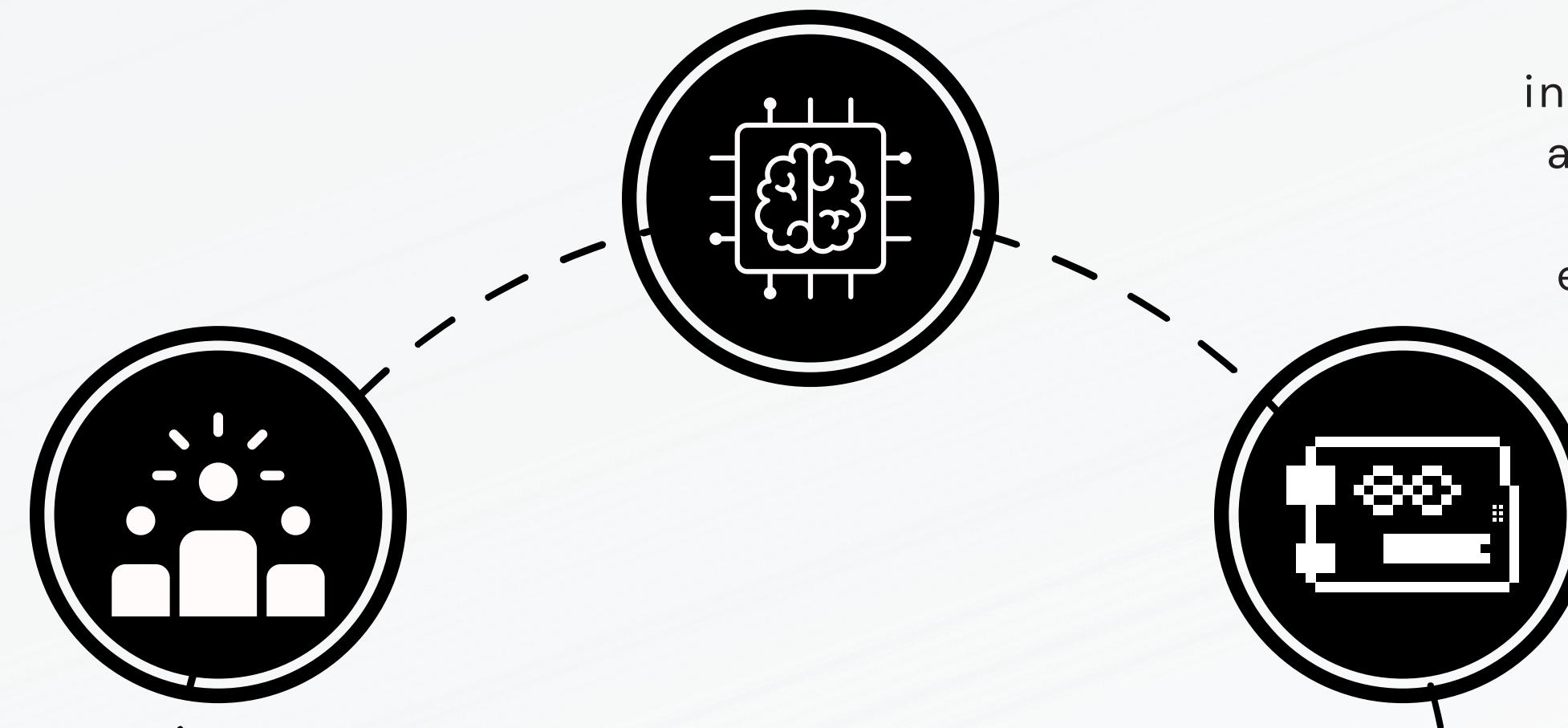
To make decisions, a robot uses a computer or microcontroller.

microcontroller

It can interpret inputs from the physical world, process this information, and control output devices in the physical world

Arduino

Arduino is an open-source electronics platform based on easy-to-use hardware and software. It provides a way for individuals, hobbyists, and professionals to create interactive electronic projects.



ARDUINO

Why Do I need it?

- Easy to use
- Open source
- Low cost

How can I use it?

- C / C++
- Little knowledge of electronics
- Some concepts in hardware

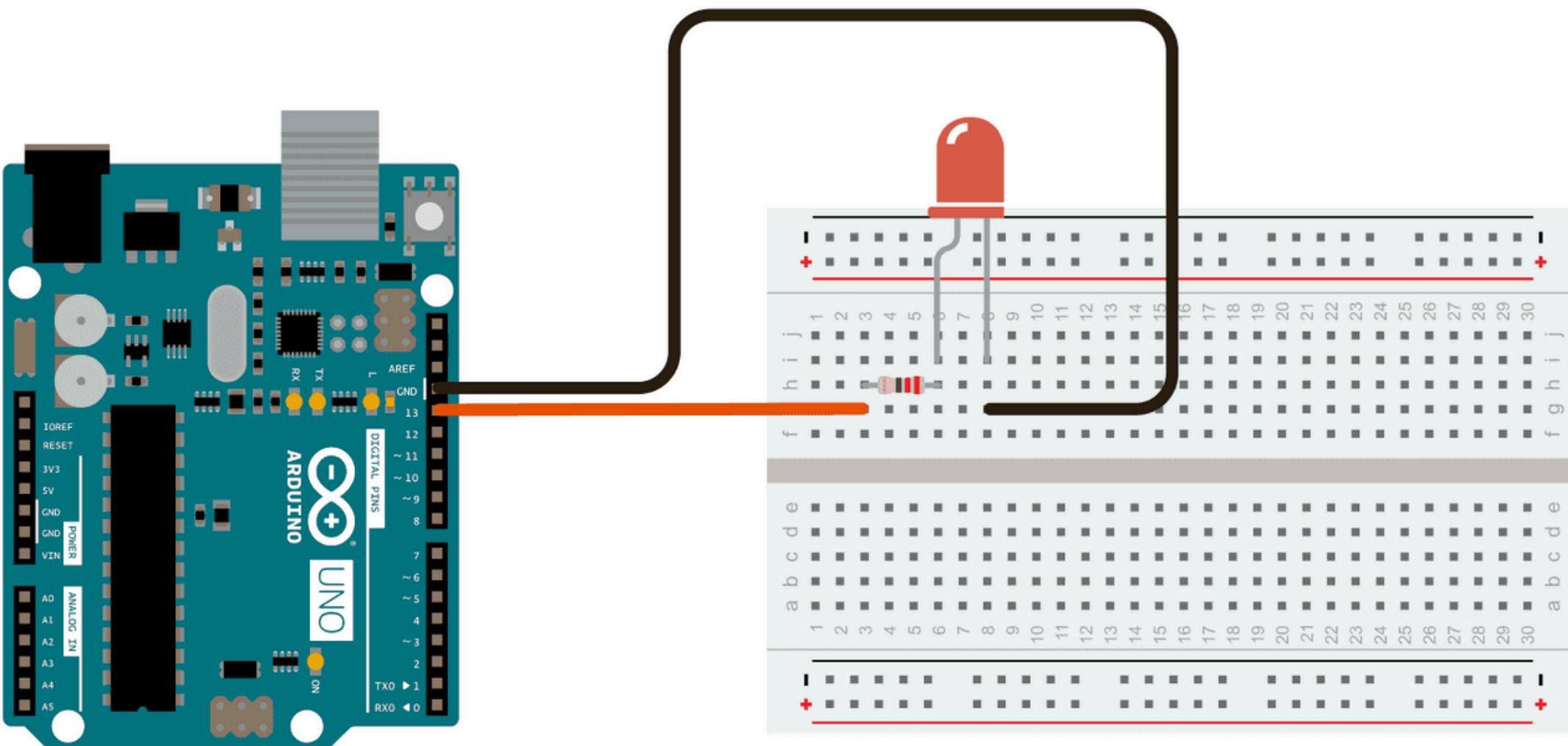
Which board should I use?

- A board based on AVR
- Arduino **UNO** (based on atmega328)

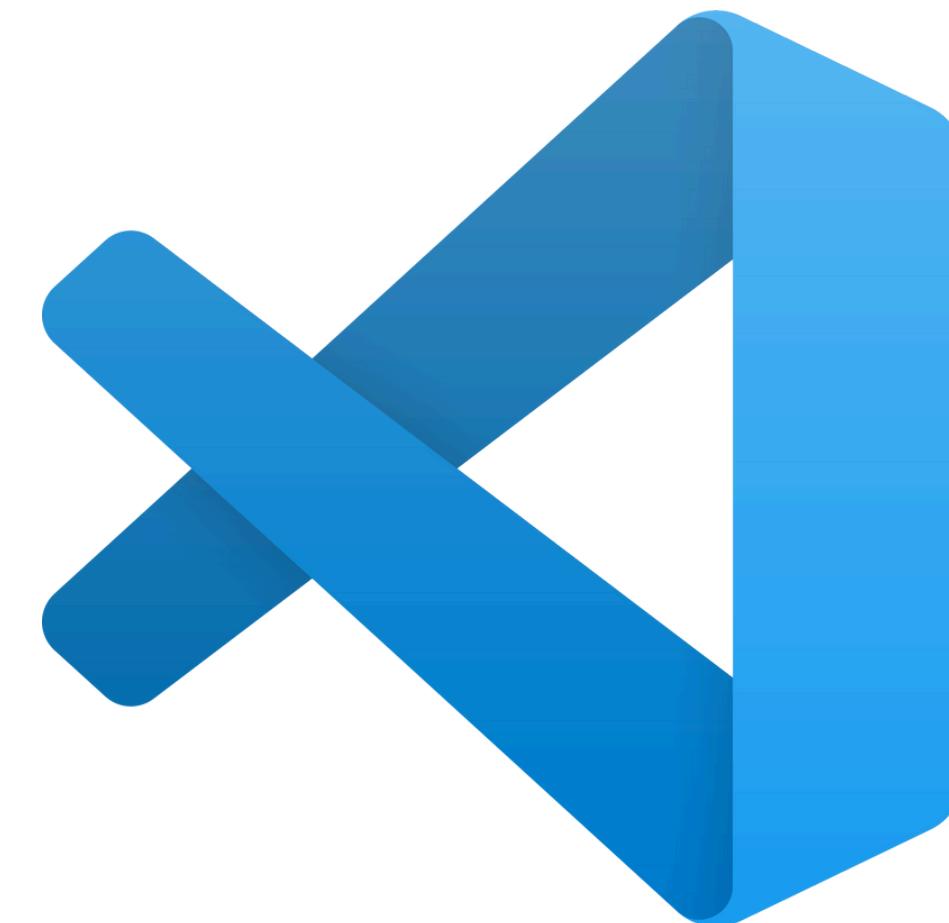
What else do I need?

- USB cable
- bread board
- some components (LED, Resistor, Wire, ...)
- **VSCode IDE** (with PlatformIO extension)

CONNECT LED TO ARDUINO



SOFTWARE



VS Code



PlatformIO