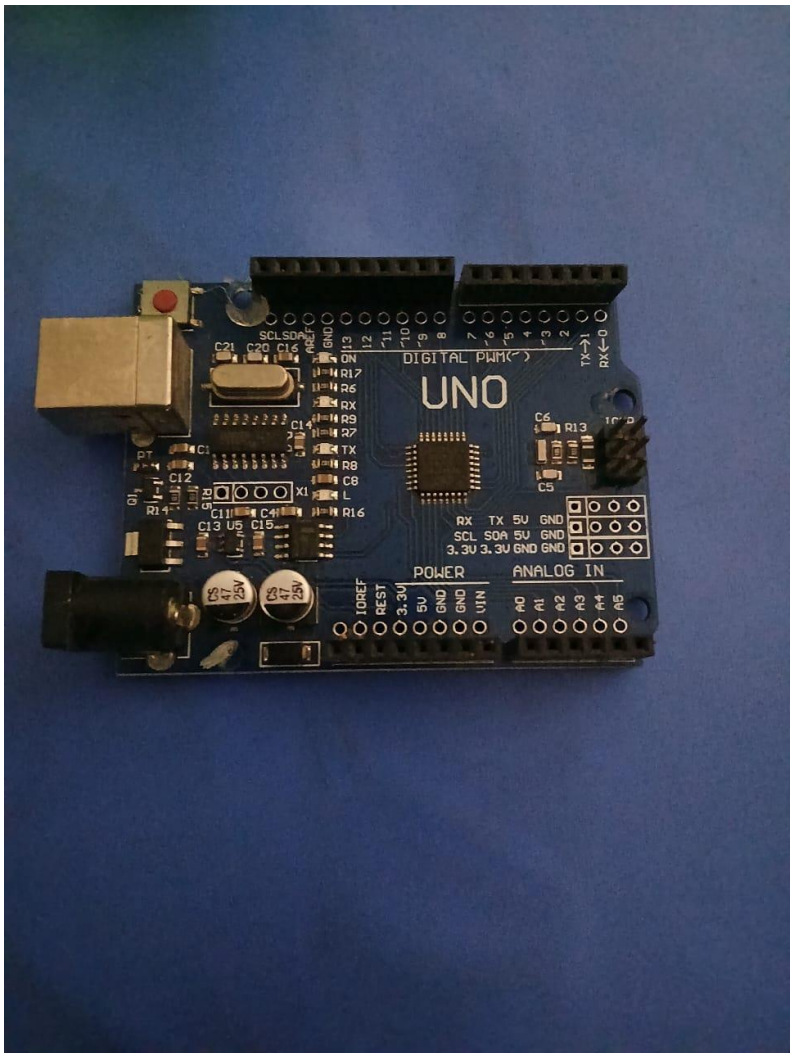
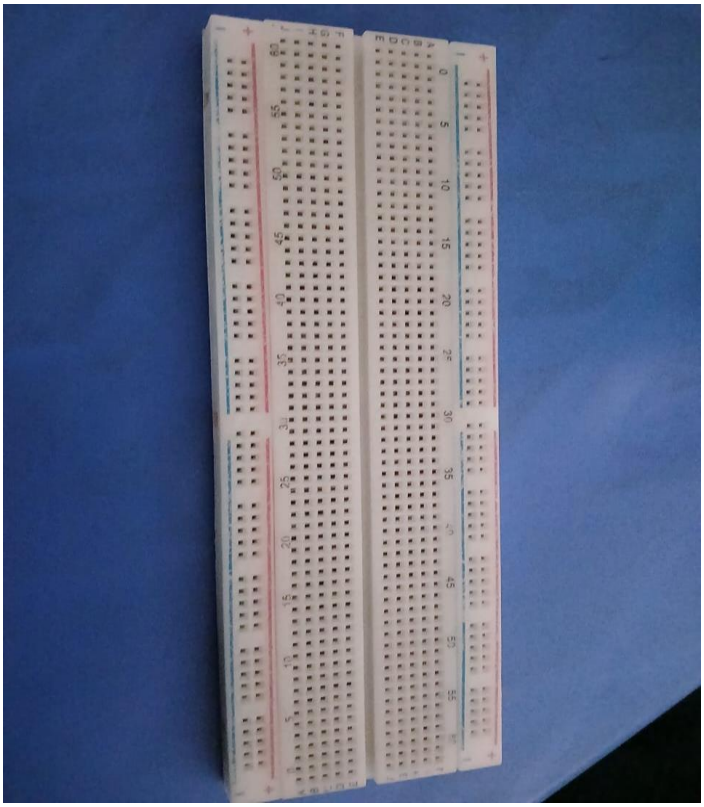
# Basic Introduction of IOT Devices




Arduino UNO is a microcontroller board based on the **ATmega328P**. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.



A breadboard is a board used to connect electronic components, such as wires, resistors, capacitors, and coils, to conduct various experiments and projects. The **two rows at the top** and the **two at the bottom** are each linked horizontally all the way across as shown by the **red** and **black** lines on the diagram. The battery or power supply is connected to these rows, + (positive) at the top and 0V (zero volts, negative) at the bottom.


When it comes to our soil moisture sensor, we're talking about four pins here: VCC, GND, Aout, and Dout. VCC, is the power source, it's what keeps this whole operation running smoothly. Then we've got GND, which is your classic ground pin, providing stability to the system. Now, Aout, that's where the magic happens - it gives us analog data, telling us all about the moisture levels in the soil. And last but not least, Dout, that's the digital data pin, giving us binary info about the soil moisture status