10-BIT ANALOG 1024

CONCEPT Analog to digital converters (ADC) read a continuous input voltage and output a digital value as a binary number.
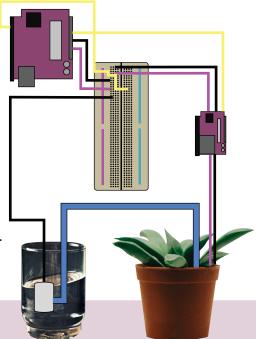
BACKGROUND

ANALOG - SIGNALS are continuous and take on all values between the minimum and maximum, also thought of as a continuously changing voltage

DIGITAL - SIGNALS that change in steps that are typically represented by a binary number, also thought of as voltage that changes between two values like 0 volts and 5 volts

ANALOG SENSORS respond to a change in the environment like temperature change and outputs a continuously changing voltage

When you enter a building do you take the ramp or the stairs?
Going up the ramp would represent a continuous analog change in height.
Going up the stairs would represent a stepwise digital change in height.

APPLICATION

Using sensors along with ADC's and a microcontroller you could monitor your garden.

Use an analog moisture sensor that connects to the ADC. The output from the ADC would go to the microcontroller. When the ADC output reaches a predefined value, the microcontroller could turn on the water to the garden. The water would run until the ADC output shows proper watering. Then the water is turned off. This would save water since your garden would only be watered when necessary.