

Exercise 8: Analog input

Equipment

For this exercise you will need:

- 1 x Arduino Uno
- 1 x Potentiometer
- 1 x RGB LED
- 3 x $\sim 60 - 220\Omega$ Resistors
- Wires
- Something to tune the potentiometer with
- A multimeter - ask us!

Only the analog pin A0 can be used for analog reading.

Reading

Chapter 6 & 7

Setup

- Connect the middle leg of the potentiometer to the A0 pin. The other two legs should be connected to 3.3V and ground. (The order doesn't matter).

Questions & Exercises

8a: How is the analog value represented by the MCU?

8b: What is maximum voltage that can be read on A0?

8c: Read the voltage on the A0 pin. Does the value seem reasonable?

8d: Print out the voltage to the serial monitor with 3 decimals.

8e: Use the voltage to control the color of the LED. When applying 0V on the A0 pin the RGB LED should be purple and when applying maximum voltage it should be red. When tuning the potentiometer, the RGB LED should slowly fade between the different colors.

