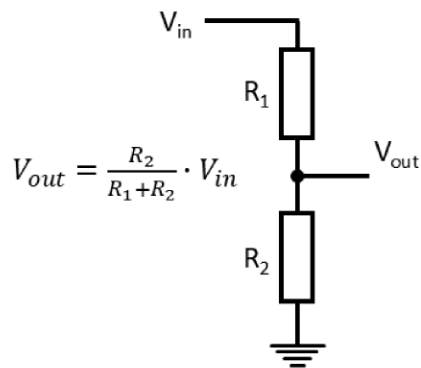# Analog Ports

Embedded Software

Wolfgang Neff

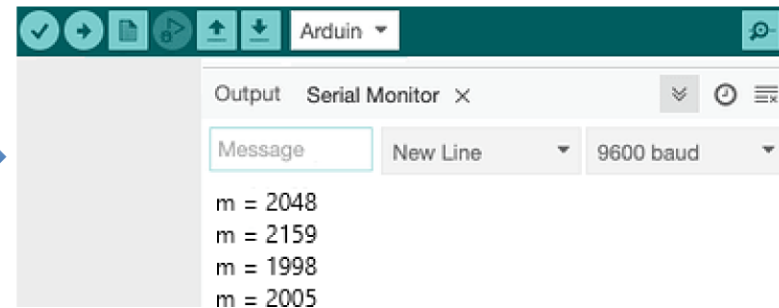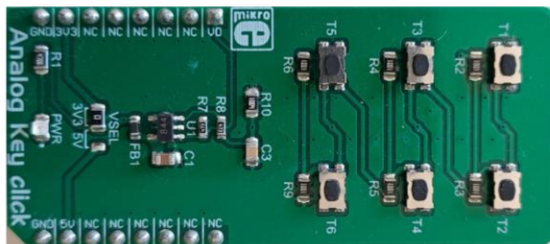# Assignment 1

- ## Voltage Levels and ADC Values

  - Please make a table with the voltages (V_{sw}) and the ADC values (m) for all keys.

$$V_{out} = \frac{R_2}{R_1 + R_2} \cdot V_{in}$$

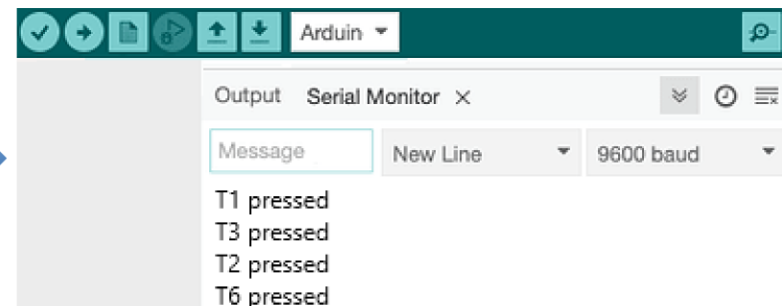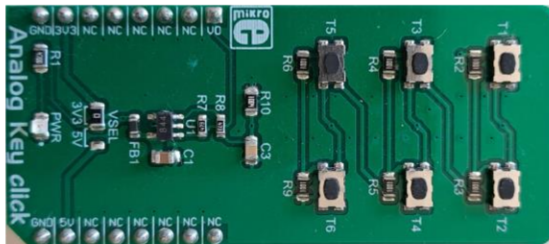| Key	Voltage (VSW)	ADC-Value (m)
T1	... V	...
T2	... V	...
T3	... V	...
...	...	...

Assignment 2

- ## Real-life ADC Values

  - Please compare your calculated ADC values with real life by means of serial monitor. Determine ranges for the fluctuating ADC values.
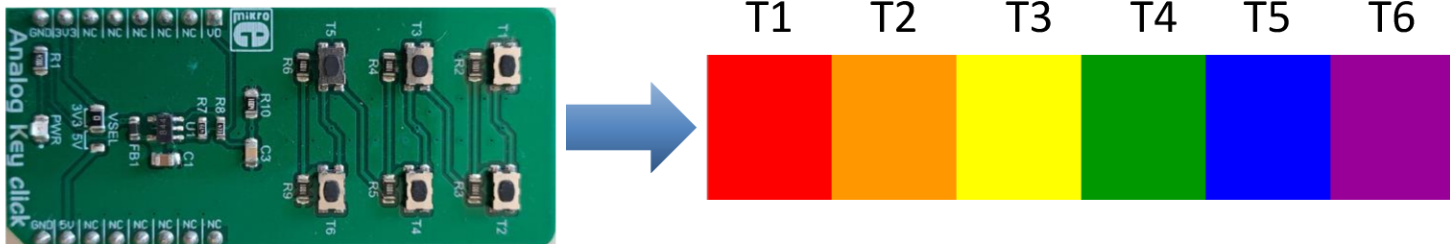
Assignment 3

- ## Analog-Key-Clicker

  - Please make a program which displays the pressed key on the serial monitor.

Assignment 4

- ## Analog Color Selector

  - Please make a program which creates colors depending on the key pressed of the Analog Key Click.

Assignment 5

- ## Analog Dimmer

  – Please make a program which dims a white light depending on the key pressed of the Analog Key Click. If no key is pressed the light is off. If key T1 is pressed the light shines at full intensity (100%).