Data-Logging with Microbit (P1)

When your Microbit is connected to a computer via the USB cable it can also send data back to the computer in the form of a .csv file which can then be used by other programs like Excel or Geogebra to analyze or graph the data. (Your code also works in “simulation mode”)

Materials: TMP35 or TMP36 temperature sensor, breakout connector, breadboard, 1 LED, connector wires, USB connector. Use the “**Temperature Sensing with a Microbit**” program as a starting point. Chrome browser, or the downloaded MS MakeCode app on a computer.

The **on start** prepares your Microbit.

Create 3 variables, **Ok**, **Temp** and **Code**

Instead of a **forever** loop use **while** inside **on button A**. This lets you control when the readings will start.

Connect an LED to pin 2.

The **on button B** lets you stop the reading (LED will go off).

The **Map** block converts the analog read numbers to Temperature readings between 0°C and 40°C. This was calculated using the standard that the TMP36 emits 750mV with 3.15V @ 25°C.

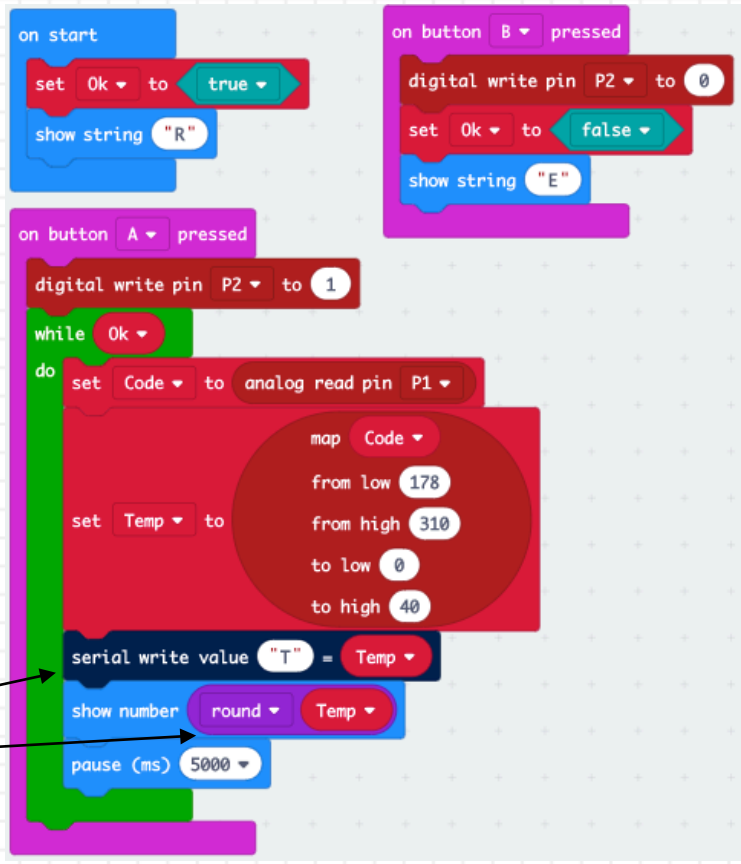
(0.75/3.15) * 1024 = 244 the analog read for 25°C

Based on this you can calculate the other temp values. The TMP36 changes by 10mV per °C.

From the Serial blocks menu **add serial write value.** This stores the data that is being logged.

The **round** block has been applied to **Temp** to show whole numbers rather than long decimal readings.

The **pause** controls how often a reading is taken.



Data collection