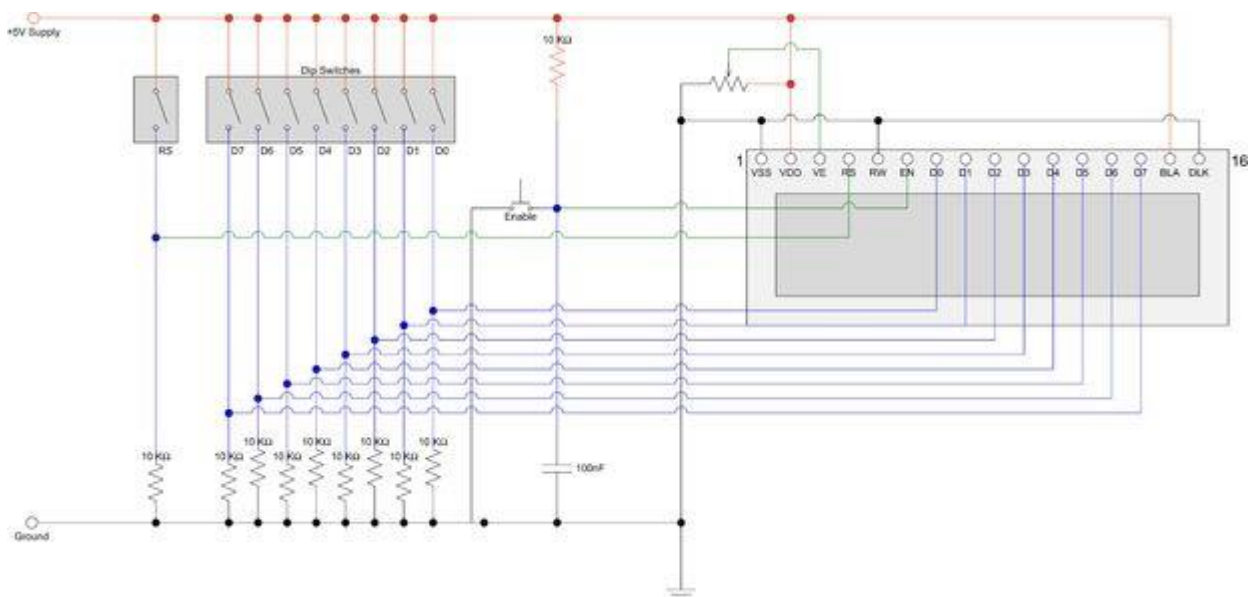## Project 7 LCD Screen Driver

Requirements

- Micro:bit
- Edge Connector £6 and Breadboard or Micro:bit Prototype board £16
- LCM1602 LCD screen (£3 on Ebay)
- 10 1k Resistors
- Some Jumper wires
- LCD example driver code from website

Aim

Demonstrate ability to drive and LCD screen using a BBC-Micro:bit by "bit bashing"

Wiring

Use the diagram above to wire up your BBC Micro:bit to the LCD board.
- You are replacing the RS dip switch with a digital connector to your Micro:bit (I used Pin 12)
- Replace the Enable button with a digital connector to your Micro:bit (I used Pin 10)
- Replace D 7 – D0 with digital connections to your Micro:bit I used the connections listed below

D0 – Pin 0
D1 – Pin 1
D2 – Pin 2
D3 – Pin 3
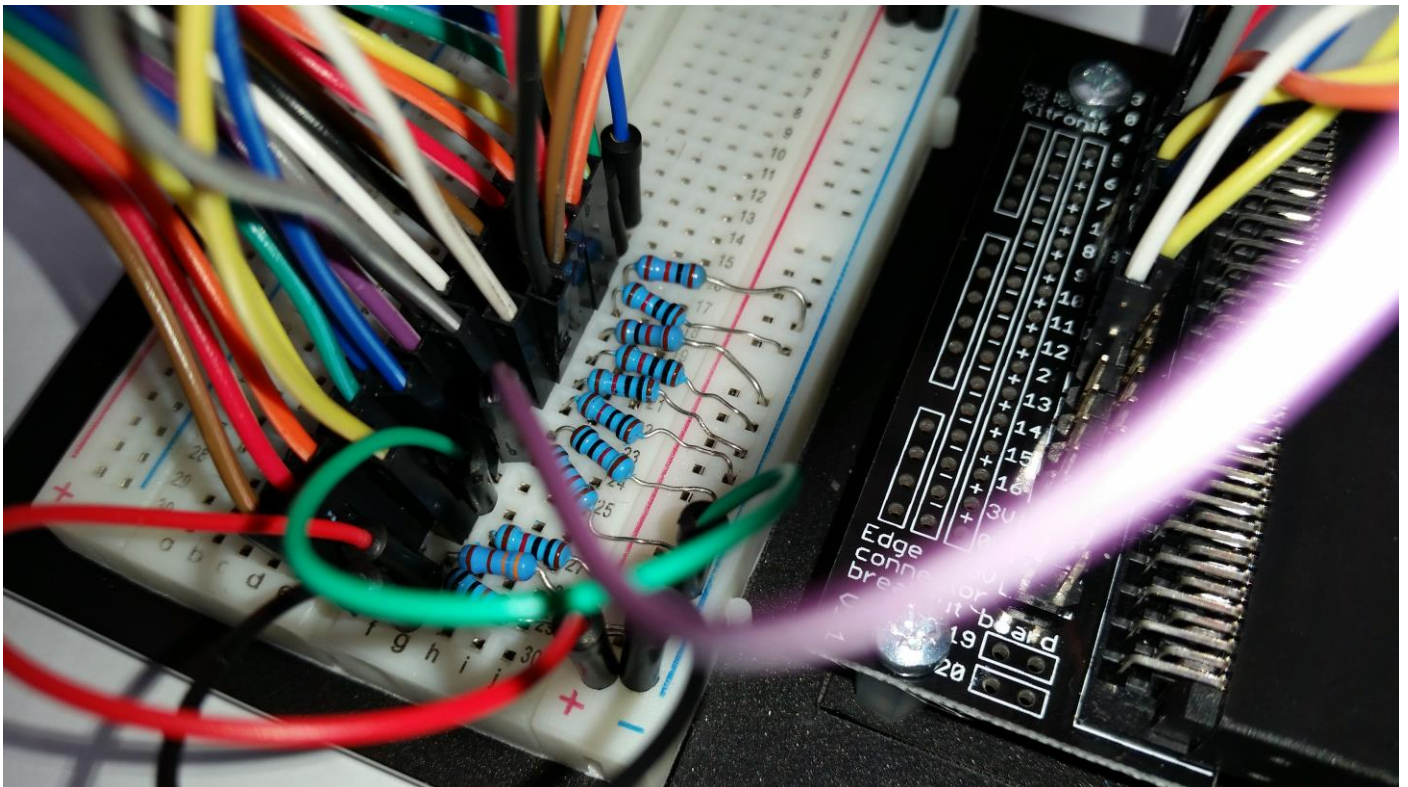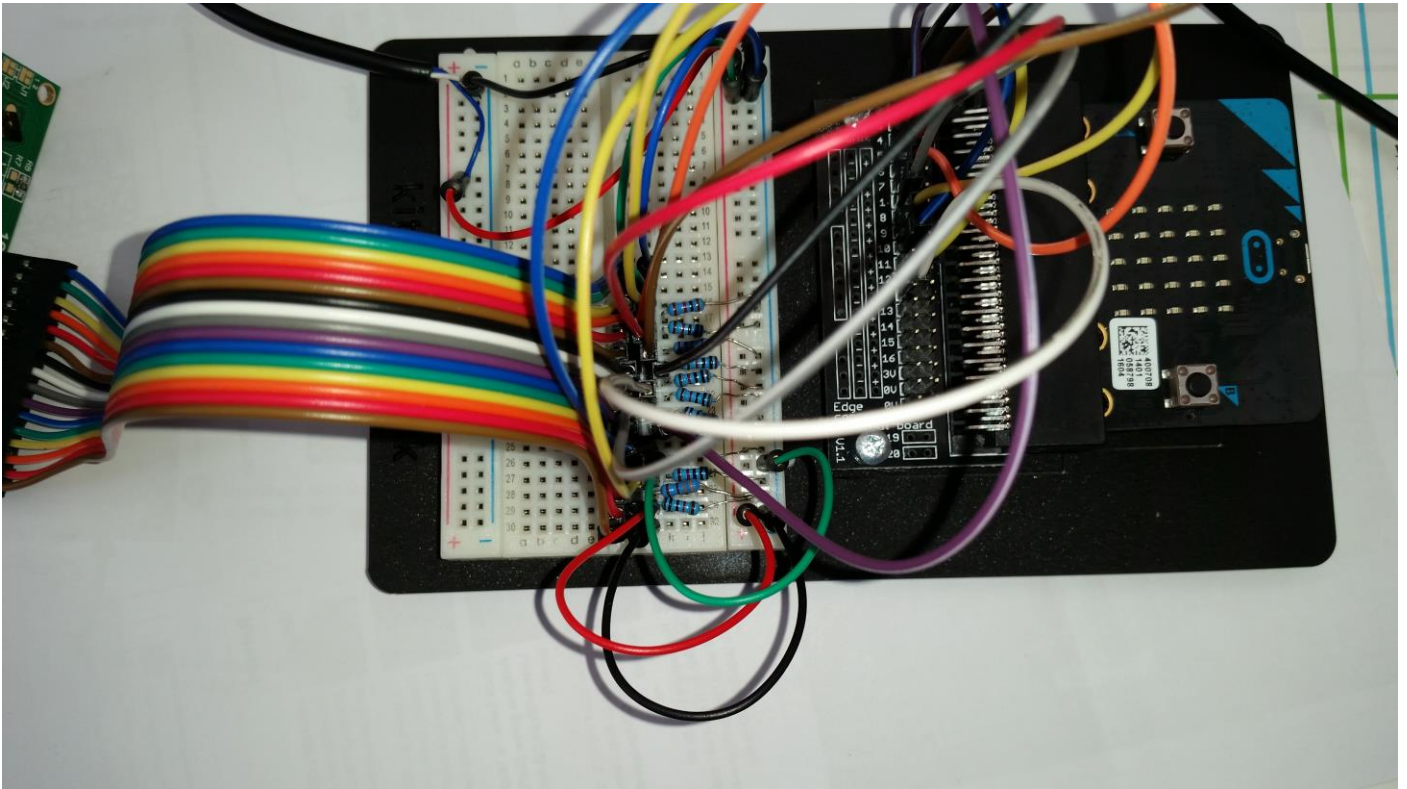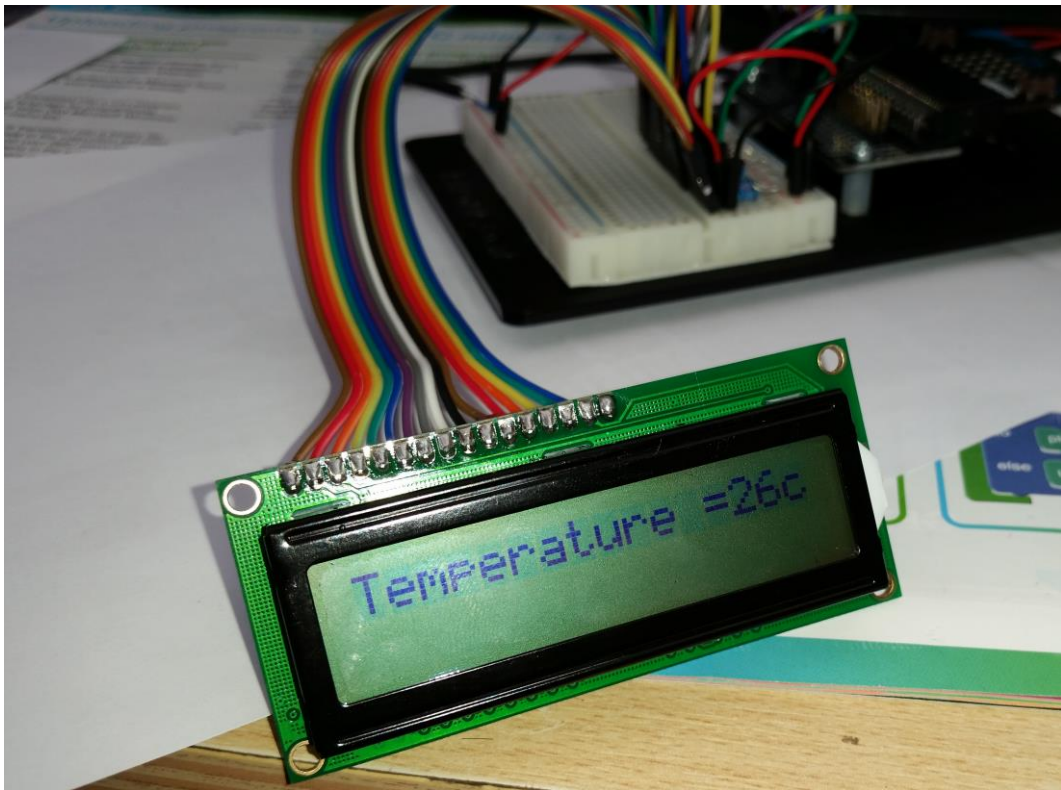D4 – Pin 4
D5 – Pin 6
D6 – Pin 7
D7 – Pin 9

- The diagram shows 10k resistors for D0 – D7 and RS I used 1K resistors as they were all I had and it worked perfectly

- I replaced the variable resistor for the VE connection (Contrast Adjustment with a fixed 1k & 330 ohm resistor and the screen contrast was ok)

A picture of my layout

The picture below is my Micro:bit wired up. It's a bit of a birds nest but if you follow the diagram above you can't go far wrong

Code

- I've tried to write a fairly concise drive for the Micro:bit. I'm sure it can be improved on and please feel free to do so but please give credit to the initial work in your extension.

- A copy is http://www.microbitsandbobs.co.uk/downloads/lcd3.00.py or as an import file https://www.microbit.co.uk/fdpmsp it does everything I needed it to for a proof on concept and I've included a sample program to turn the panel and Micro:bit into a temperature sensor.

- There is some documentation in the comments – feel free to add functionality or email me if you have any problems that I've not documented