/\* 100 LED light bar using Multiplexing

 \* 14/2/2020 Pat McMahon.

 \* A029

 \* POSITIVES(+) 0-Orange,1-Pink,2-Brown,3-White,4-Purple,5-Blue,6-Yellow,7-Red,8-Green,9-Grey, select group - anodes

 \* NEGATIVES(-) 10-Blue,11-REd,12-White,13-Yellow,A0-Purple,A1-Green,A2-Pink,A3-Brown,A4-Grey,A5-Orange, select group - cathodes

 \* to light an LED, anode must be high, but cathode must be low

 \*/

int groups[] = {0,1,2,3,4,5,6,7,8,9 }; // POSITIVES

int indexes[] = {10,11,12,13,A0,A1,A2,A3,A4,A5,A6 }; // NEGATIVES

int delayTime=100;

// the setup function runs once when you press reset or power the board

void setup() {

 // initialise 100 outputs for 10 x 10 matrix

 // loop over the pin arrays and set them all to output

 // also set all LOW

 for (int thisLed = 0; thisLed < 101; thisLed++) {

 pinMode(groups[thisLed], OUTPUT);

 digitalWrite(groups[thisLed], LOW); // turn anodes off

 pinMode(indexes[thisLed], OUTPUT);

 digitalWrite(indexes[thisLed], LOW); // turn cathodes off

 }

}

// the loop function runs over and over again forever

void loop() {

 for (int group = 0 ; group < 10; group++) { // cycle through groups of 10

 digitalWrite(group, HIGH); // enable cathode

 for (int index = 10; index < A6; index++) { // step through each group

 digitalWrite(index, LOW); // enable anode

 delay(delayTime);

 digitalWrite(index, HIGH); // turn anode off

 }

 digitalWrite(group, LOW); // disable this group

 }

}