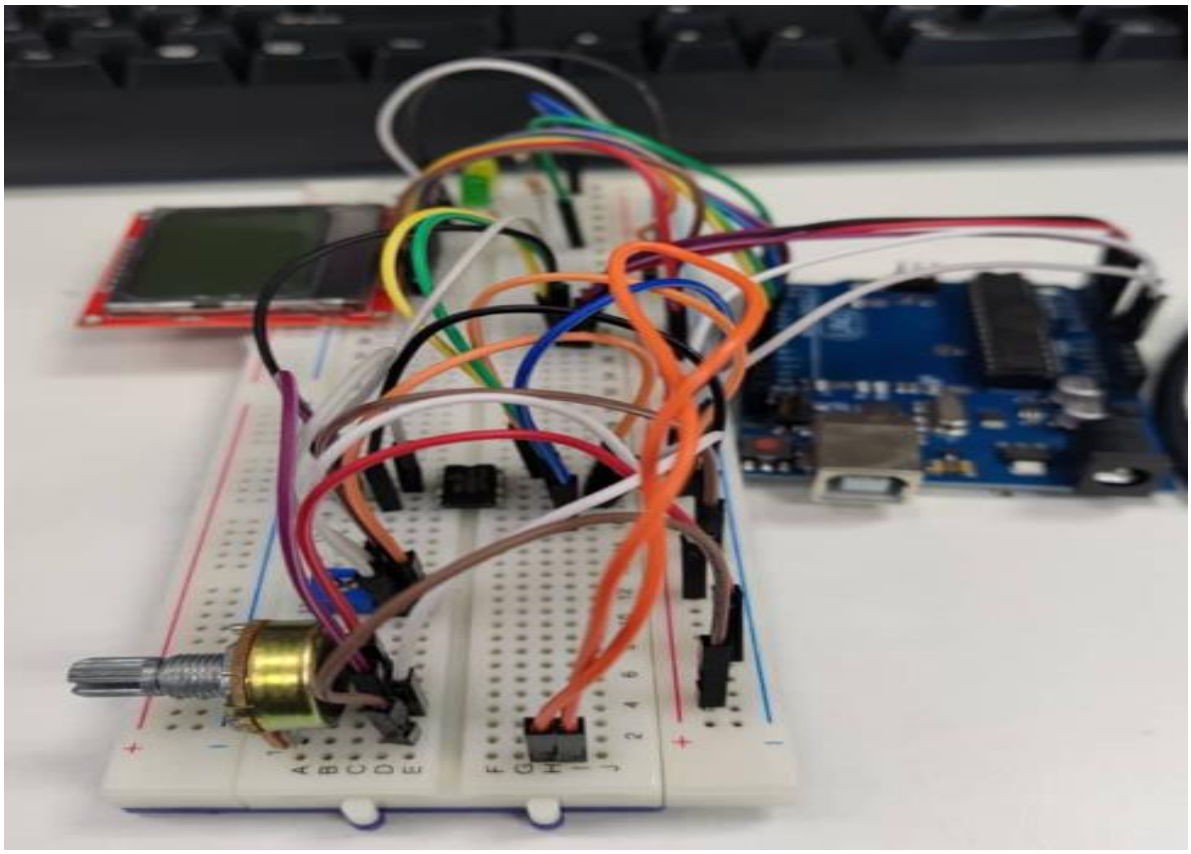
Report Tester for IC MCP6202 , SN65HVD1780 and LM358AN IC:

- This tester consist of component as IC , Nokia 5110 LCD Display , 2x Potentiometer(adjustable voltage divider) , resistor , LED with 2 different color and jumper wire for prototype on the bread board.
- The pin use on digital and analog can be random as long as it have same function on what the result that we wanted to be showed.
- This is the list pin Out use by on this project:
  - Analog In (A0,A1,A2,A3,A4)
  - Digital (3,5,8,9,10,11,13)
- Below show the image capture prototype on how the wire were connected and the possible result or output for this circuit and pin choose:
- This circuit is based on the calculation of basic operational amplifier configuration on the **voltage follower** formula,



2nd Procedure :

Arduino Code for IC tester :

```
#include <Adafruit_PCD8544.h>

#define SCLK 13
#define DIN 11
#define DC 10
#define CS 9
#define RST 8

Adafruit_PCD8544 lcd = Adafruit_PCD8544(SCLK, DIN, DC, CS, RST);

void setup() {
  lcd.begin();
  lcd.setContrast(60);
  lcd.clearDisplay();
  lcd.display();
  Serial.begin(9600);
}

void loop() {
  lcd.clearDisplay();
  float voltage1 = analogRead(A0) * 0.0048828125;
  float voltage2 = analogRead(A1) * 0.0048828125;
  float voltage3 = analogRead(A2) * 0.0048828125;

  lcd.setCursor(0, 0);
  lcd.print("Vinp 1: ");
  lcd.print(voltage1);
  lcd.print(" V");

  lcd.setCursor(0, 10);
  lcd.print("Vout A: ");
  lcd.print(voltage2);
  lcd.print(" V");

  lcd.setCursor(0, 20);
  lcd.print("Vout B: ");
  lcd.print(voltage3);
  lcd.print(" V");
```

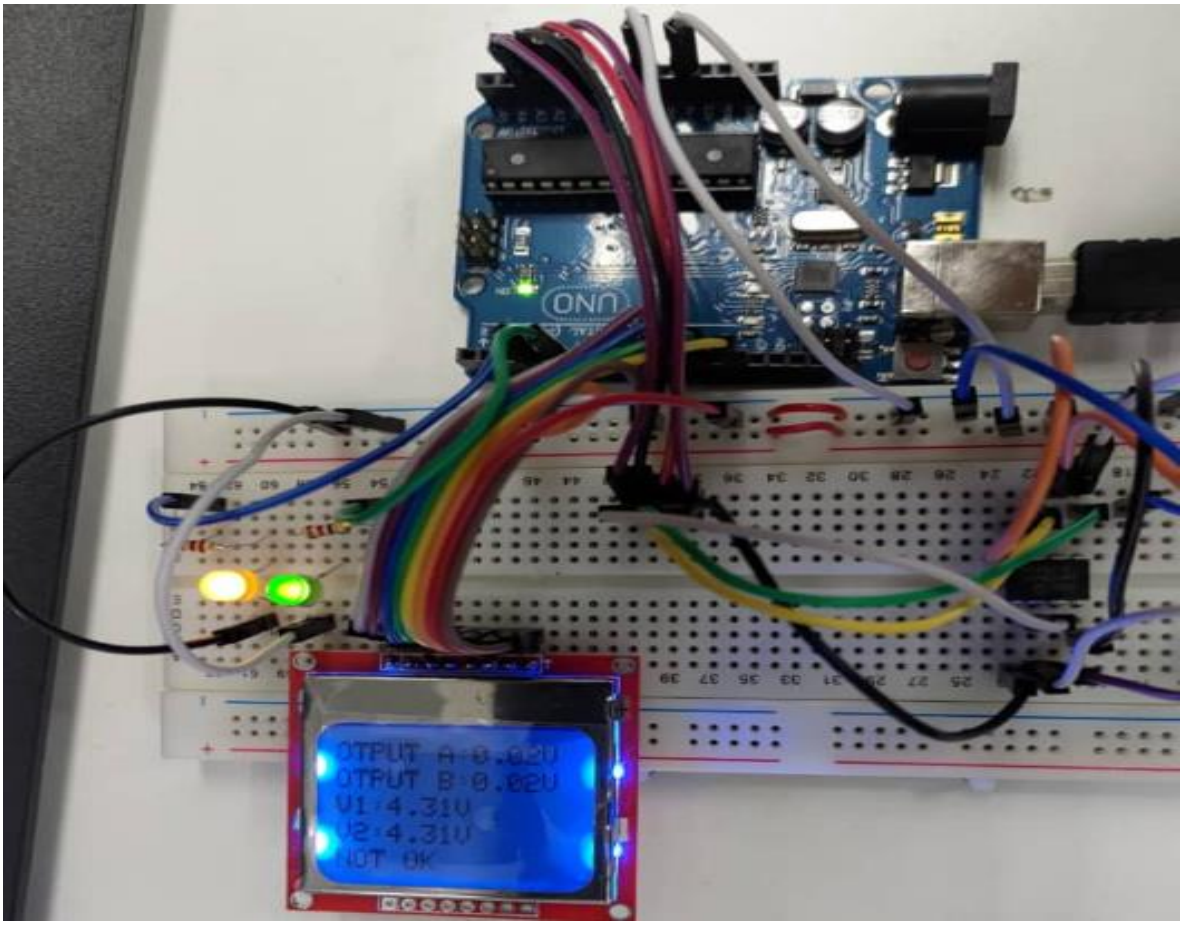
```
  float diff1 = voltage2 - voltage1;
  float diff2 = voltage3 - voltage1;

  if (diff1 >= -0.09 && diff1 <= 0.09 && diff2 >= -0.09 && diff2 <= 0.09) {
    lcd.setCursor(0, 30);
    lcd.print("::::::OK::::::");
  } else {
    lcd.setCursor(0, 30);
    lcd.print("::::NOT OK::::");
  }

  lcd.display();
  delay(1000);
}
```

3rd Procedure:

- After done with code Arduino. This is the result shown with the sample of prototype using aid of bread board:
- In this image capture, the tester already customize by me to change to process of voltage comparator as it is the same Op-Amp amplifier:



Can proceed to fabricate the PCB and solder step..