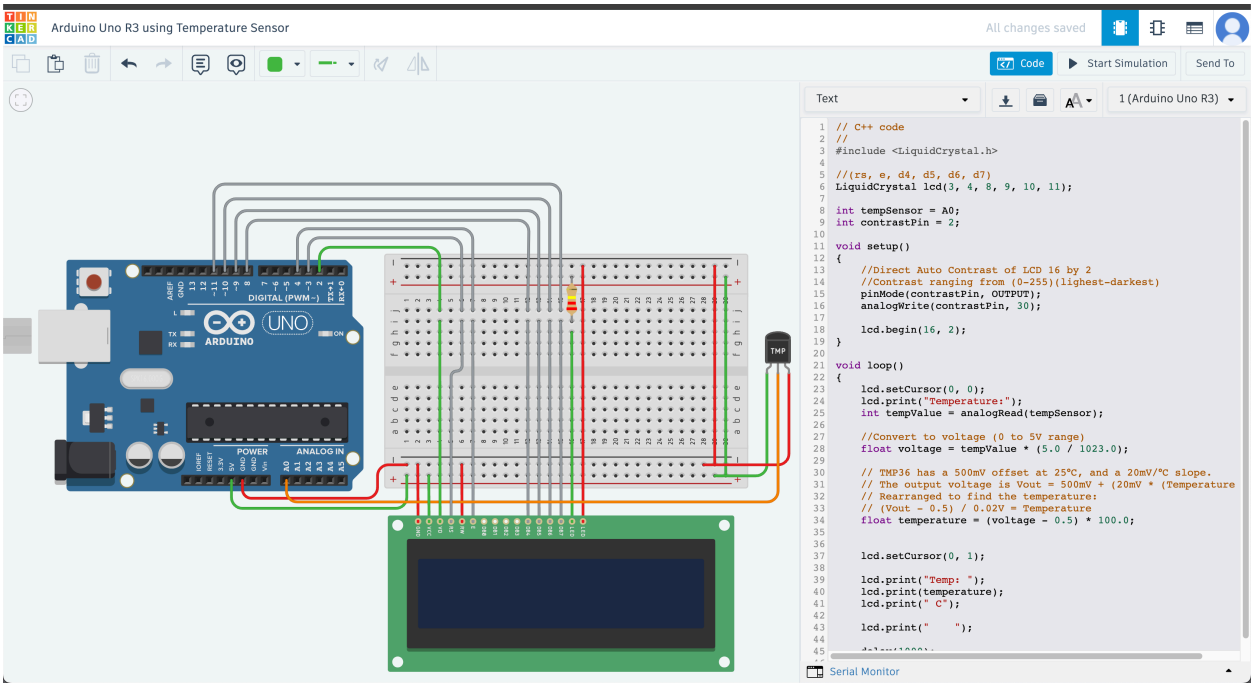
Arduino Uno R3 using Temperature Sensor

Image:



Code:

```
// C++ code
//
#include <LiquidCrystal.h>

//(rs, e, d4, d5, d6, d7)
LiquidCrystal lcd(3, 4, 8, 9, 10, 11);

int tempSensor = A0;
int contrastPin = 2;

void setup()
{
	//Direct Auto Contrast of LCD 16 by 2
	//Contrast ranging from (0-255)(lighest-darkest)
	pinMode(contrastPin, OUTPUT);
	analogWrite(contrastPin, 30);

	lcd.begin(16, 2);
}

void loop()
{
	lcd.setCursor(0, 0);
	lcd.print("Temperature:");
	int tempValue = analogRead(tempSensor);
```

```
        //Convert to voltage (0 to 5V range)
        float voltage = tempValue * (5.0 / 1023.0);

        // TMP36 has a 500mV offset at 25°C, and a 20mV/°C slope.
        // The output voltage is Vout = 500mV + (20mV * (Temperature - 25°C))
        // Rearranged to find the temperature:
        // (Vout - 0.5) / 0.02V = Temperature
        float temperature = (voltage - 0.5) * 100.0;


        lcd.setCursor(0, 1);

        lcd.print("Temp: ");
        lcd.print(temperature);
        lcd.print(" C");

        lcd.print("    ");

        delay(1000);
}
```