

```

1  import serial
2  import numpy as np
3  import matplotlib.pyplot as plt
4  import matplotlib.animation as animation
5  import sys, time, math
6
7  xsize = 300
8
9  # configure the serial port
10 ser = serial.Serial(
11     port='COM5',
12     baudrate=115200,
13     parity=serial.PARITY_NONE,
14     stopbits=serial.STOPBITS_TWO,
15     bytesize=serial.EIGHTBITS)
16 ser.isOpen()
17
18 # initial read
19 initial_read = ser.readline()
20 print(int(initial_read[1:len(initial_read) - 2]))
21 if int(initial_read[1:len(initial_read) - 2]) < 1000:
22     # skip one line
23     ser.readline()
24
25 for x in range(10):
26     ADC_num = ser.readline()
27     ADC_num = int(ADC_num[1:len(ADC_num) - 2])
28     ADC_tmp = ser.readline()
29     ADC_tmp = float(ADC_tmp[:len(ADC_tmp) - 2]) / 100
30     print(ADC_num, '\t', ADC_tmp)
31
32 def data_gen():
33     t = data_gen.t
34     while True:
35         ADC_num = ser.readline()
36         ADC_num = int(ADC_num[1:len(ADC_num) - 2])
37         if ADC_num > 1000:
38             continue
39         ADC_tmp = ser.readline()
40         ADC_tmp = float(ADC_tmp[:len(ADC_tmp) - 2]) / 100
41         t+=1
42         # val=100.0*math.sin(t*2.0*3.1415/100.0)
43         print(ADC_tmp)
44         yield t, ADC_tmp
45
46 def run(data):
47     # update the data
48     t,y = data
49     if t>-1:
50         xdata.append(t)
51         ydata.append(y)
52         if t>xsize: # Scroll to the left.
53             ax.set_xlim(t-xsize, t)
54             line.set_data(xdata, ydata)
55
56     return line
57
58 def on_close_figure(event):
59     sys.exit(0)
60
61 data_gen.t = -1
62 fig = plt.figure()
63 fig.canvas.mpl_connect('close_event', on_close_figure)

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64 ax = fig.add_subplot(111)
65 line, = ax.plot([], [], lw=2)
66 ax.set_ylim(0, 100)
67 ax.set_xlim(0, xsize)
68 ax.grid()
69 xdata, ydata = [], []
70
71 # Important: Although blit=True makes graphing faster, we need blit=False to prevent
72 # spurious lines to appear when resizing the stripchart.
73 ani = animation.FuncAnimation(fig, run, data_gen, blit=False, interval=50, repeat=False)
74 plt.show()
75
```