Simulating Sensor Data

Since I don't have the sensor data stream, lets try to simulate

In [1]:

```
import numpy as py
import pandas as pd
import json
from datetime import datetime
import time
import psutil
import matplotlib.pyplot as plt
import csv
```

In [2]:

```
%matplotlib notebook
plt.rcParams['animation.html'] = 'jshtml'
```

In [3]:

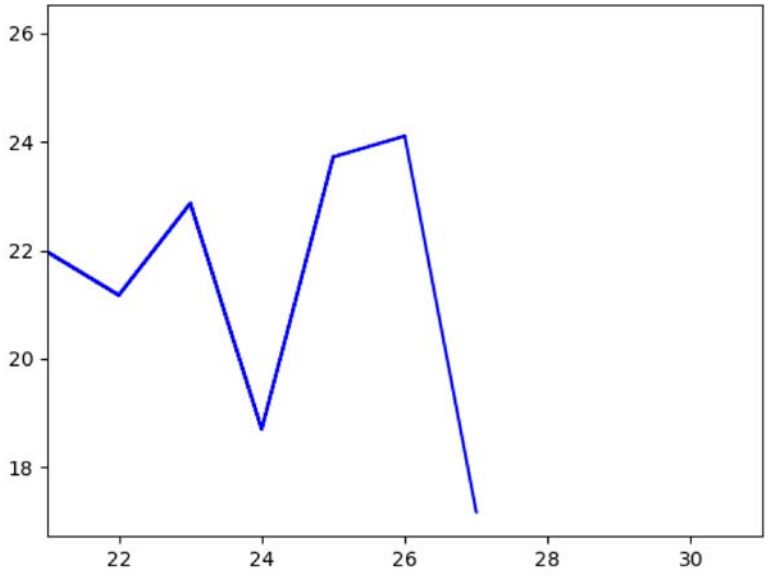
```
sensordata=[]
sensor = pd.read_json('D:\Vito\Work Prep\CADIT\sensor_data.json')
for i in range(1440):
    sensorid = sensor['array'][i]['id']
    timestamp = sensor['array'][i]['timestamp']/1000
    timestamp = datetime.fromtimestamp(timestamp).strftime('%d-%m-%y')
    roomArea = sensor['array'][i]['roomArea']
    temperature = sensor['array'][i]['temperature']
    humidity = sensor['array'][i]['humidity']
    sensordata.append([sensorid, timestamp, roomArea, temperature, humidity])
sensortable = pd.DataFrame(sensordata)
sensortable.columns = ['id','timestamp', 'roomArea', 'temperature', 'humidity']
```

In [4]:

```
def write_csv(data):
    with open('output.csv', 'a') as outfile:
        writer = csv.writer(outfile)
        writer.writerow(data)
```

In [5]:

```
fig = plt.figure()
ax = fig.add_subplot(111)
fig.show()
```



In [6]:

```
i = 0
x, y = [], []

while True:
    x.append(i)
    y.append(sensortable['temperature'][i])

    ax.plot(x, y, color='b')

    fig.canvas.draw()

    ax.set_xlim(left=max(0, i-5), right=i+5)

    ts = time.time()

    write_csv([ts,sensortable['temperature'][i]])

    time.sleep(1) #for example-wise i use 1 second delay/push

    i += 1
```

```
---------------------------------------------------------------------------
-
KeyboardInterrupt                         Traceback (most recent call las
t)
<ipython-input-6-6d82aaaef641> in <module>
     16     write_csv([ts,sensortable['temperature'][i]])
     17
---> 18     time.sleep(1) #for example-wise i use 1 second delay/push
     19
     20     i += 1

KeyboardInterrupt:
```

In [ ]:

```
plt.close()
```