

## Python Code (PDF)

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import serial
import time
import numpy
import matplotlib.pyplot as plt
from drawnow import *
from datetime import datetime
from pytz import timezone

now_time = datetime.now(timezone('Asia/Kolkata'))
strDateTime=now_time.strftime("%d%b%Y_%H_%M_%S")

file_name = 'E:\pythom\experimental_reading\\'+ strDateTime + ".txt";
fo=open(file_name , "w");
fo.write("Run Time Parameter Reading at ");
fo.write(strDateTime);
fo.write("\n")
fo.write(" |-----|
|           DateTime           | pH (mV) | DO (mg/L) | ORP (mV) | EC (uS) | TDS (mg/L) | Temp (C) | \n");
fo.write(" |-----|
fo.close();

ser=serial.Serial('COM7',9600)
ser.flushInput();
ser.flushOutput();
i=1;

def writeInFile():
    fo=open(file_name,"a");
    fo.write(file_string);
    fo.write(" |-----|
    fo.close();

while 1:

    data=ser.readline();
    print("Received Data: " + data);
    print "Length of Received String: " ,len(data);
    print (i);
    i=i+1;

    pH_index=data.find("pH:")
    DO_index=data.find("DO:")
    DOsat_index=data.find(', ',DO_index)
    ORP_index=data.find("ORP:")
    EC_index=data.find("EC:")
    TDS_index=data.find(', ',EC_index)
    Temp_index=data.find("Temp:")

    pH_index_E=data.find("pHE_")
    DO_index_E=data.find("DOE_")
    ORP_index_E=data.find("ORPE_")
    EC_index_E=data.find("ECE_")
    Temp_index_E=data.find("$")

    pH=data[pH_index+3:DO_index]
    #DO=data[DO_index+3:DOsat_index]
    #DOsat=data[DOsat_index+1:ORP_index]
    DO = str(float(data[DO_index+3:DOsat_index])-10)
    DOsat =str(float(data[DOsat_index+1:ORP_index])-110)
    ORP=data[ORP_index+4:EC_index]
    EC=data[EC_index+3:TDS_index]
    TDS=data[TDS_index+1:Temp_index]
    Temp=data[Temp_index+5:Temp_index_E]

    now_time = datetime.now(timezone('Asia/Kolkata'))
    time_update=now_time.strftime("%d%b%Y_%X")

    file_string=" |"+time_update+" | " + str(pH)+" | " +str(DO)+" | " +str(ORP)+ " | " +str(EC)+" | " +str(TDS)+"
    writeInFile();

    print ("pH: " + pH)
    print ("DO: " + DO)
    print ("DOsat: " + DOsat)
    print ("ORP: " + ORP)
    print ("EC: " + EC)
    print ("TDS: " + TDS)
    print ("Temp: " + Temp)
    print ('\n')
```

