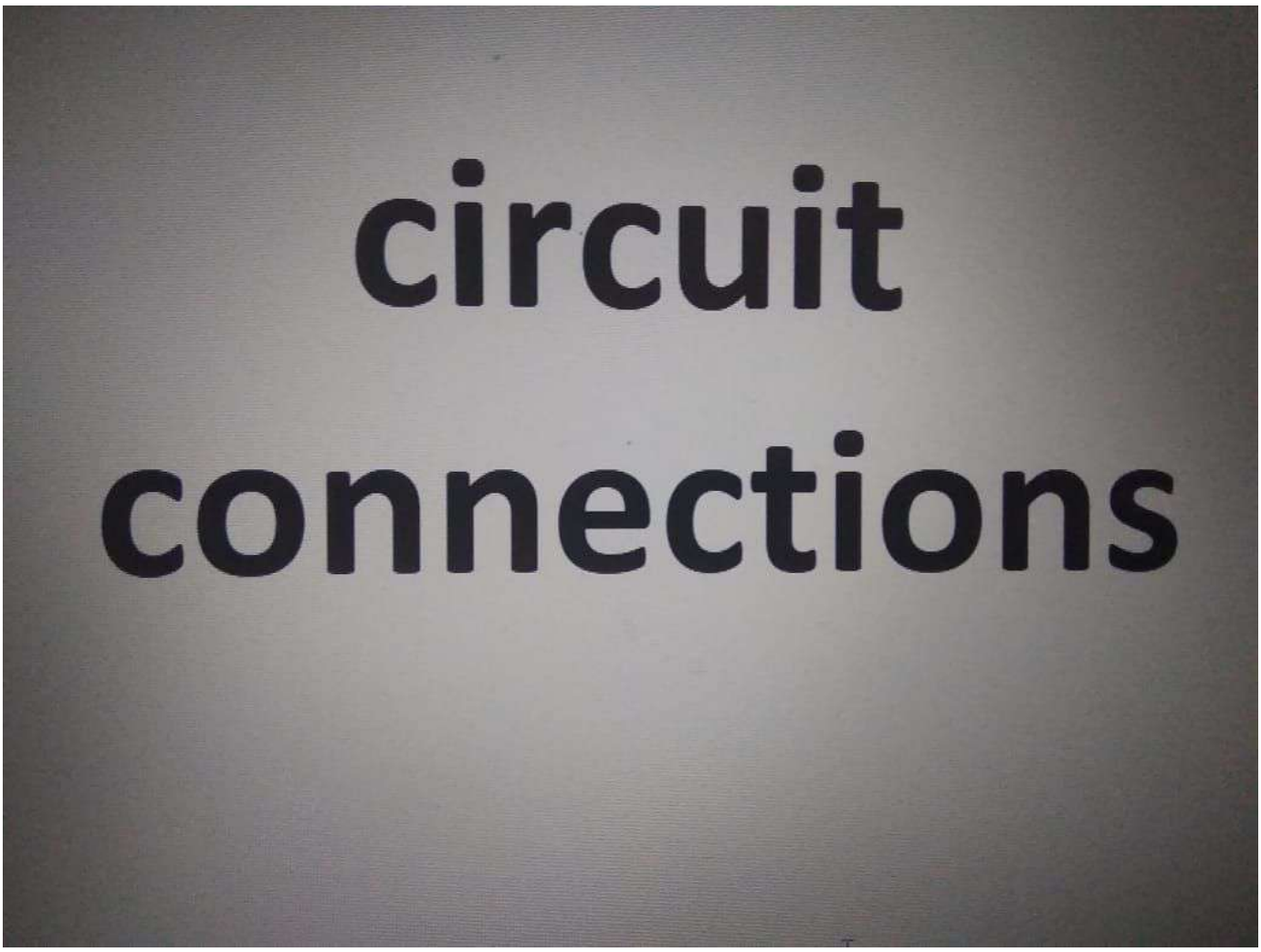
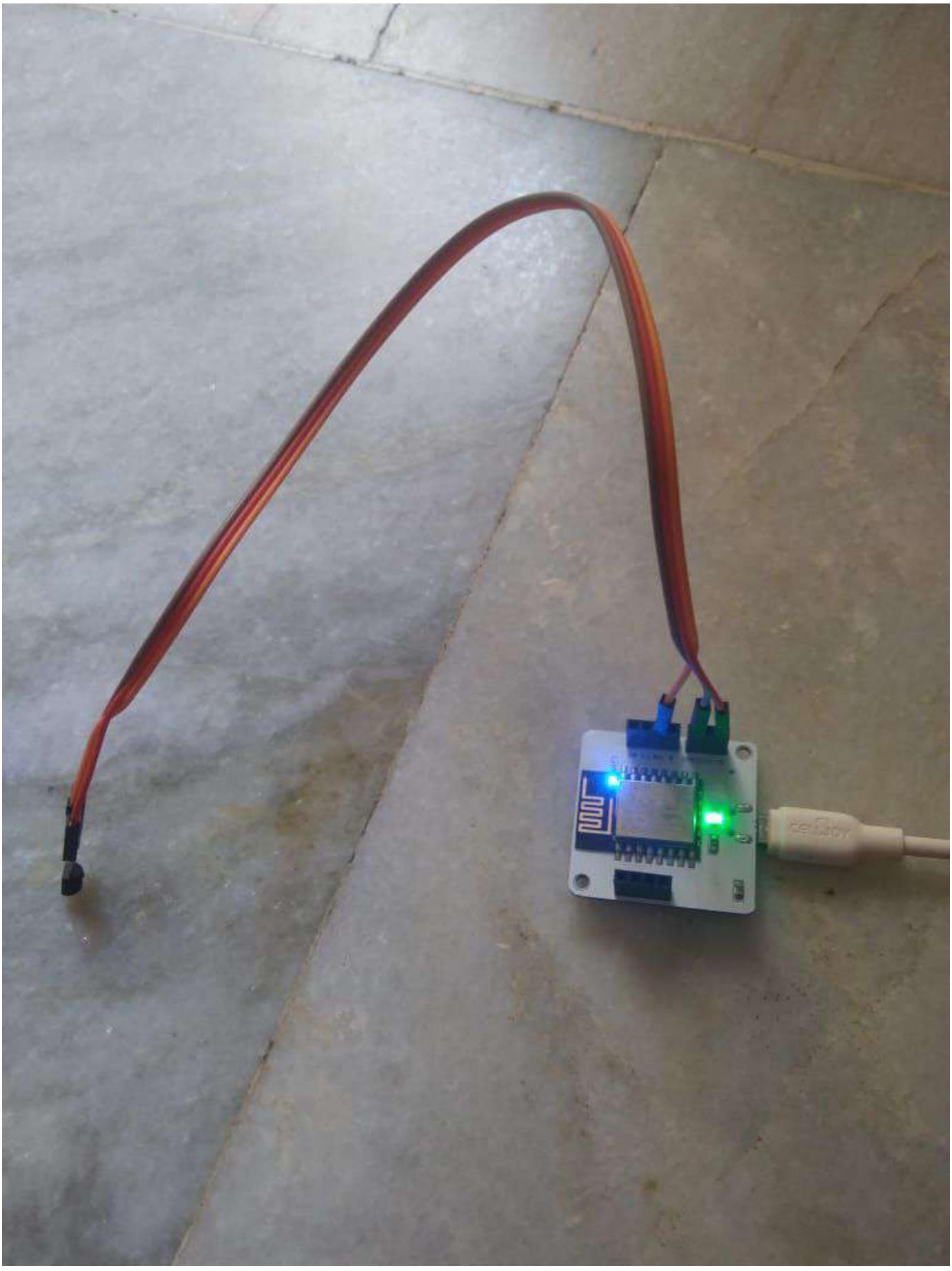
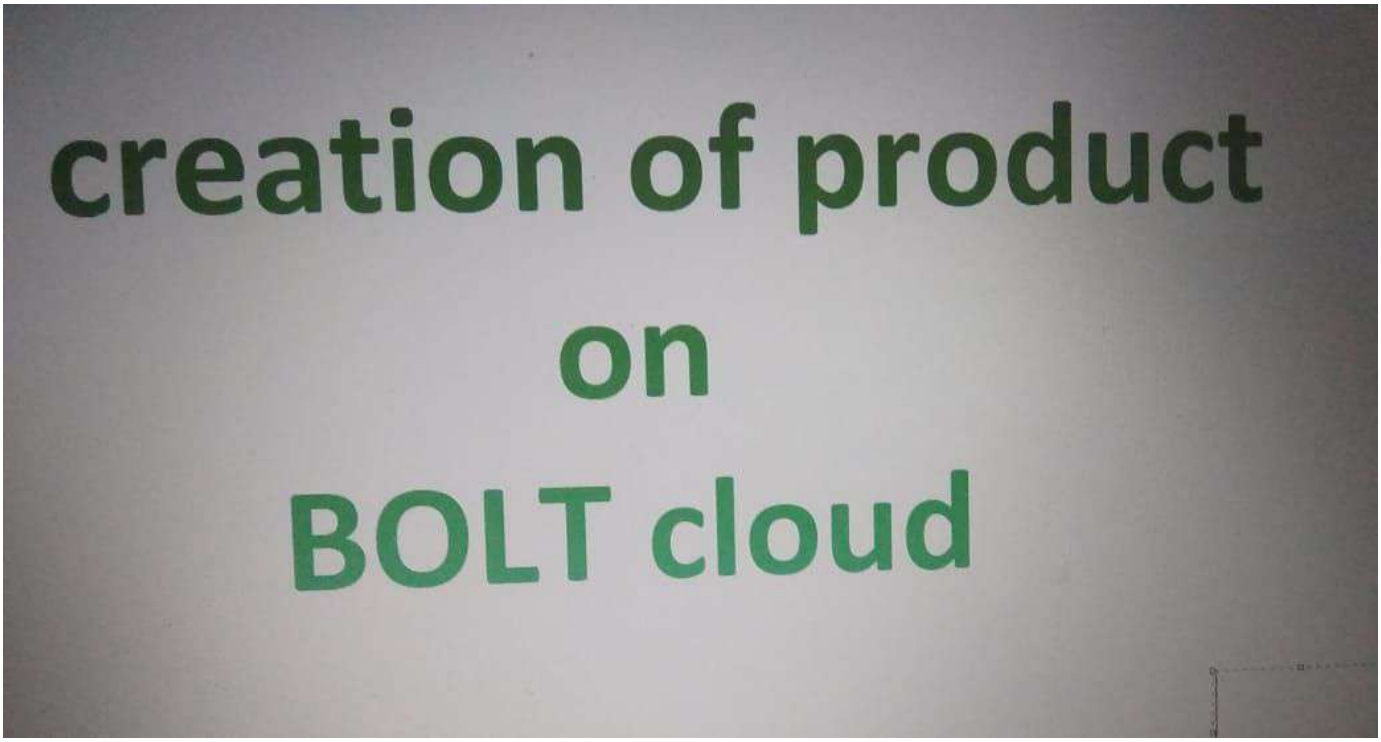
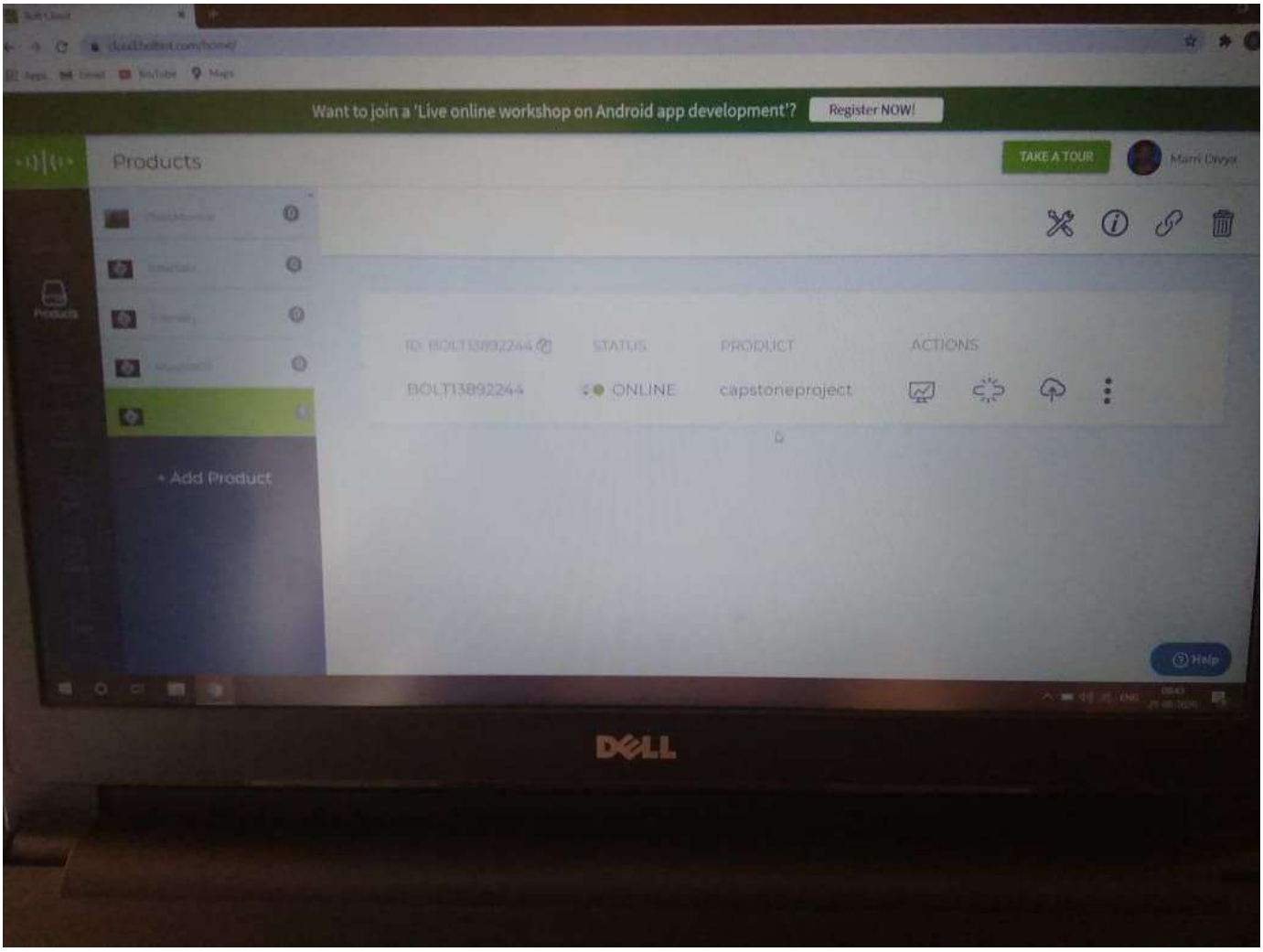
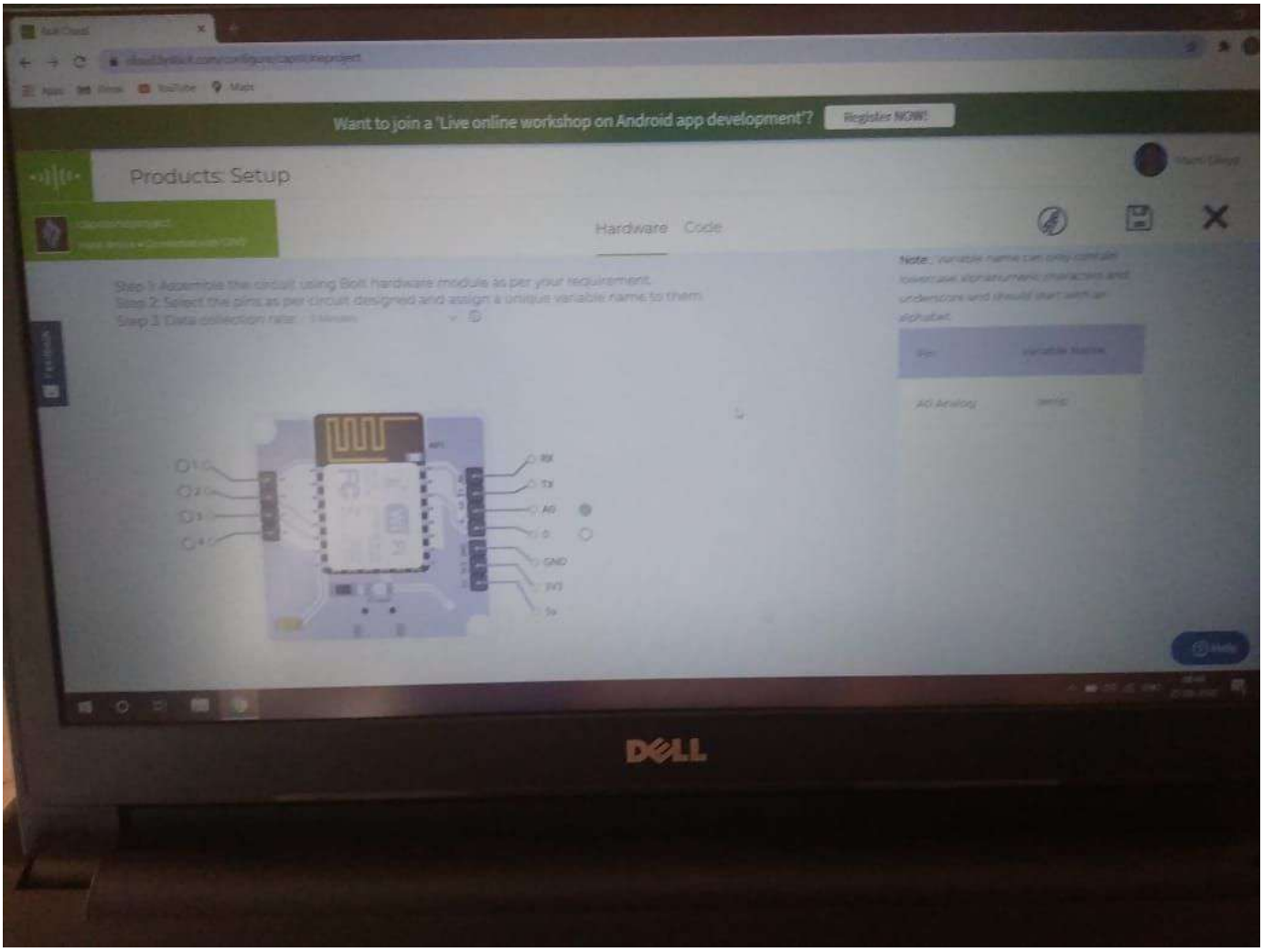

capstone
project


circuit
connections




creation of product
on
BOLT cloud


Want to join a 'Live online workshop on Android app development'?
Register NOW!
Products
TAKE A TOUR
STATUS
PRODUCT
ACTIONS
BOLT13892244
ONLINE
capstoneproject
+ Add Product
Help
DELL


Want to join a 'Live online workshop on Android app development'?
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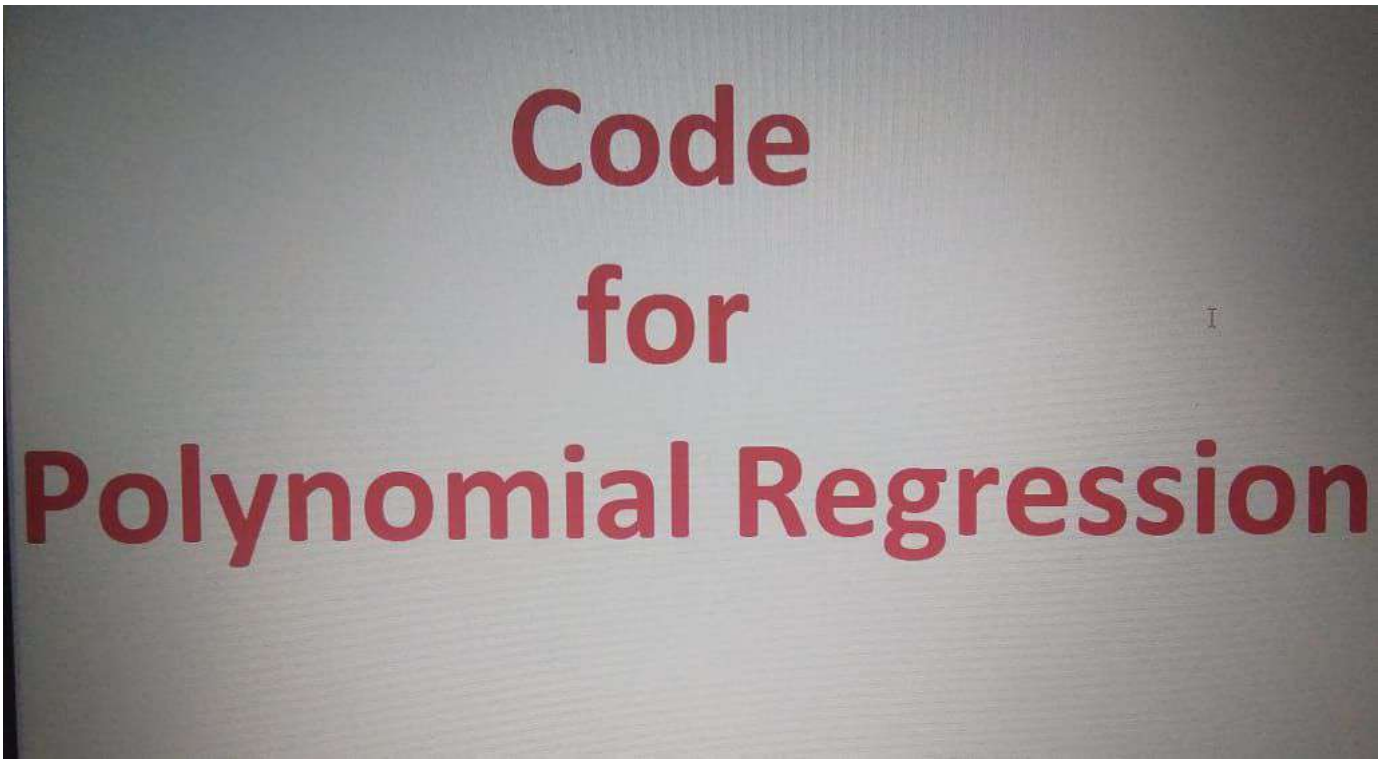
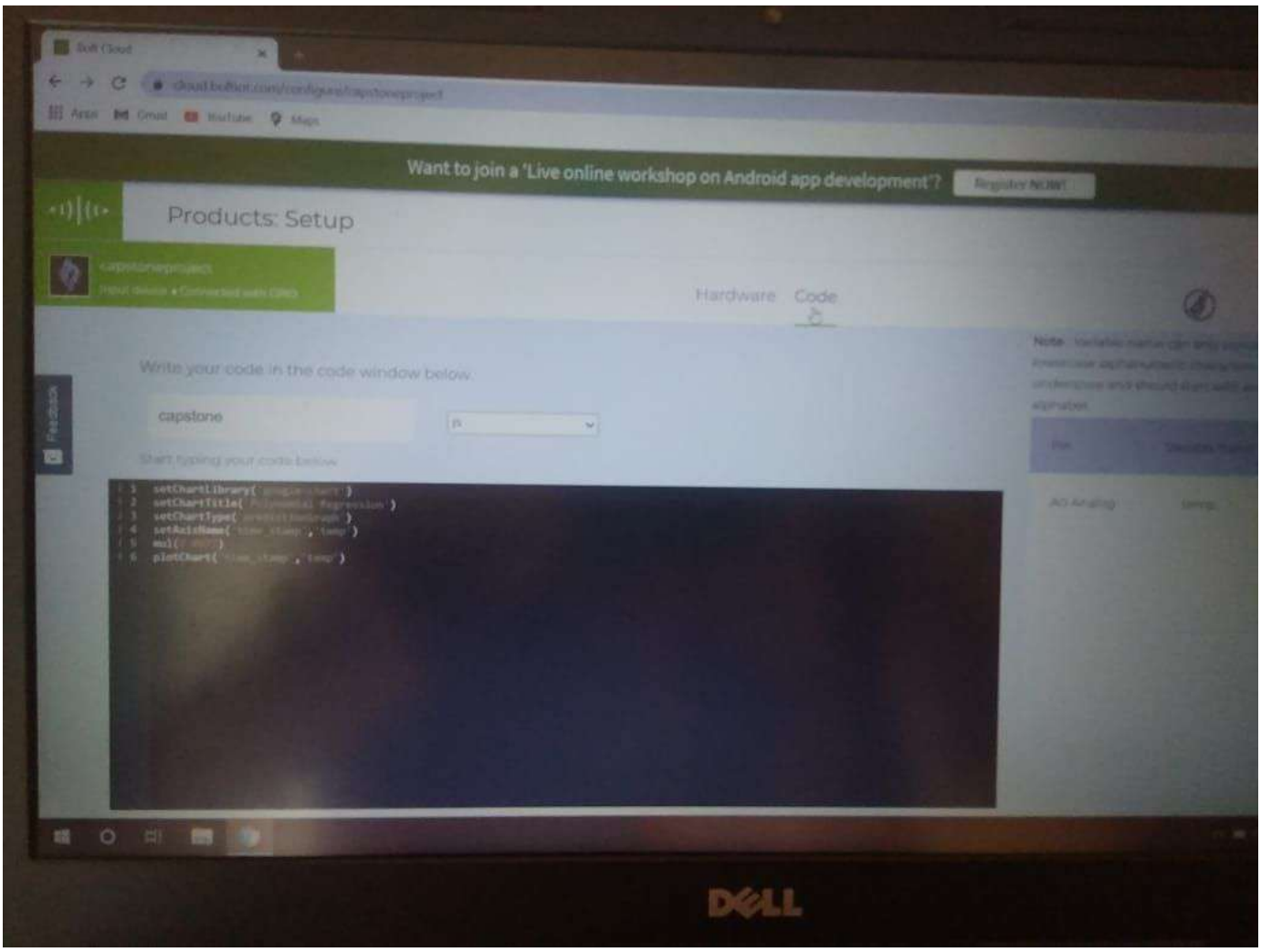
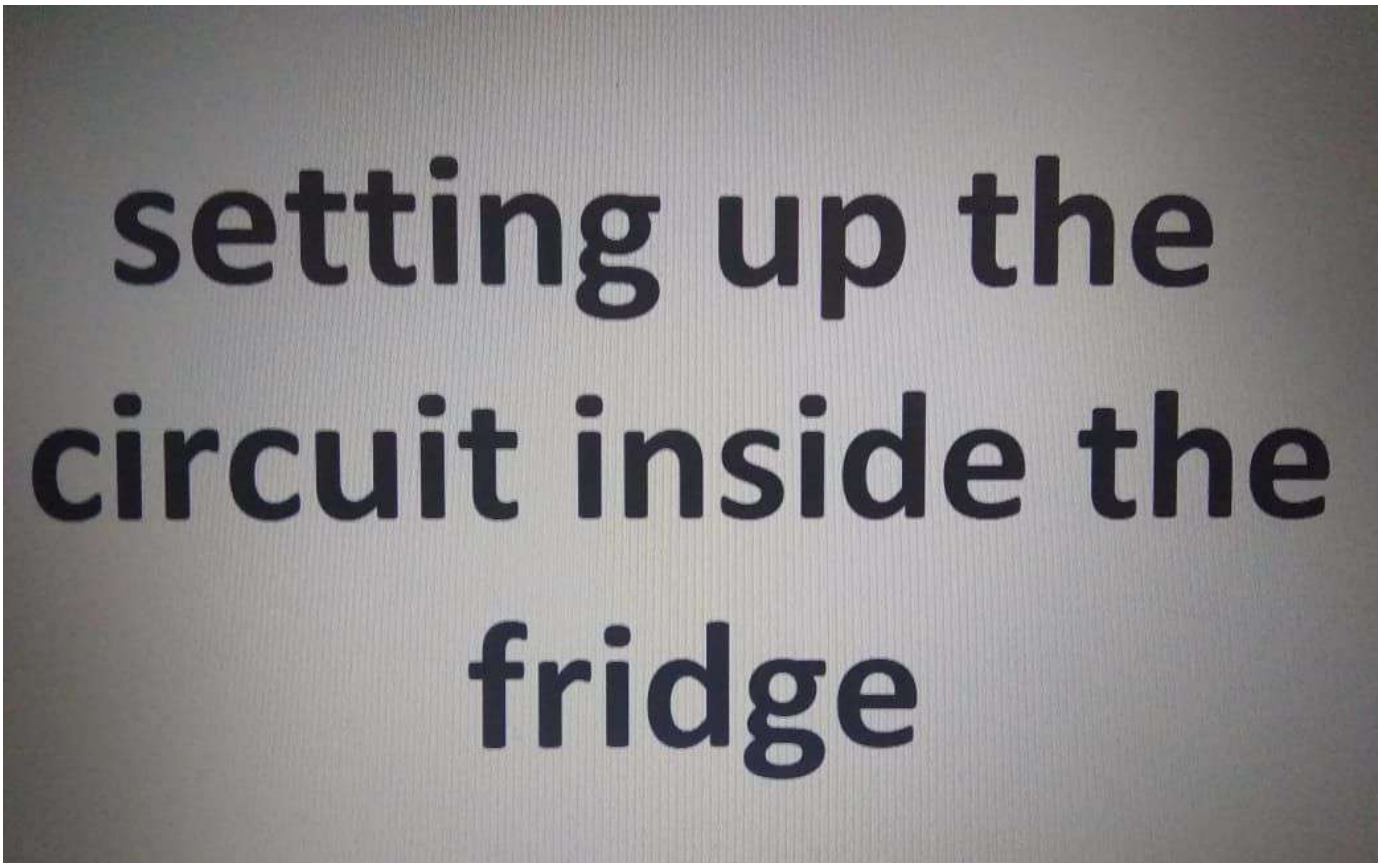
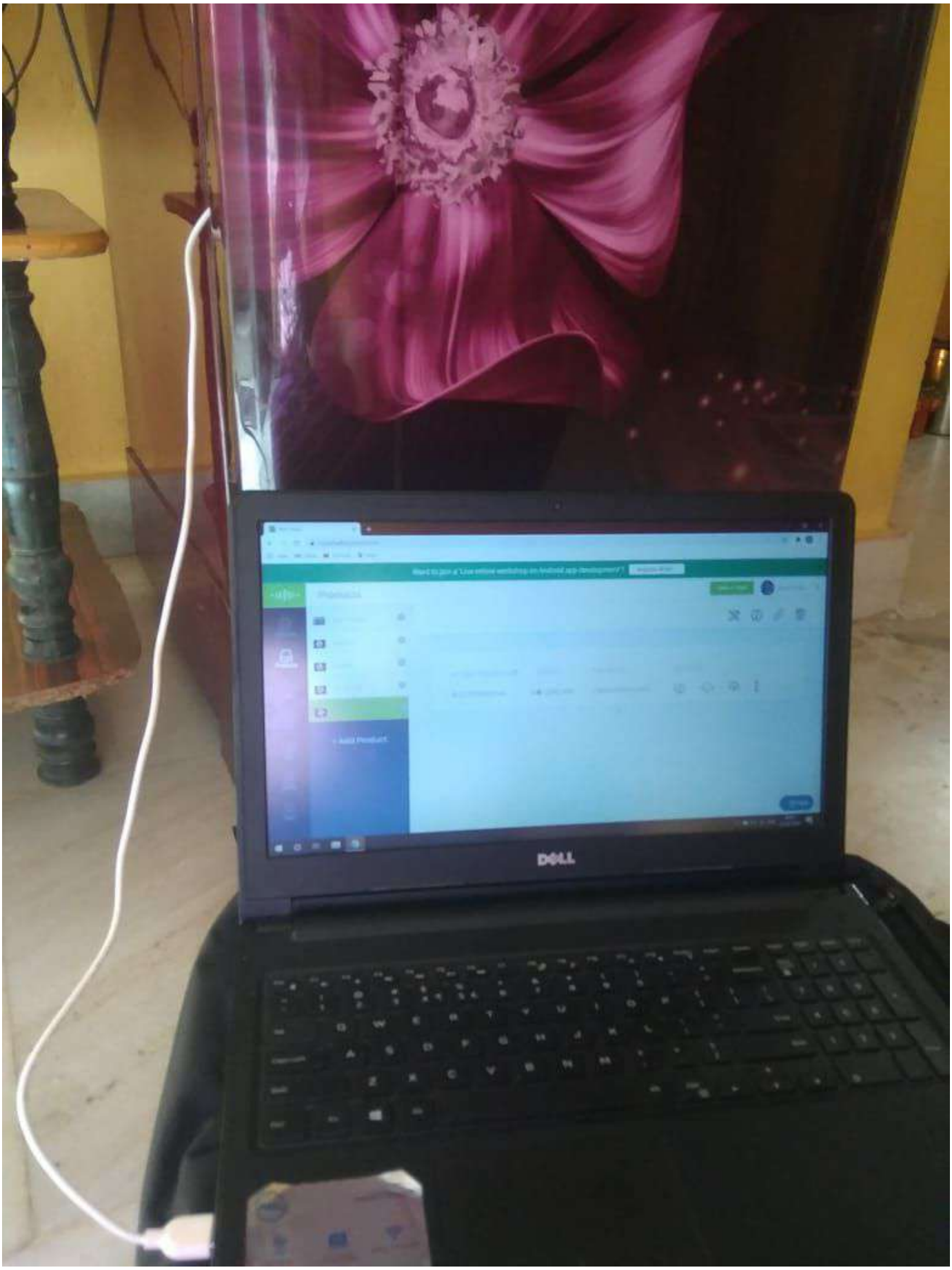
Products: Setup
Hardware
Code
Step 1: Assemble the circuit using Bolt hardware module as per your requirement.
Step 2: Select the pins as per circuit designed and assign a unique variable name to them.
Step 3: Data collection rate
Note : Variable name can only contain lowercase alphanumeric characters and underscore and should start with an alphabet.
Pin
Variable Name
A0 Analog
RX
TX
A0
GND
3V3
3v
DELL

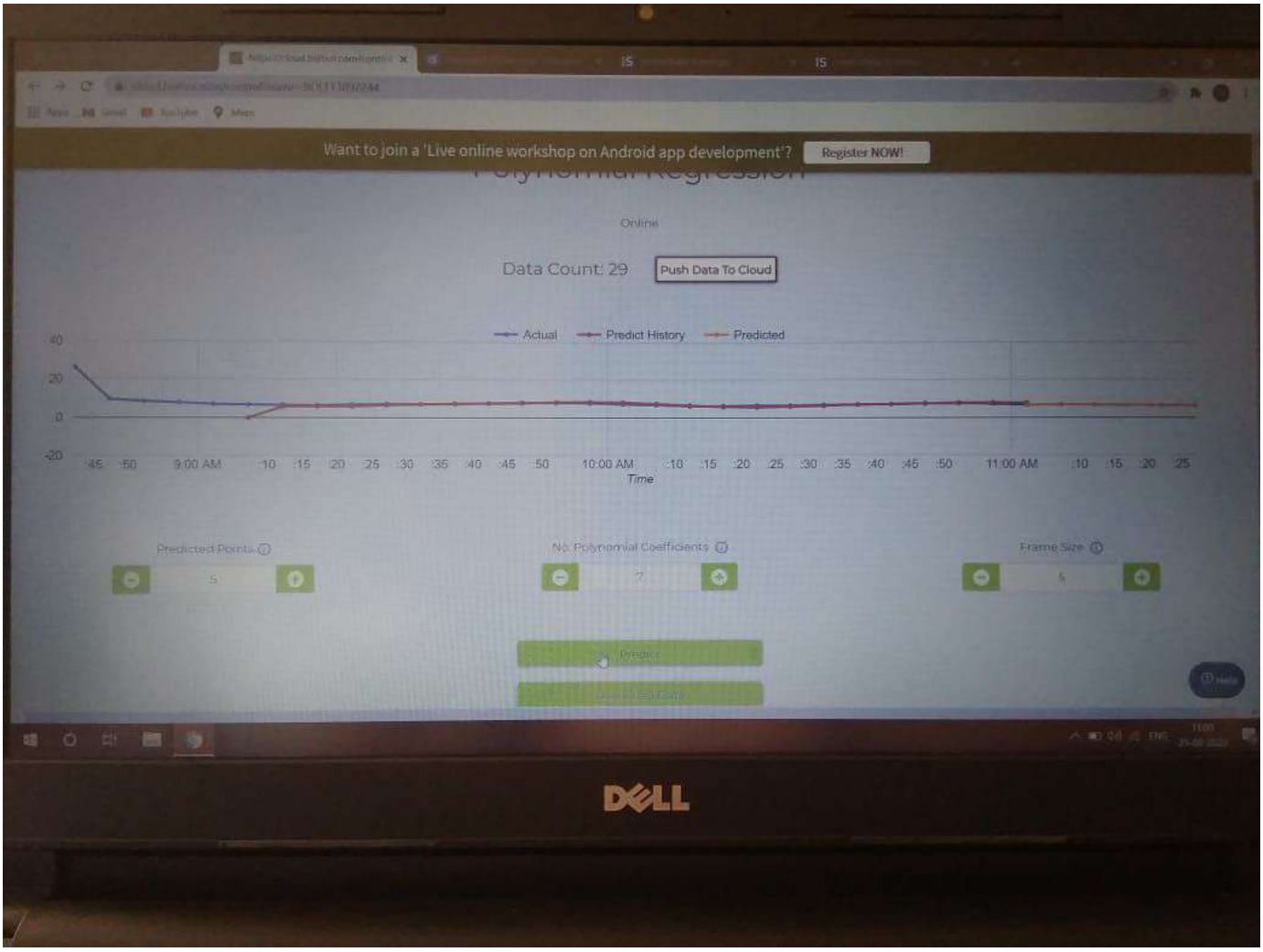

Code
for
Polynomial Regression


Want to join a 'Live online workshop on Android app development'?
Products: Setup
Hardware
Code
Write your code in the code window below
capstone
Start typing your code below
setChartLibrary('
setChartTitle('Polynomial Regression')
setChartType('
setAxisName('time_stamp','temp')
plotChart('time_stamp','temp')
DELL


setting up the
circuit inside the
fridge


DELL


Graph


Want to join a 'Live online workshop on Android app development'?
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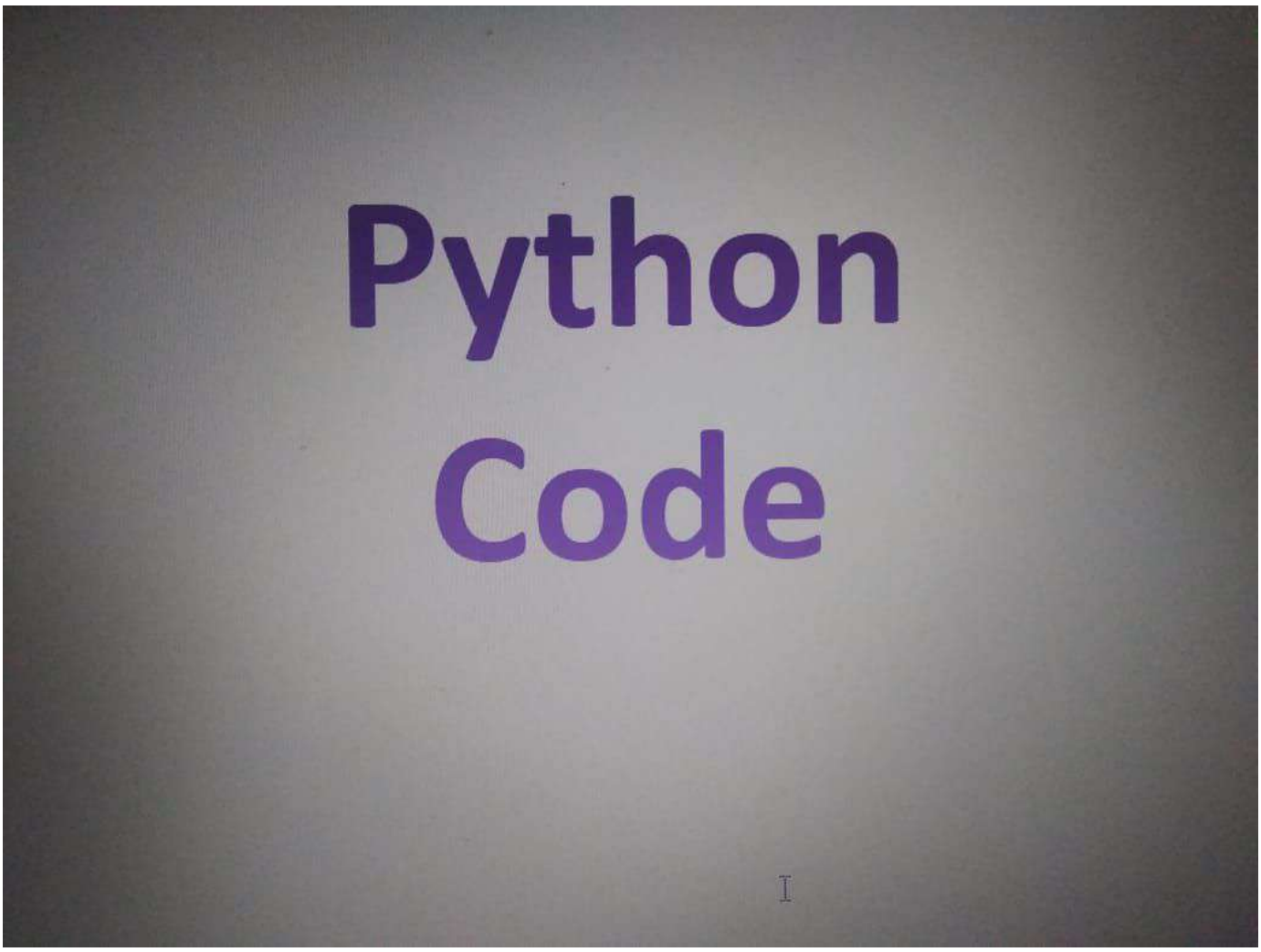
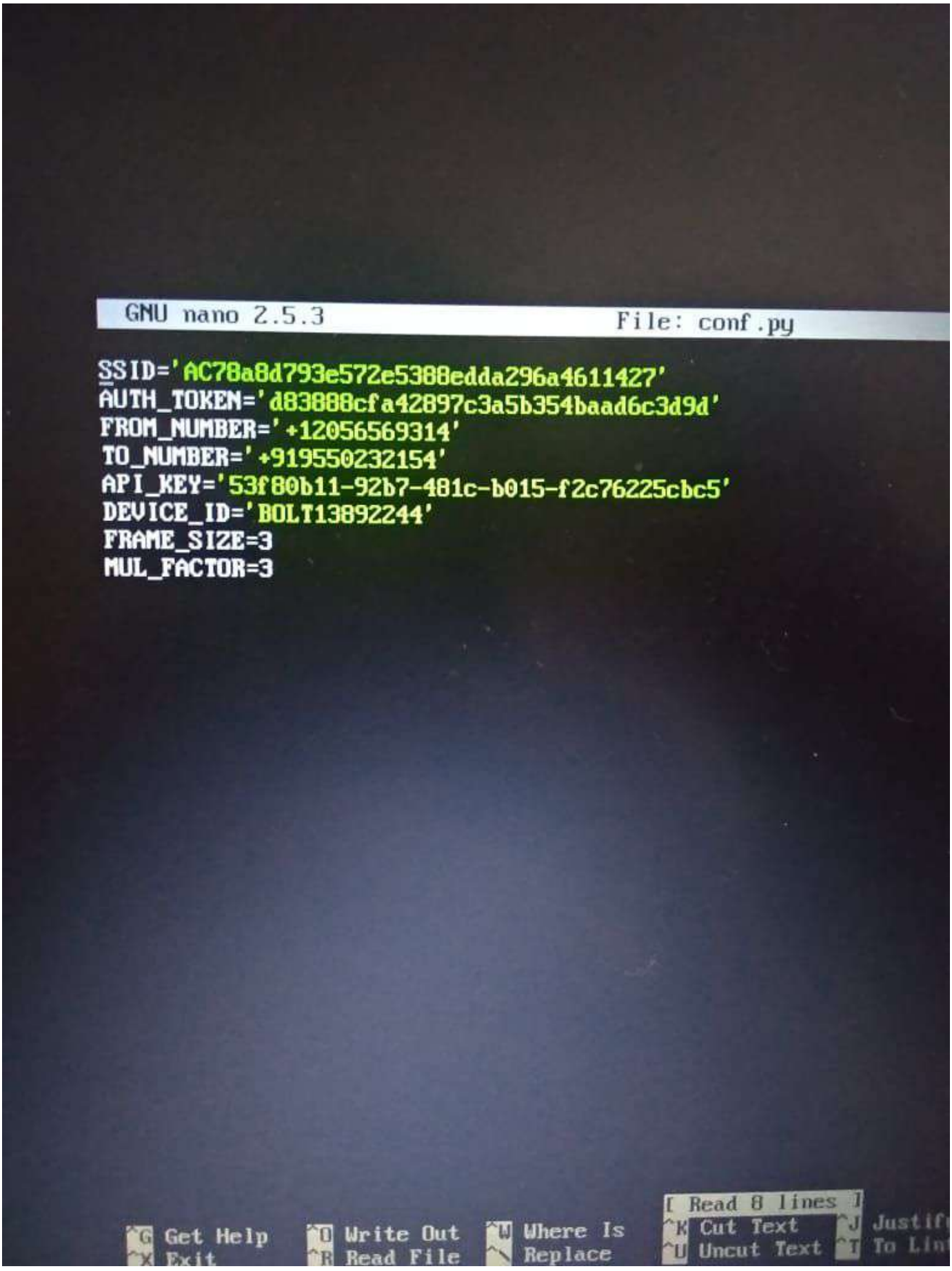
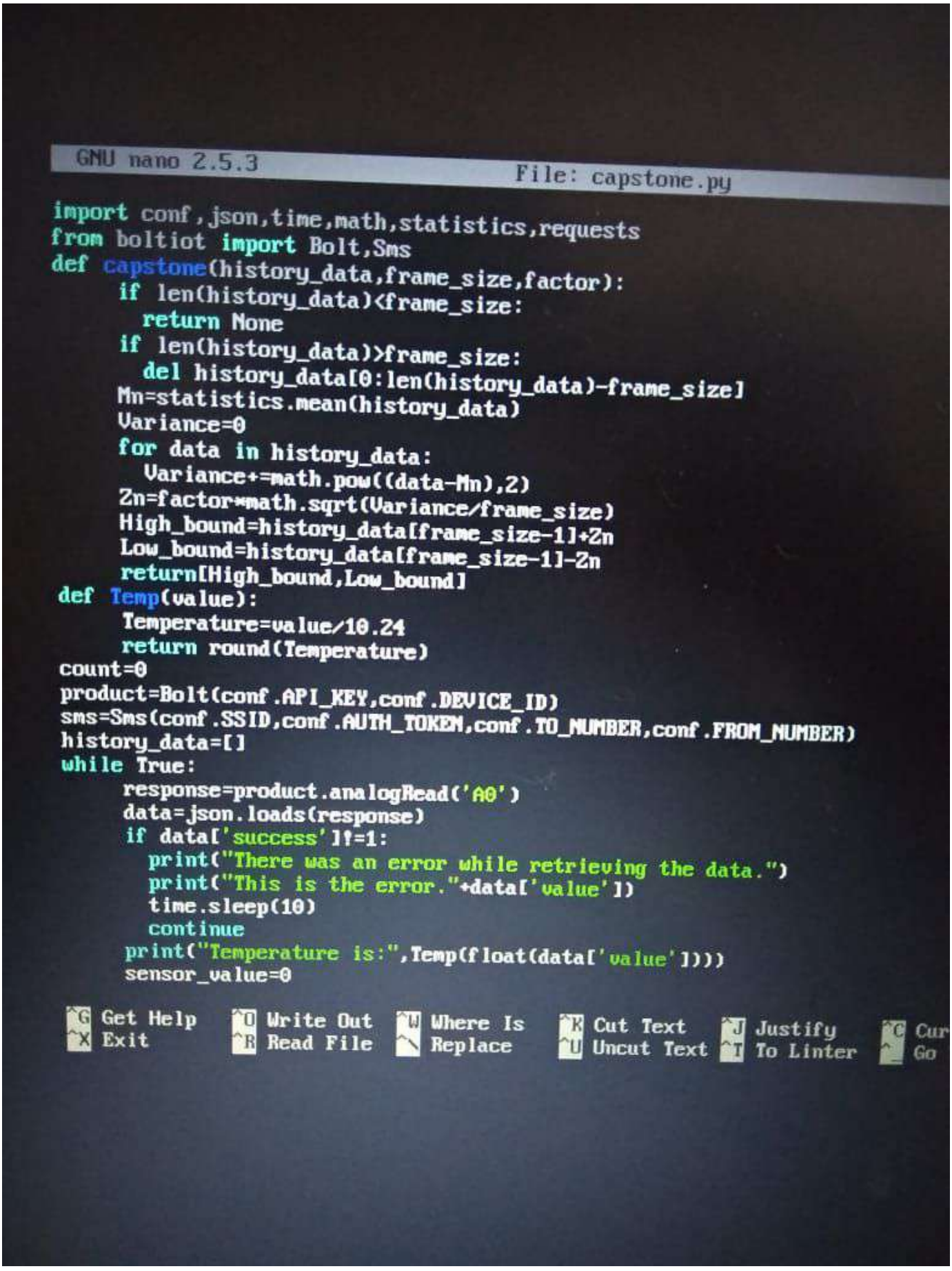
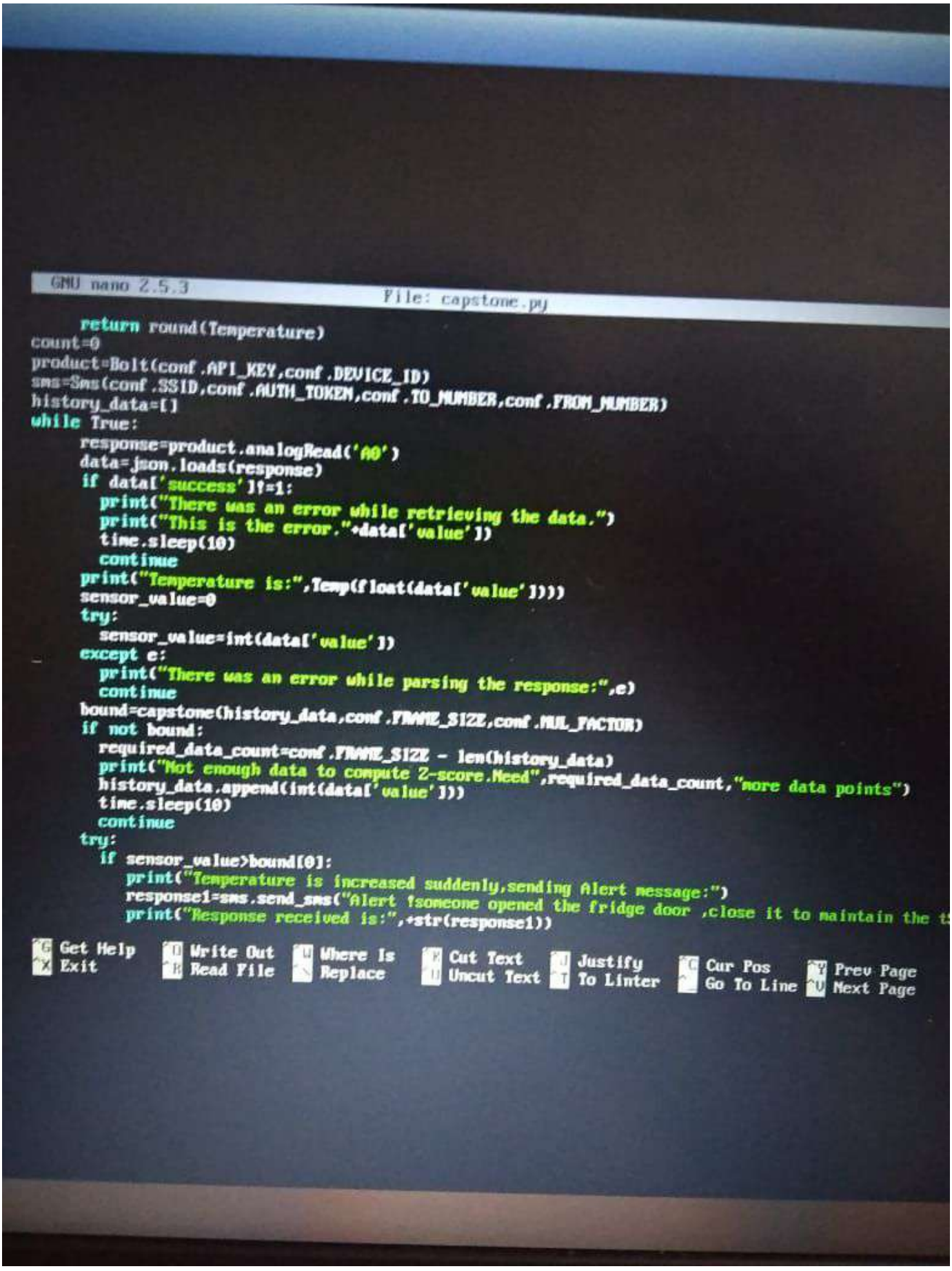
Online
Data Count: 29
Push Data To Cloud
Actual
Predict History
Predicted
40
20
0
-20
9:00 AM
10:00 AM
11:00 AM
Time
Predicted Points
No. Polynomial Coefficients
Frame Size
Predict
DELL


Python
Code


GNU nano 2.5.3 File: conf.py
SSID='AC78a8d793e572e5388edda296a4611427'
AUTH_TOKEN='d83888cfa42897c3a5b354baad6c3d9d'
FROM_NUMBER='+12056569314'
TO_NUMBER='+919550232154'
API_KEY='53f80b11-92b7-481c-b015-f2c76225cbc5'
DEVICE_ID='BOLT13892244'
FRAME_SIZE=3
MUL_FACTOR=3
[Read 8 lines]
^G Get Help
^O Write Out
^W Where Is
^K Cut Text
^J Justif
^X Exit
^R Read File
^\ Replace
^U Uncut Text
^T To Lin

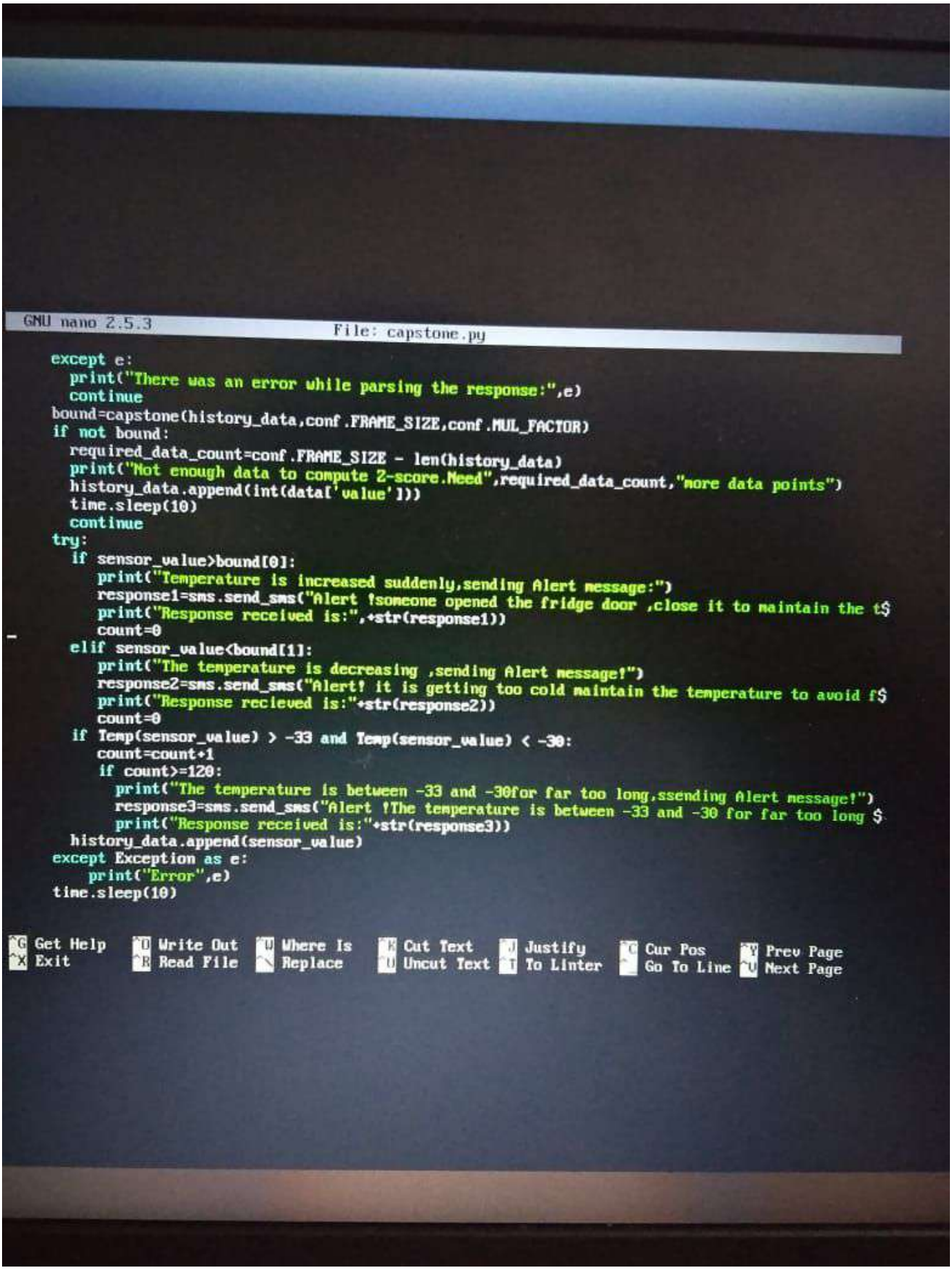

GNU nano 2.5.3 File: capstone.py
import conf,json,time,math,statistics,requests
from boltiot import Bolt,Sms
def capstone(history_data,frame_size,factor):
if len(history_data)<frame_size:
return None
if len(history_data)>frame_size:
del history_data[0:len(history_data)-frame_size]
Mn=statistics.mean(history_data)
Variance=0
for data in history_data:
Variance+=math.pow((data-Mn),2)
Zn=factor*math.sqrt(Variance/frame_size)
High_bound=history_data[frame_size-1]+Zn
Low_bound=history_data[frame_size-1]-Zn
return[High_bound,Low_bound]
def Temp(value):
Temperature=value/10.24
return round(Temperature)
count=0
product=Bolt(conf.API_KEY,conf.DEVICE_ID)
sms=Sms(conf.SSID,conf.AUTH_TOKEN,conf.TO_NUMBER,conf.FROM_NUMBER)
history_data=[]
while True:
response=product.analogRead('A0')
data=json.loads(response)
if data['success']!=1:
print("There was an error while retrieving the data.")
print("This is the error."+data['value'])
time.sleep(10)
continue
print("Temperature is:",Temp(float(data['value'])))
sensor_value=0
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Linter ^_ Go



```
 GNU nano 2.5.3                    File: capstone.py

    return round(Temperature)
count=0
product=Bolt(conf.API_KEY,conf.DEVICE_ID)
sms=Sms(conf.SSID,conf.AUTH_TOKEN,conf.TO_NUMBER,conf.FROM_NUMBER)
history_data=[]
while True:
    response=product.analogRead('A0')
    data=json.loads(response)
    if data['success']!=1:
      print("There was an error while retrieving the data.")
      print("This is the error."+data['value'])
      time.sleep(10)
      continue
    print("Temperature is:",Temp(float(data['value'])))
    sensor_value=0
    try:
      sensor_value=int(data['value'])
    except e:
      print("There was an error while parsing the response:",e)
      continue
    bound=capstone(history_data,conf.FRAME_SIZE,conf.MUL_FACTOR)
    if not bound:
      required_data_count=conf.FRAME_SIZE - len(history_data)
      print("Not enough data to compute Z-score.Need",required_data_count,"more data points")
      history_data.append(int(data['value']))
      time.sleep(10)
      continue
    try:
      if sensor_value>bound[0]:
        print("Temperature is increased suddenly,sending Alert message:")
        response1=sms.send_sms("Alert !someone opened the fridge door ,close it to maintain the t
        print("Response received is:",+str(response1))

^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text  ^J Justify  ^C Cur Pos  ^Y Prev Page
^X Exit      ^R Read File  ^\ Replace   ^U Uncut Text ^T To Linter ^_ Go To Line ^V Next Page
```


GNU nano 2.5.3 File: capstone.py
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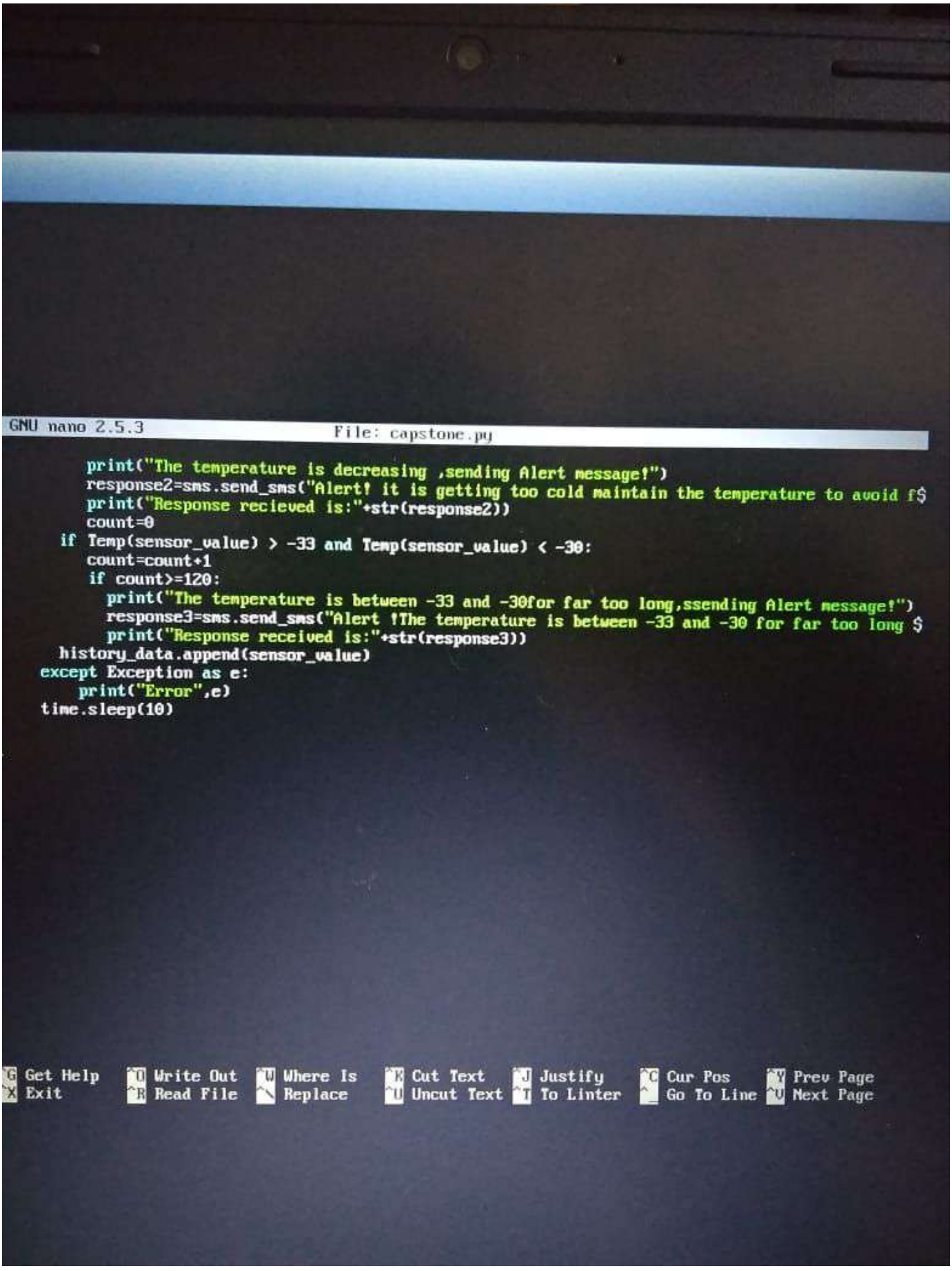
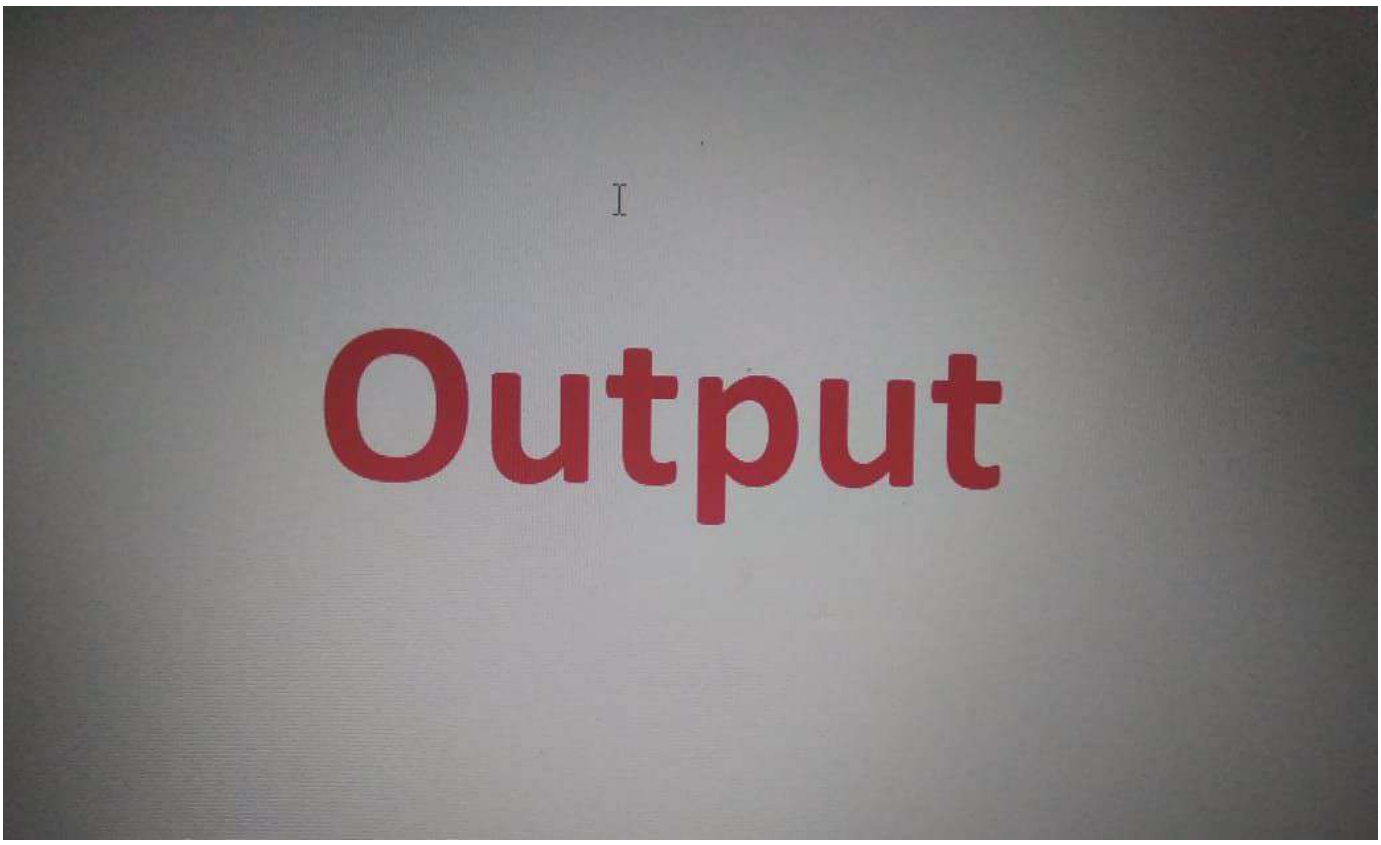
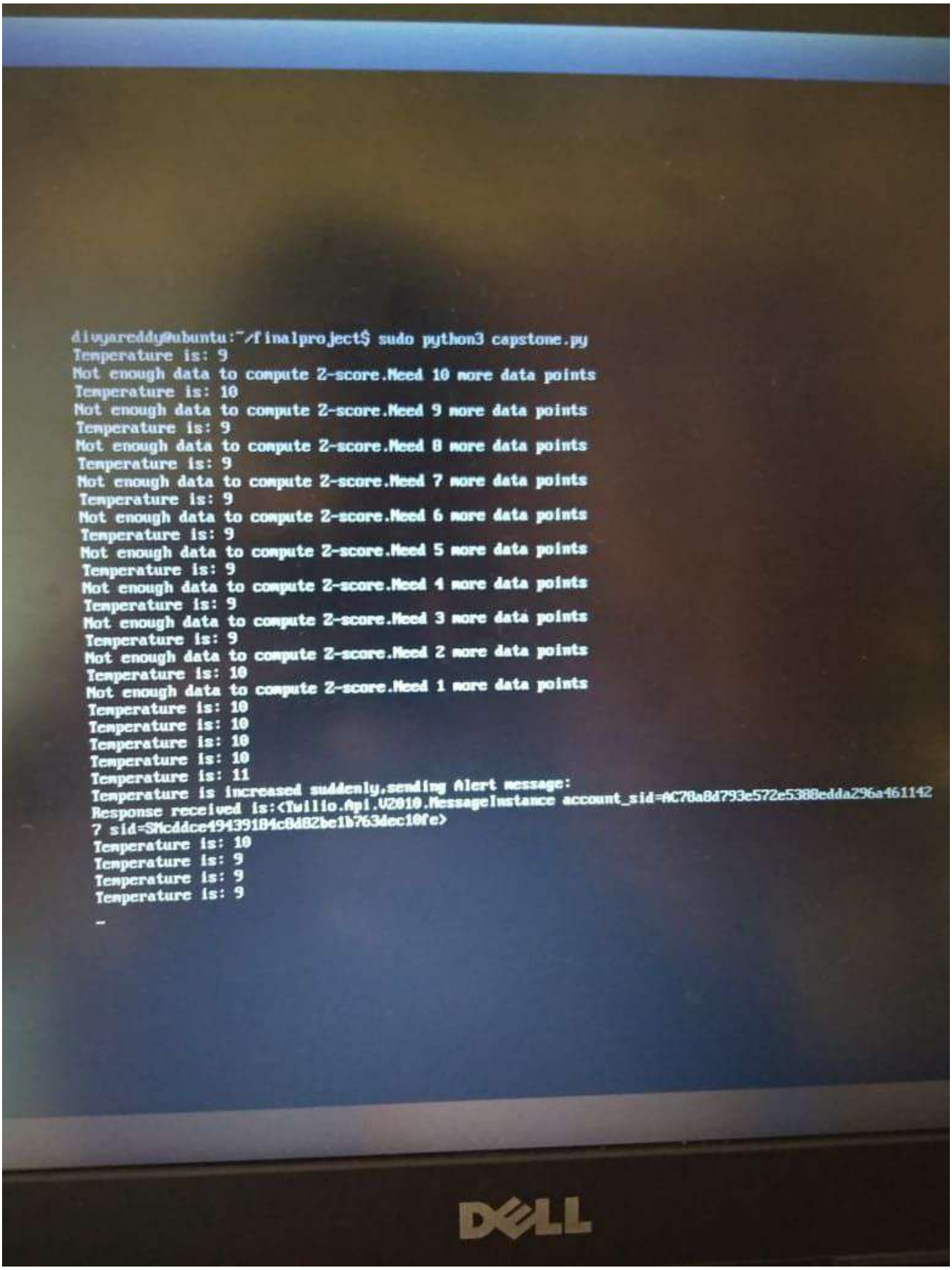
print("There was an error while parsing the response:",e)
continue
bound=capstone(history_data,conf.FRAME_SIZE,conf.MUL_FACTOR)
if not bound:
required_data_count=conf.FRAME_SIZE - len(history_data)
print("Not enough data to compute Z-score.Need",required_data_count,"more data points")
history_data.append(int(data['value']))
time.sleep(10)
continue
try:
if sensor_value>bound[0]:
print("Temperature is increased suddenly,sending Alert message:")
response1=sms.send_sms("Alert !someone opened the fridge door ,close it to maintain the t$
print("Response received is:",+str(response1))
count=0
elif sensor_value<bound[1]:
print("The temperature is decreasing ,sending Alert message!")
response2=sms.send_sms("Alert! it is getting too cold maintain the temperature to avoid f$
print("Response recieved is:"+str(response2))
count=0
if Temp(sensor_value) > -33 and Temp(sensor_value) < -30:
count=count+1
if count>=120:
print("The temperature is between -33 and -30for far too long,ssending Alert message!")
response3=sms.send_sms("Alert !The temperature is between -33 and -30 for far too long $
print("Response received is:"+str(response3))
history_data.append(sensor_value)
except Exception as e:
print("Error",e)
time.sleep(10)
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos ^Y Prev Page
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Linter ^_ Go To Line ^V Next Page


GNU nano 2.5.3 File: capstone.py
print("The temperature is decreasing ,sending Alert message!")
response2=sms.send_sms("Alert! it is getting too cold maintain the temperature to avoid f$
print("Response recieved is:"+str(response2))
count=0
if Temp(sensor_value) > -33 and Temp(sensor_value) < -30:
count=count+1
if count>=120:
print("The temperature is between -33 and -30for far too long,ssending Alert message!")
response3=sms.send_sms("Alert !The temperature is between -33 and -30 for far too long $
print("Response received is:"+str(response3))
history_data.append(sensor_value)
except Exception as e:
print("Error",e)
time.sleep(10)
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos ^Y Prev Page
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Linter ^_ Go To Line ^V Next Page


Output


divyareddy@ubuntu:~/finalproject$ sudo python3 capstone.py
Temperature is: 9
Not enough data to compute Z-score.Need 10 more data points
Temperature is: 10
Not enough data to compute Z-score.Need 9 more data points
Temperature is: 9
Not enough data to compute Z-score.Need 8 more data points
Temperature is: 9
Not enough data to compute Z-score.Need 7 more data points
Temperature is: 9
Not enough data to compute Z-score.Need 6 more data points
Temperature is: 9
Not enough data to compute Z-score.Need 5 more data points
Temperature is: 9
Not enough data to compute Z-score.Need 4 more data points
Temperature is: 9
Not enough data to compute Z-score.Need 3 more data points
Temperature is: 9
Not enough data to compute Z-score.Need 2 more data points
Temperature is: 10
Not enough data to compute Z-score.Need 1 more data points
Temperature is: 10
Temperature is: 10
Temperature is: 10
Temperature is: 10
Temperature is: 11
Temperature is increased suddenly,sending Alert message:
Response received is:<Twilio.Api.V2010.MessageInstance account_sid=AC70a8d793e572e5388edda296a461142
7 sid=SMcddce49439184c0d82bc1b763dec10fe>
Temperature is: 10
Temperature is: 9
Temperature is: 9
Temperature is: 9
DELL

57575701

Marked as Spam by 213 people

Sent from your Twilio trial account - Alert! it is getting too cold maintain the temperature to avoid freezing of medicines

Sent from your Twilio trial account - Alert !someone opened the fridge door ,close it to maintain the temperature

Sent from your Twilio trial account - Alert! it is getting too cold maintain the temperature to avoid freezing of medicines

Sent from your Twilio trial account - Alert! it is getting too cold maintain the temperature to avoid freezing of medicines