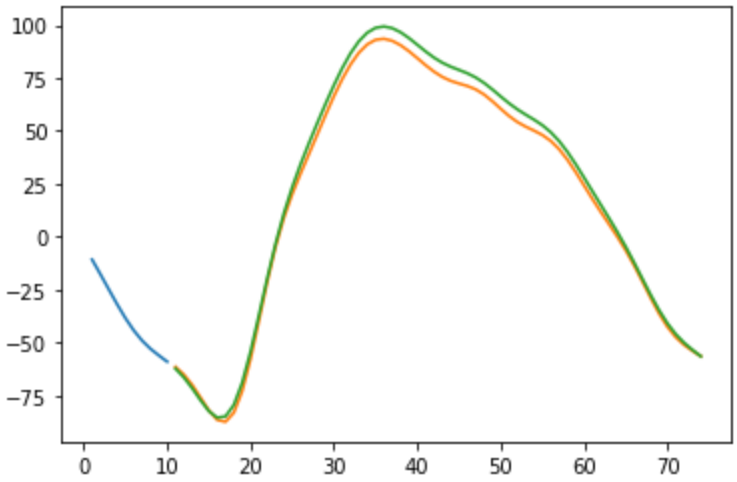
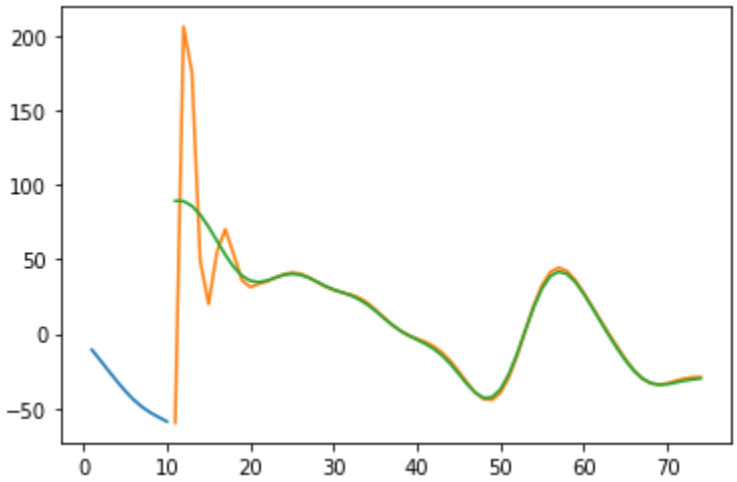
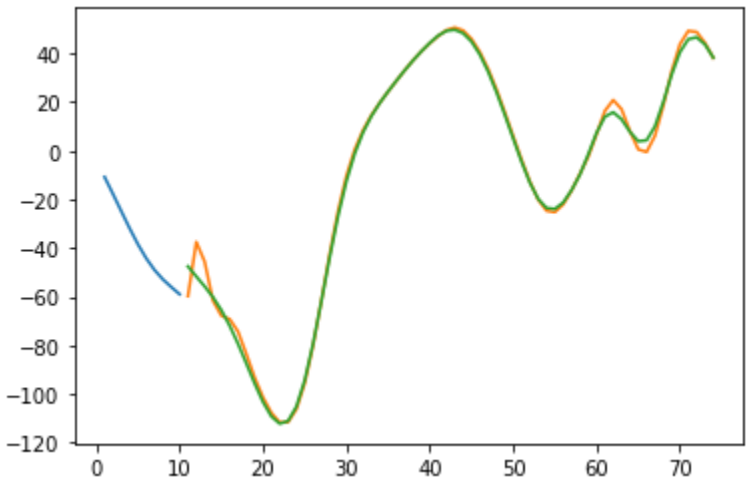
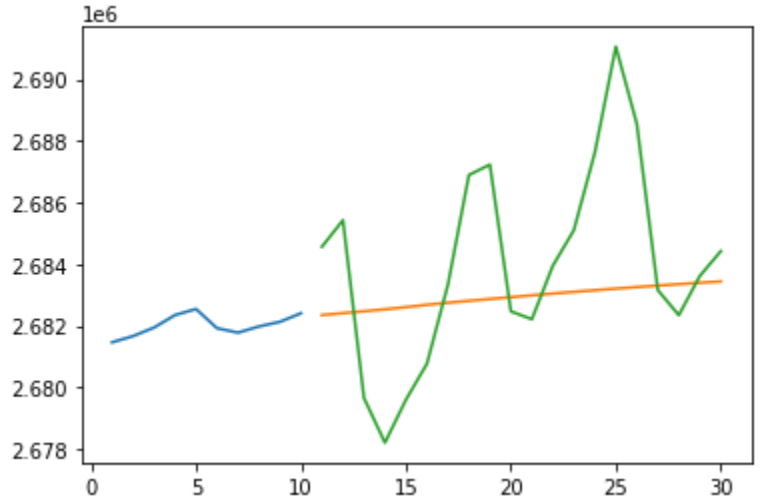

100
75
50
25
0
−25
−50
−75
0
10
20
30
40
50
60
70

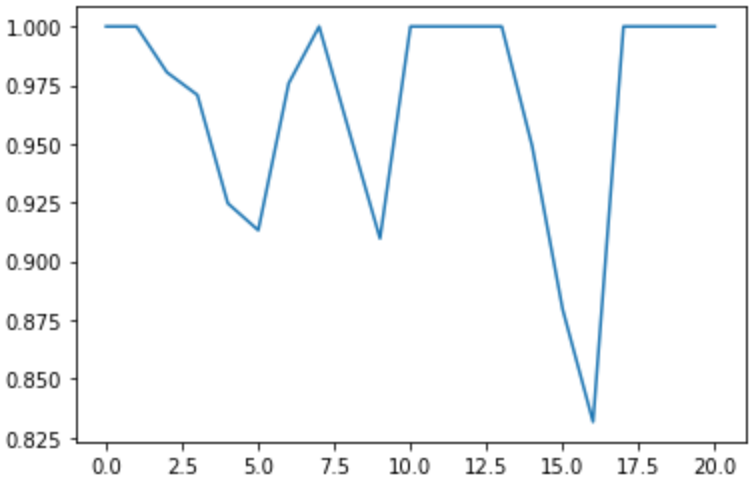

200
150
100
50
0
−50
0
10
20
30
40
50
60
70

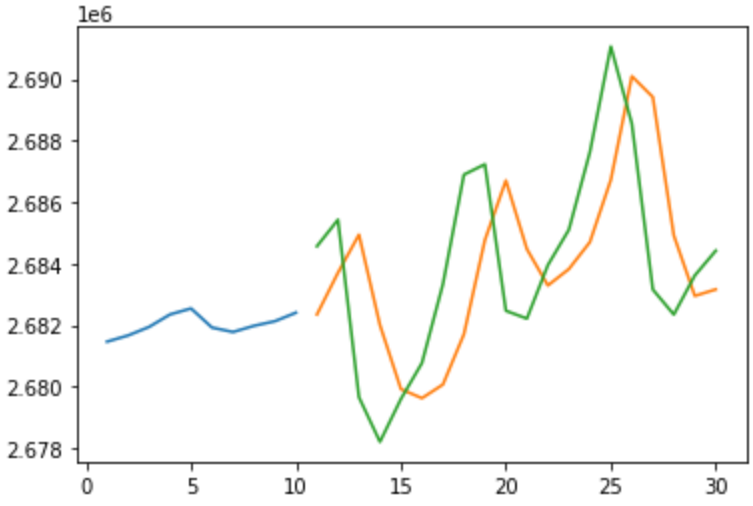

40
20
0
−20
−40
−60
−80
−100
−120
0
10
20
30
40
50
60
70

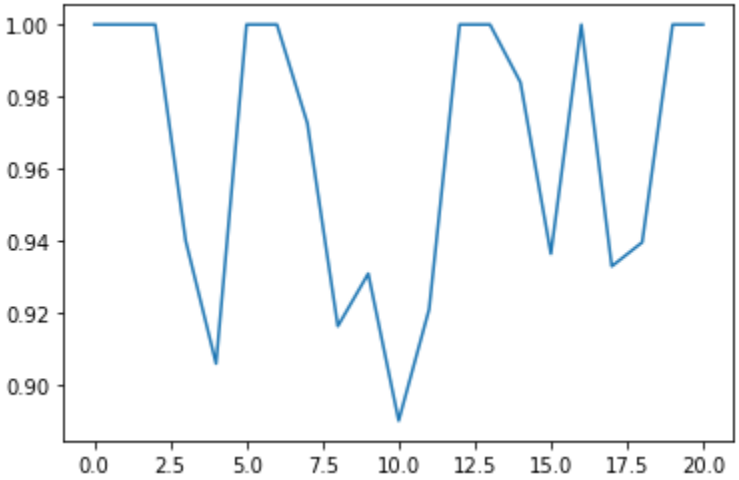
```
from numpy import array

lst_output=[]
n_steps=10
i=0
while(i<20):

    if(len(temp_input)>10):
        #print(temp_input)
        x_input=np.array(temp_input[1:])
        print("{} day input {}".format(i,x_input))
        x_input=x_input.reshape(1,-1)
        x_input = x_input.reshape((1, n_steps, 1))
        #print(x_input)
        yhat = model.predict(x_input, verbose=0)
        print("{} day output {}".format(i,yhat))
        # Confidence Calculation
        difference=abs(df_test2[i]-yhat[0])
        print("Difference",difference)
        abc = (0.20*math.log(2))/difference
        cl = 0.90*confidence[i] + 0.10*(math.exp(abc)-1)
        if(cl>1): cl=1
        if(cl<0): cl=0
        print("Confidence Level",cl);
        confidence.append(cl)
        temp_input.extend(yhat[0].tolist())
```

```
[0.32222715]
Difference [0.17256046]
Confidence Level 1
11
1 day input [0.26901186 0.29059289 0.3221783  0.33741765 0.28898551 0.27777778
 0.29346509 0.30513834 0.32669302 0.32222715]
1 day output [[0.32697007]]
Difference [0.23480058]
Confidence Level 0.9804734528428704
2 day input [0.29059289 0.3221783  0.33741765 0.28898551 0.27777778 0.29346509
 0.30513834 0.32669302 0.32222715 0.32697007]
2 day output [[0.3317377]]
Difference [0.21885455]
Confidence Level 0.9708326358755012
3 day input [0.3221783  0.33741765 0.28898551 0.27777778 0.29346509 0.30513834
 0.32669302 0.32222715 0.32697007 0.3317377 ]
3 day output [[0.3366997]]
Difference [0.33669969]
Confidence Level 0.9246920876957667
4 day input [0.33741765 0.28898551 0.27777778 0.29346509 0.30513834 0.32669302
 0.32222715 0.32697007 0.3317377  0.33669969]
4 day output [[0.34217808]]
Difference [0.23365155]
Confidence Level 0.9132210975026623
5 day input [0.28898551 0.27777778 0.29346509 0.30513834 0.32669302 0.32222715
 0.32697007 0.3317377  0.33669969 0.34217808]
5 day output [[0.34809986]]
Difference [0.14878447]
Confidence Level 0.9757929912898945
```



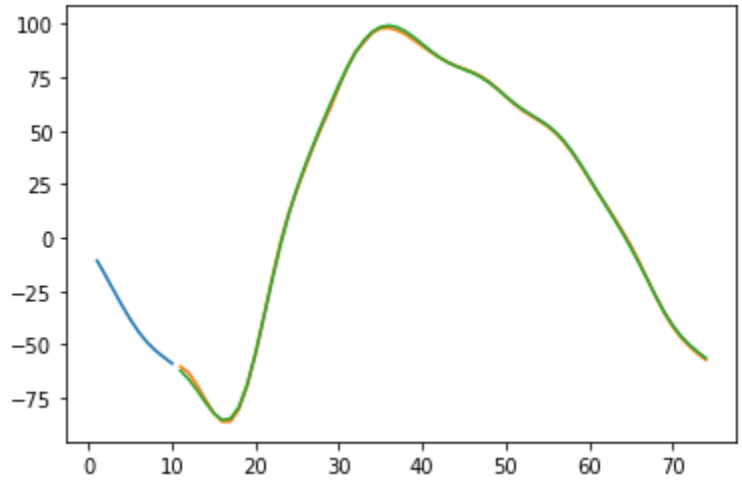

1.000
0.975
0.950
0.925
0.900
0.875
0.850
0.825
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0

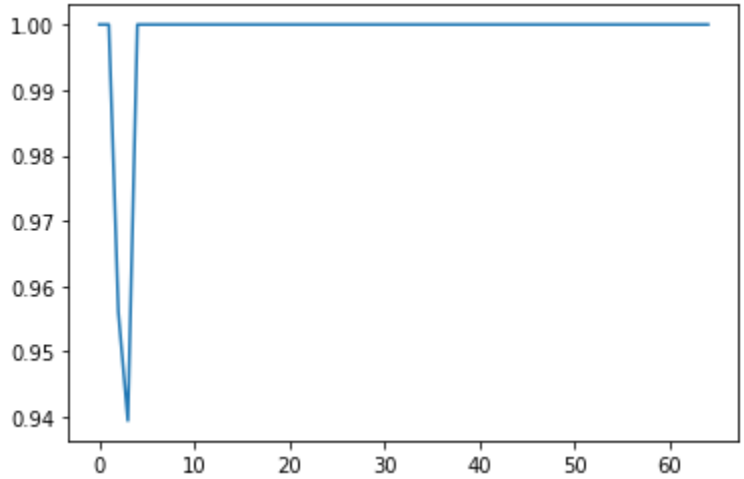

1e6
2.690
2.688
2.686
2.684
2.682
2.680
2.678
0
5
10
15
20
25
30


1.00
0.98
0.96
0.94
0.92
0.90
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0

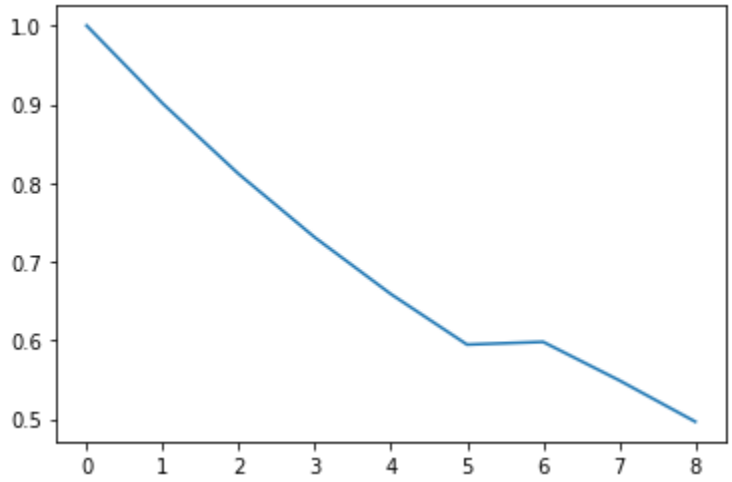
```
[0.32222715]
Difference [0.17256046]
Confidence Level 1
11
1 day input [0.26901186 0.29059289 0.3221783  0.33741765 0.28898551 0.27777778
 0.29346509 0.30513834 0.32669302 0.49478761]
1 day output [[0.4277165]]
Difference [0.13405416]
Confidence Level 1
2 day input [0.29059289 0.3221783  0.33741765 0.28898551 0.27777778 0.29346509
 0.30513834 0.32669302 0.49478761 0.56177066]
2 day output [[0.5239505]]
Difference [0.41106737]
Confidence Level 0.9401078952087912
3 day input [0.3221783  0.33741765 0.28898551 0.27777778 0.29346509 0.30513834
 0.32669302 0.49478761 0.56177066 0.11288315]
3 day output [[0.29545754]]
Difference [0.29545754]
Confidence Level 0.9059689865060668
4 day input [0.33741765 0.28898551 0.27777778 0.29346509 0.30513834 0.32669302
 0.49478761 0.56177066 0.11288315 0.        ]
4 day output [[0.1332486]]
Difference [0.02472207]
Confidence Level 1
5 day input [0.28898551 0.27777778 0.29346509 0.30513834 0.32669302 0.49478761
 0.56177066 0.11288315 0.         0.10852653]
5 day output [[0.11035675]]
Difference [0.08895864]
Confidence Level 1
```

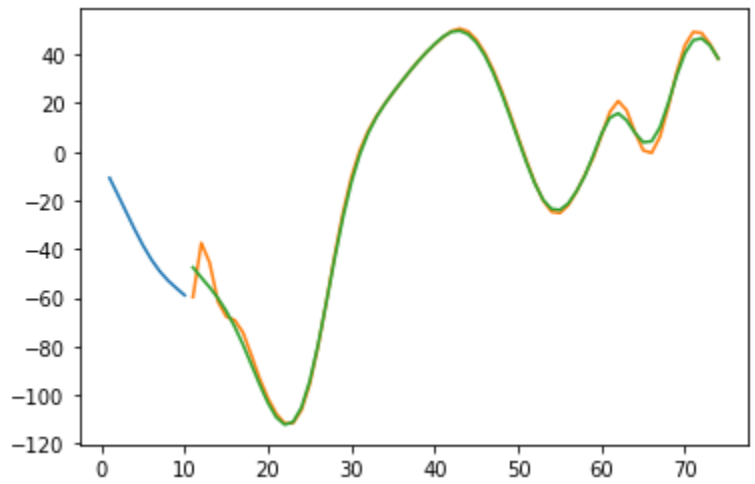
```
[-60.38318]
Confidence Level 1
11
1 day input [-17.7  -24.8  -31.83 -38.42 -44.22 -49.04 -52.88 -56.01 -58.96 -62.25]
1 day output [[-63.26468]]
Confidence Level 0.9560478422593137
2 day input [-24.8  -31.83 -38.42 -44.22 -49.04 -52.88 -56.01 -58.96 -62.25 -66.38]
2 day output [[-69.109024]]
Confidence Level 0.9394470404195012
3 day input [-31.83 -38.42 -44.22 -49.04 -52.88 -56.01 -58.96 -62.25 -66.38 -71.49]
3 day output [[-75.88471]]
Confidence Level 1
4 day input [-38.42 -44.22 -49.04 -52.88 -56.01 -58.96 -62.25 -66.38 -71.49 -77.15]
4 day output [[-82.12396]]
Confidence Level 1
5 day input [-44.22 -49.04 -52.88 -56.01 -58.96 -62.25 -66.38 -71.49 -77.15 -82.3 ]
5 day output [[-86.211975]]
Confidence Level 1
6 day input [-49.04 -52.88 -56.01 -58.96 -62.25 -66.38 -71.49 -77.15 -82.3  -85.4 ]
6 day output [[-86.12422]]
Confidence Level 1
7 day input [-52.88 -56.01 -58.96 -62.25 -66.38 -71.49 -77.15 -82.3  -85.4  -84.81]
7 day output [[-80.50944]]
Confidence Level 1
8 day input [-56.01 -58.96 -62.25 -66.38 -71.49 -77.15 -82.3  -85.4  -84.81 -79.38]
8 day output [[-69.47089]]
Confidence Level 1
9 day input [-58.96 -62.25 -66.38 -71.49 -77.15 -82.3  -85.4  -84.81 -79.38 -68.91]
9 day output [[-54.375015]]
Confidence Level 1
10 day input [-62.25 -66.38 -71.49 -77.15 -82.3  -85.4  -84.81 -79.38 -68.91 -54.27]
10 day output [[-37.00879]]
Confidence Level 1
```

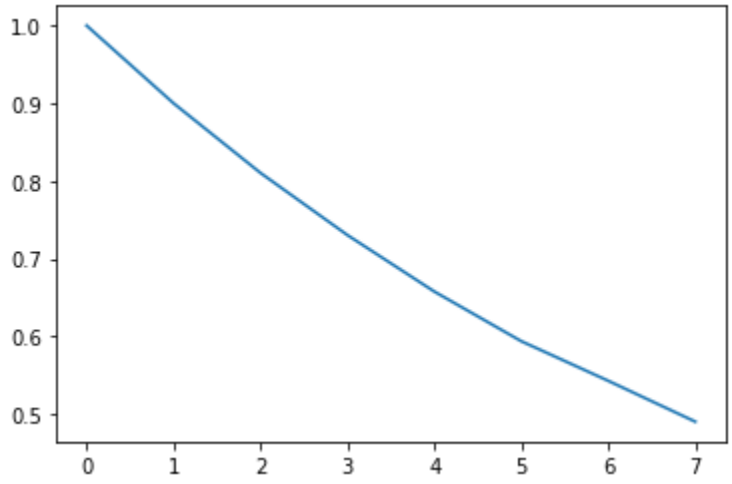
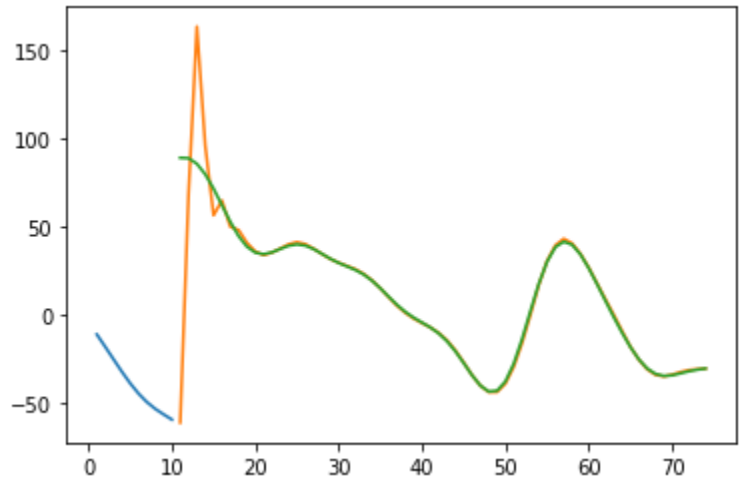




```
[-61.718346]
Confidence Level 0.9009797726308801
11
1 day input [-17.7  -24.8  -31.83 -38.42 -44.22 -49.04 -52.88 -56.01 -58.96 -47.5 ]
1 day output [[-20.229378]]
Confidence Level 0.8113236934648462
2 day input [-24.8  -31.83 -38.42 -44.22 -49.04 -52.88 -56.01 -58.96 -47.5  -51.67]
2 day output [[-78.39418]]
Confidence Level 0.7308048661732054
3 day input [-31.83 -38.42 -44.22 -49.04 -52.88 -56.01 -58.96 -47.5  -51.67 -55.73]
3 day output [[-47.326565]]
Confidence Level 0.6588087567336407
4 day input [-38.42 -44.22 -49.04 -52.88 -56.01 -58.96 -47.5  -51.67 -55.73 -60.18]
4 day output [[-57.414623]]
Confidence Level 0.5946615593791851
5 day input [-44.22 -49.04 -52.88 -56.01 -58.96 -47.5  -51.67 -55.73 -60.18 -65.48]
5 day output [[-71.605934]]
Confidence Level 0.598103926711593
6 day input [-49.04 -52.88 -56.01 -58.96 -47.5  -51.67 -55.73 -60.18 -65.48 -71.89]
6 day output [[-80.64287]]
Confidence Level 0.5492545085744296
7 day input [-52.88 -56.01 -58.96 -47.5  -51.67 -55.73 -60.18 -65.48 -71.89 -79.31]
7 day output [[-81.55313]]
Confidence Level 0.49671599940087385
Reauthenticate
```





```
print(lst_output)
```

```
[-60.994823]
Confidence Level 0.9000923116075566
11
1 day input [-17.7  -24.8  -31.83 -38.42 -44.22 -49.04 -52.88 -56.01 -58.96  89.25]
1 day output [[122.549644]]
Confidence Level 0.8104976374772258
2 day input [-24.8  -31.83 -38.42 -44.22 -49.04 -52.88 -56.01 -58.96  89.25  89.04]
2 day output [[98.94026]]
Confidence Level 0.7305141662716411
3 day input [-31.83 -38.42 -44.22 -49.04 -52.88 -56.01 -58.96  89.25  89.04  85.87]
3 day output [[44.33544]]
Confidence Level 0.6578528673029755
4 day input [-38.42 -44.22 -49.04 -52.88 -56.01 -58.96  89.25  89.04  85.87  79.94]
4 day output [[78.98949]]
Confidence Level 0.5940145152768272
5 day input [-44.22 -49.04 -52.88 -56.01 -58.96  89.25  89.04  85.87  79.94  71.8 ]
5 day output [[60.734047]]
Confidence Level 0.5430785853353205
6 day input [-49.04 -52.88 -56.01 -58.96  89.25  89.04  85.87  79.94  71.8   62.44]
6 day output [[45.36478]]
Confidence Level 0.4905837976574668
Reauthenticate
```