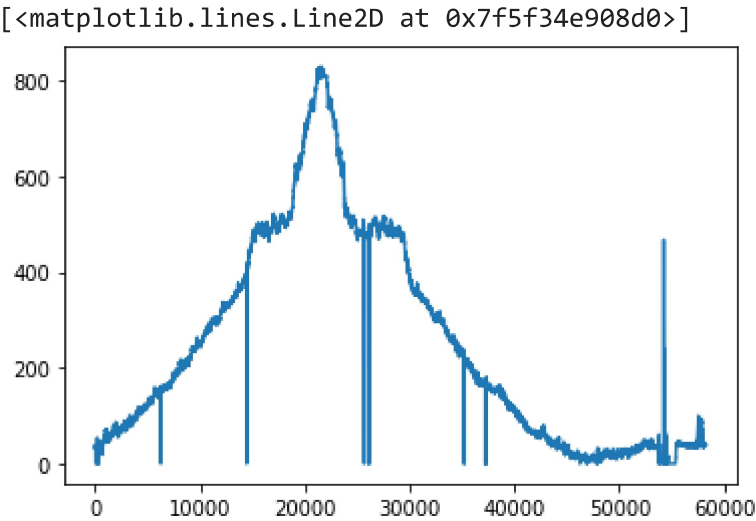


```
import warnings
warnings.filterwarnings('ignore')
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
df = pd.read_excel('Data2.xlsx')
df = df.rename(columns={"Altitude":"altitude"})
df = df.drop(['Latitude','Longitude'], axis=1)
print(df.shape)
df.head()
```

(58267, 2)

	SL	altitude
0	1	37
1	2	37
2	3	38
3	4	37
4	5	37

```
plt.plot(df['altitude'])
```

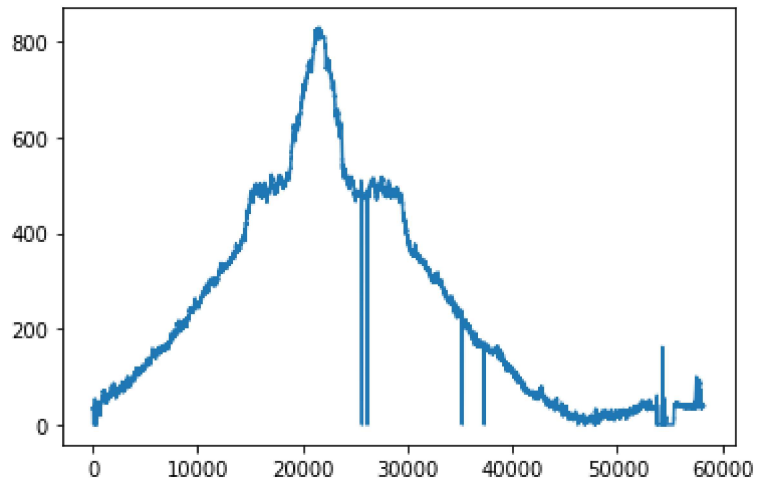


```
# df = df[df['altitude'] > 0]
# df.shape[0]
```

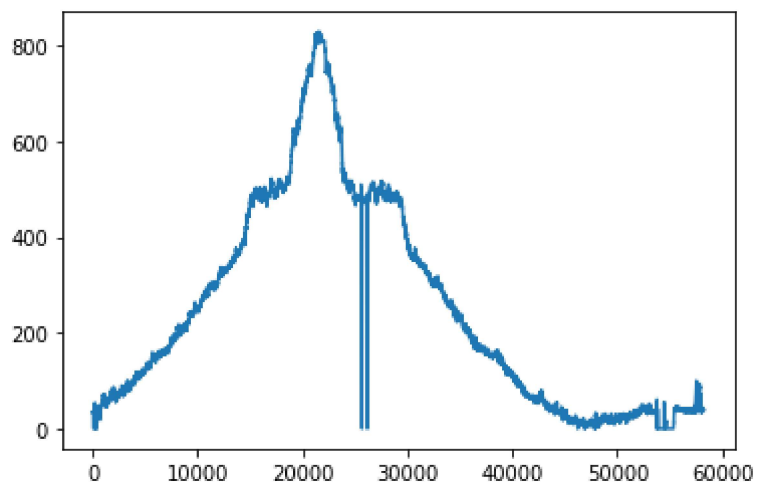
```
# plt.plot(df['altitude'])
```

```
def preprocess(data):
    data['SMA'] = data['altitude'].rolling(window=15).mean()
    data['diff'] = data['altitude'] - data['SMA']
    data=data.dropna()
    data_upper = data[data['diff'] > 50].index
    data_lower = data[data['diff'] < -50].index
    # print("Values Dropped: ", len(data_lower) + len(data_upper))
    data.drop(data_upper, inplace = True)
    data.drop(data_lower, inplace = True)
    # data.loc[data_upper,'altitude']=data.loc[data_upper-1, 'SMA']
    # data.loc[data_lower,'altitude']=data.loc[data_lower-1, 'SMA']
    plt.plot(data['altitude'])
    plt.show()
    # plt.plot(data['diff'])
    # plt.show()
    # print("Total Values in data: ", data.shape[0])
    return data
```

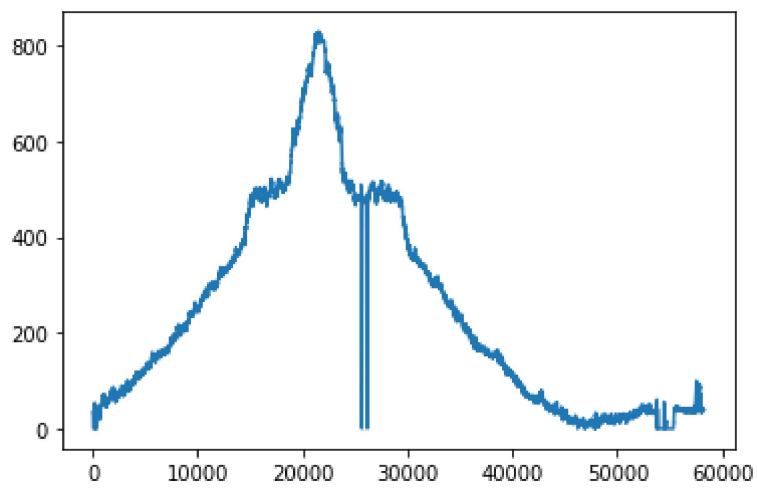
```
res1 = preprocess(df)
```



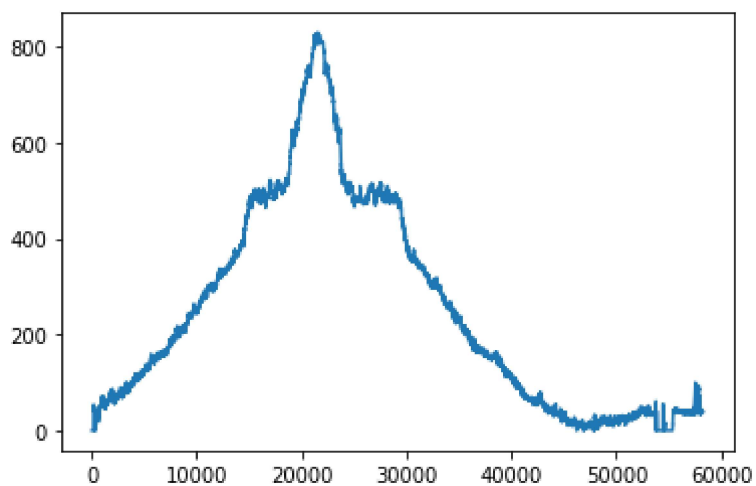
```
res2 = preprocess(res1)
```



```
res3 = preprocess(res2)
```



```
res4 = preprocess(res3)
```



✓ 0s completed at 19:25

● ✕