Python Assignment #3

ECE 330 – Finding Peaks in a Data Plot Report

Spring 2021

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Date: May 5th, 2021
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Course: Software Design

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Finding Peaks from a Data Plot Code Program and Output

In [197]:
```
#ECE 330 – Software Design
#Clarizza Morales
#Python Assignment #3
#Finding Peak values in a plot from data values in a .txt file
#Reference to function find_peaks in scipy python library
```

In [199]:
```
import matplotlib.pyplot as plt


def definePeaks(dpoints):
    peakValue= []
    peakIndex = []
    for pts in range(1, len(dpoints)-1):
        if(dpoints[pts] - dpoints[pts-1] > 0) and (dpoints[pts+1] - dpoints[pts] < 0):
            peakIndex.append(pts)
            peakValue.append(dpoints[pts])

    return peakIndex, peakValue

#open file
openTextFile = open("MyFile.txt", "r")
#read each value
value = openTextFile.readline()
#convert each value from string to float
yValues = [float(y) for y in value.split(",")]
#call definepeaks function to find peaks
peak, _ = definePeaks(yValues)
#identify the peaks with a marker +
plt.scatter(peak, _, marker = "+")
#plot graph
plt.plot(yValues)
```

```
#plot graph
plt.plot(yValues)
#save plot figure as an image
plt.savefig('MyFilePeaks.png')
#show graph
plt.show()
```

Figure 1. Code to find the peak values in a plot created from data given in a MyFile.txt file

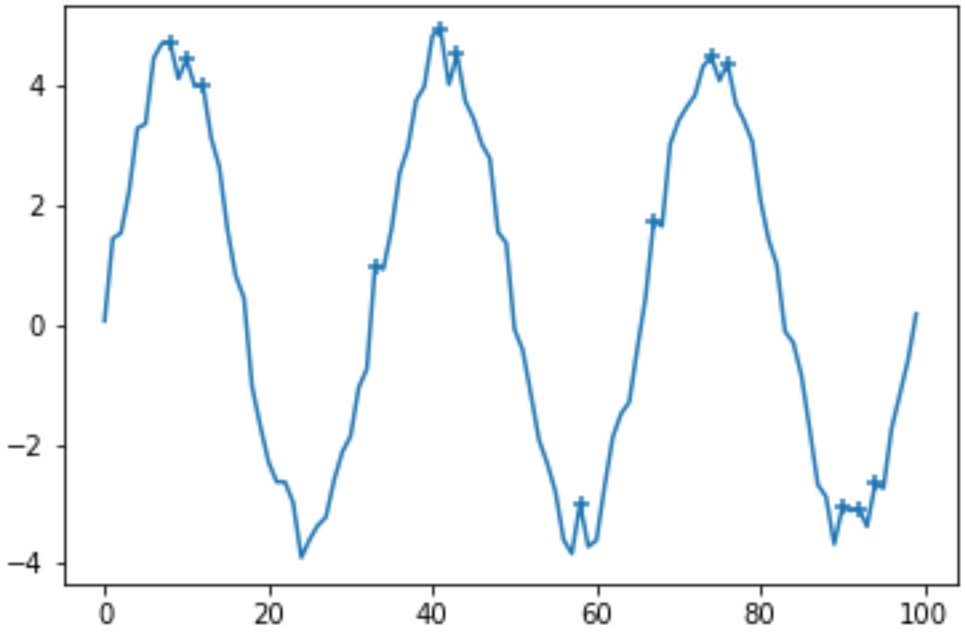

Figure 2. Python Assignment #3 Output