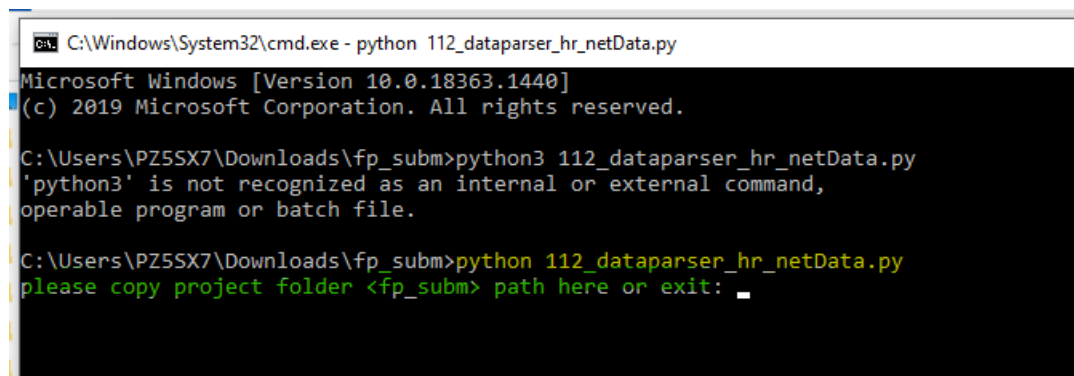


INSTRUCTION HOW TO RUN THE CODE

1. In order to run this code, you need to make sure you have those files available:
 - 112_dataparser_hr_netData.py (the main program code)
 - newName.py (a module that main program will call)
 - twoscompliment_to_decimal.py (a module that main program will call)
 - networkData (v112 explorer json logging file)
 - healthReport (v112 explorer json logging file)
2. In VS or other code editor, run 112_dataparser_hr_netData.py. **OR** open the cmd from the path where you save those files (python3 is needed) run command(**Yellow** below):

'python 112_dataparser_hr_netData.py'

the code will start its first interaction: ask user input (**green** below)

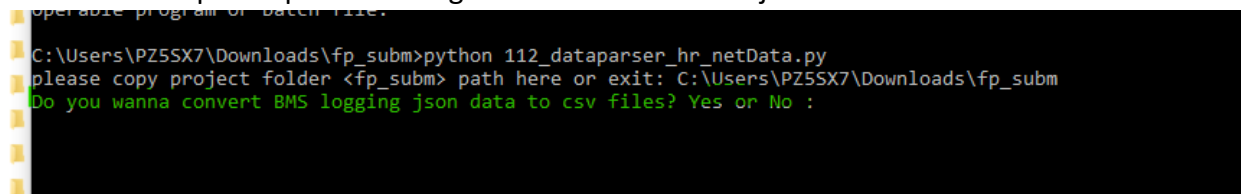


```
C:\Windows\System32\cmd.exe - python 112_dataparser_hr_netData.py
Microsoft Windows [Version 10.0.18363.1440]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\PZ5SX7\Downloads\fp_subm>python3 112_dataparser_hr_netData.py
'python3' is not recognized as an internal or external command,
operable program or batch file.

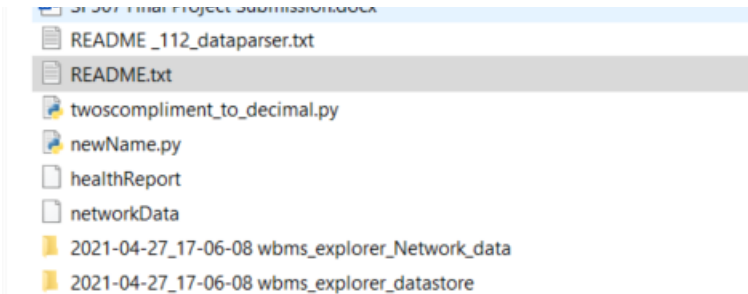
C:\Users\PZ5SX7\Downloads\fp_subm>python 112_dataparser_hr_netData.py
please copy project folder <fp_subm> path here or exit: _
```

3. User copy the whole path here, e.g. "C:\Users\PZ5SX7\Downloads\fp_subm" and click enter
4. Second user input request is asking if user wanna convert json files to csv:



```
C:\Users\PZ5SX7\Downloads\fp_subm>python 112_dataparser_hr_netData.py
please copy project folder <fp_subm> path here or exit: C:\Users\PZ5SX7\Downloads\fp_subm
Do you wanna convert BMS logging json data to csv files? Yes or No :
```

5. user input Yes, program will start generating the csvs(**Yellow** below) and will notify user when it is done(**green** below).
6. Two folders of health report and network data should be created in the same folder where you save the code



7. Then the user will be provide a list of plots that are available(**blue** below).

```
C:\Users\PZ5SX7\Downloads\fp_subm>python 112_dataparser_hr_netData.py
please copy project folder <fp_subm> path here or exit: C:\Users\PZ5SX7\Downloads\fp_subm
Do you wanna convert BMS logging json data to csv files? Yes or No :yes
generating.....

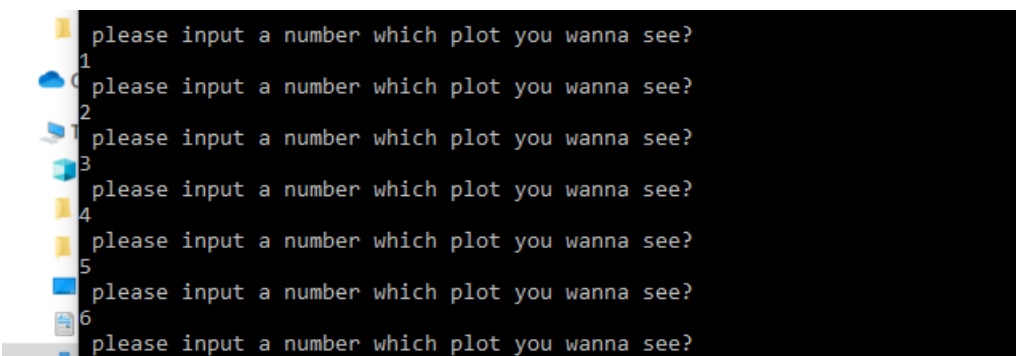
C:\Users\PZ5SX7\Downloads\fp_subm\2021-04-27_17-06-08 wbms_explorer_Network_data

csv files have been created in the same folder

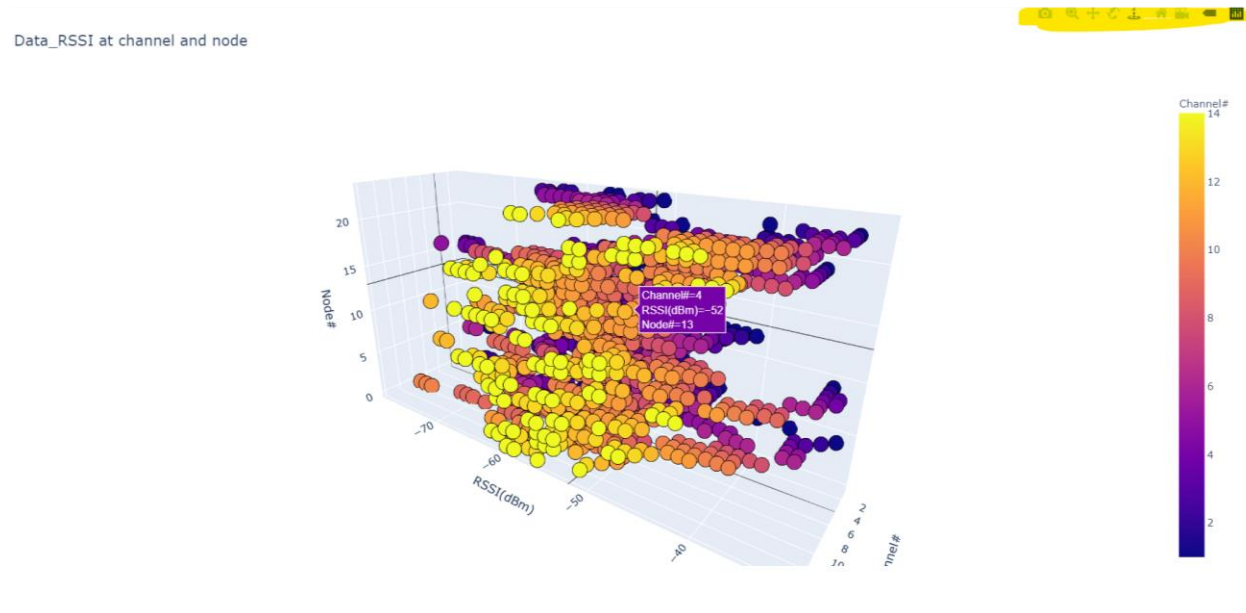
In the following plots:
1. Plot Node_x to Managers and Nodes RSSI(from Node Health Report)
2. Plot Managers to Nodes RSSI (from Manager Health Report)
3. Plot RSSI 3D based on nodes and channels (from Network Data)
4. Plot RSSI @ all nodes for each channel (from Network Data)
5. Plot Rssi @ all channels for each node (from Network Data)
6. Plot the network statistics summary of all nodes

please input a number which plot you wanna see?
```

8. You can exit anytime you want by type exit
9. User pick the number and plot will pop up using html
10. User can **again** pick other numbers if interested
11. If user type a number bigger than 6 or not an integer, it will request user to re-input



12. Plots are **auto open** in a html and auto save in html in the same folder.
13. Plots has many interactions built in that allow user to zoom, drag...(right upper conner control manual). All the data will have tag if you move your mouse to the data to see the values



Future work:

More plots can be added and this can combine with bms, pms function either using command prompt like Barker did or this way.

If you have any questions, please let me know. HAVE FUN with the plots