read_kitronyx_csv

Collection of sample code and source code in various programming languages for aggregating data from Snapshot and Log folders' converted CSV files using Kitornyx products

FolderTree

```
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│   ├─data_statistics
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│       ├─converted_log_data
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    └─read_kitronyx_csv
```

MathLAB

Version: R2023b Update 7 (23.2.0.2515942) 64bit January 30, 2024

Code Description

```
ReadSnapshot1DimensionData.m
    - MATLAB file containing a function to read snapshot 1D files
    - Returns [row, col, data] when given a 1D CSV path as a parameter.
    - row: ROW - number of columns
    - col: COL - number of rows
    - data: Cell array data (size ROW*COL)

ReadConvertLogFile1DimensionData.m
    - MATLAB file containing a function to read log 1D files
    - Returns [row, col, times, data] when given a 1D CSV path as a
parameter.
    - row: ROW - number of columns
    - col: COL - number of rows
    - times: Cell array - Time values
    - data_dict: Cell array data (size ROW*COL)
```

```
Command Window
Key: 7443, Value:  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
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Key: 7468.01, Value:  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
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Key: 7471.02, Value:  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
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Key: 7479.03, Value:  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
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Key: 7481.02, Value:  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
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Key: 7488.03, Value:  0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
>>
```

Workspace

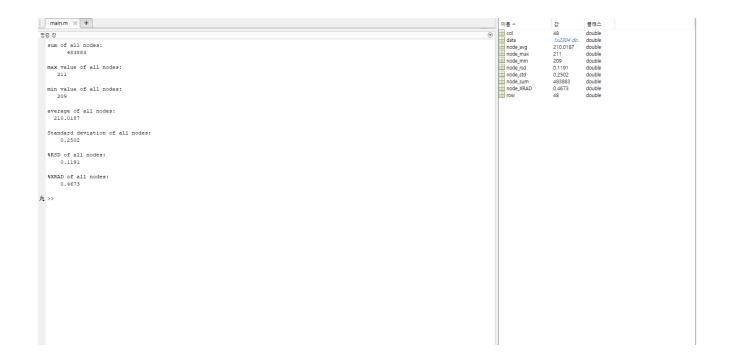| Name ▲	Value
ans	[]
col	24
data	1x7488 cell
i	7488
key	7.4880e+03
row	5
times	1x7488 cell
value	1x120 cell

calc_node_sum_max_min_avg.m
    - MATLAB file containing a function to calculate sum, average, maximum, and minimum values for all nodes.
    - Returns [nodeSum, nodeMax,nodeMin,nodeAvg] when given a 1D matrix data as a parameter.
    - nodeSum: Sum of all nodes
    - nodeAvg: Average of all nodes
    - nodeMax: Max value of all nodes
    - nodeMin: Min value of all nodes

clac_node_rsd.m
    - MATLAB file containing a function to calculate Standard deviation and Relative Standard deviation values for all nodes.
    - Returns [nodeStd, nodeRsd] when given a 1D matrix data as a parameter.
    - nodeStd: Standard deviation of all nodes
    - nodeRsd: %RSD of all nodes

calc_node_xrad.m
    - MATLAB file containing a function to calculate %XRAD values for all nodes.
    - Returns [nodeXrad] when given a 1D matrix data as a parameter.
    - nodeXrad: %XRAD of all nodes

```
sum of all nodes:
       483883

max value of all nodes:
    211

min value of all nodes:
    209

average of all nodes:
   210.0187

Standard deviation of all nodes:
     0.2502

%RSD of all nodes:
     0.1191

%XRAD of all nodes:
     0.4673

fx >>
```

Workspace variables:

이름 ▲	값	클래스
col	48	double
data	1x2304 do...	double
node_avg	210.0187	double
node_max	211	double
node_min	209	double
node_rsd	0.1191	double
node_std	0.2502	double
node_sum	483883	double
node_XRAD	0.4673	double
row	48	double

---

calcualte_drift_rate.m
    - MATLAB file containing a function to calculate drift rate for all log data
    - Returns [drift_rate, driftInfo] when given a drift value and drift information struct.
    - drift infomation struct format example:
        - driftInfo.timeStart
        - driftInfo.timeEnd
        - driftInfo.adcBegin
        - driftInfo.adcEnd

```
Drift start time: 1, Drift end time: 7488.03, Drift start ADC: 76, Drift end ADC: 80
Drift rate of all log:1.3585 %log10time
>>
```

Name ▲	Value
driftInfo	1x1 struct
driftRate	1.3585
measuredCol	66

driftInfo — 1x1 struct with 4 fields

Field ▲	Value
timeStart	1
timeEnd	7.4880e+03
adcBegin	76
adcEnd	80