*Prepared by:*
Gyro A. Madrona
Electronics Engineer

# pandas Basics

Data Analyst: Gyro A. Madrona
Department: Electrical Engineering

```
[ ]
#%pip install pandas --upgrade
#%pip install matplotlib --upgrade
```
Python

```
[ ]
# imports and packages
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```
Python

## DataFrame

```
[ ]
# creating dictionary
data = {
    "Name":['Henry','Owen','Ada'],
    "Age":[22,35,58],
    "Sex":['M','M','F']
}
```
Python

```
[ ]
# creating DataFrame from dictionary
df = pd.DataFrame(data)
df
```
Open 'df' in Data Wrangler
Python

## Series

```
[ ]
# selecting 'Name' column
df['Name']
```
Python

```
[ ]
# selecting 'Age' column
df['Age']
```
Python

```
[ ]
# selecting 'Sex' column
df['Sex']
```
Python

## Descriptive Statistics

```
[ ]
# Voltage response dataset
voltage = np.array([
    [1,2,3,4,5,6,7,8],
    [12,5,9.1,3.3,24,18.5,15.2,np.nan],
    [2.8,4.5,6,9,11.7,14.8,17.3,20]
])
voltage
```
Open 'voltage' in Data Wrangler
Python

# PANDAS BASICS

## PANEL DATA

*Prepared by:*
Gyro A. Madrona
Electronics Engineer

# csv to DataFrame

```python
# creating DataFrame from csv file
df = pd.read_csv(r"raw\resistance-test-stack.csv",
                 delimiter=",")
# display infromation
df.info()
```

[ ] Python

```python
# top 5 rows
df.head()
```

[ ] Open 'df' in Data Wrangler Python

```python
# last 5 rows
df.tail()
```

[ ] Open 'df' in Data Wrangler Python

```python
# summary of statistics
df.describe()
```

[ ] Python