

- Scrum Master for Next Week
  - Chelsea Miller
- List at least 5 things the team did well and will continue doing
  - Working in the Python code
  - Looking forward to developing visualizations in Tableau
  - Sharing ideas
  - Developing code
  - Working with Trello
- List at least 3 things the team did poorly and how you will mitigate them next sprint
  - Time management
  - Workspace
  - Weekly meeting
- List shout-outs to any team members for excelling in any way
  - Chelsea Miller – Taking care of Trello for this week
- What did you learn as a team this week?
  - How to share ideas
- What did you learn as an individual this week?
  - How to work while life is being busy

## CODE

### Libraries

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
from matplotlib.pylab import rcParams
rcParams['figure.figsize'] = (10,5)
import seaborn as sns
sns.set_style('darkgrid')

from statsmodels.graphics.tsaplots import plot_acf, plot_pacf
from statsmodels.tsa.seasonal import seasonal_decompose
from statsmodels.tsa.stattools import adfuller
from statsmodels.tsa.statespace.sarimax import SARIMAX

import warnings
warnings.filterwarnings('ignore')
```

### Loading Data

```
coffee_raw = pd.read_csv('/Users/galexiss/Documents/Education/Data Science/DSO110 - Final Group Project/Coffee
Daily Price/coffee.csv')
```

## Data Wrangling

```
coffee_raw.Date = pd.to_datetime(coffee_raw.Date, yearfirst=True)
coffee_raw.set_index('Date', inplace = True)
coffee = coffee_raw.asfreq('b', 'ffill')
```

## Exploratory Analysis

```
fig, axes = plt.subplots(2, 2, figsize=[15, 7])
fig.suptitle('Coffee Price', size=24)

## Resampling to Daily freq (Original Data)
axes[0, 0].plot(coffee.Close)
axes[0, 0].set_title("Daily", size=16)

## Resampling to Monthly freq
axes[0, 1].plot(coffee.Close.resample('M').mean())
axes[0, 1].set_title("Monthly", size=16)

## Resampling to Quarterly freq
axes[1, 0].plot(coffee.Close.resample('Q').mean())
axes[1, 0].set_title('Quarterly', size=16)

## Resampling to Annualy freq
axes[1, 1].plot(coffee.Close.resample('A').mean())
axes[1, 1].set_title('Annualy', size=16)

plt.tight_layout()
plt.show()
```

## Using statsmodels

```
data_close_price = coffee.Close.resample('Q').mean()
```

```
decompose_result = seasonal_decompose(data_close_price, model = 'additive')

## Systematic Components
trend = decompose_result.trend
seasonal = decompose_result.seasonal

## Non-Systematic Components
residual = decompose_result.resid
decompose_result.plot();
```