**Challenge 1: Agriculture Commodities, Prices & Seasons**

1. Used Pandas for data manipulation, matplotlib for visualization and used a RandomForestRegressor for predicting msprice based on quantity, min price, max price and modal price of a commodity.
2. Filled out missing values in MSP data using average values of respective commodity across the years.
3. Used Tukey's method for Outliers detection and filtered them
4. Used statsmodels seasonal decompose for seasonality detection
   1. Additive\_seasonality = observed+trend+seasonal+residual
   2. Multiplicative\_seasonality = observed\*trend\*seasonal\*residual
5. Used Rolling Mean approach for seasonality type detection. Used pandas rolling function 30 offset window
6. Used modal price values for seasonality detection
7. Multiplicative Seasonality type was detected
8. Decomposition\_X = X\_value/ multiplicative\_seasonal
9. Compared ms price and other prices for different commodities using barplot
10. Used decomposed max\_price - min\_price for price fluctuation detection

P.S. : Sorry for the bit messy documentation. I had to do it during my mid-term