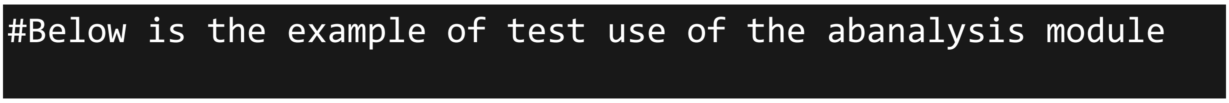
AB Analysis - Python Package

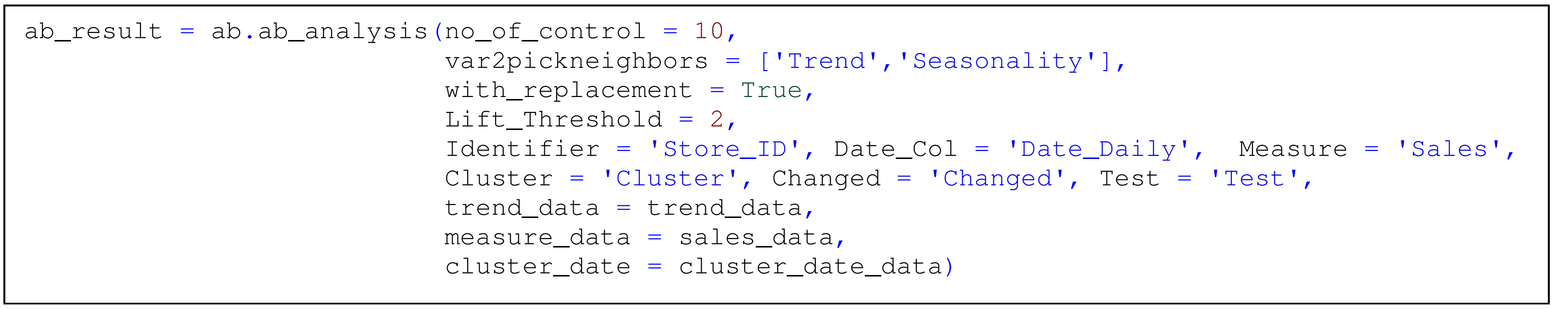
User Guide

Steps:

1. To install the ab_analysis package follow the steps below –
2. Extract the .rar file and keep the folder in your local system
3. Go to cmd => type
   pip install \\...\ab_analysis_version_1_0_2 mention the complete path of zip extract
   Example,
   pip install C:\Users\Abhishek.Kumar\Desktop\Python_Modules\ab_analysis\ab_analysis_version_1_0_2
4. Now you should have abanalysis module available for use.



```
#Below is the example of test use of the abanalysis module
```



```
ab_result = ab.ab_analysis(no_of_control = 10,
                           var2pickneighbors = ['Trend','Seasonality'],
                           with_replacement = True,
                           Lift_Threshold = 2,
                           Identifier = 'Store_ID', Date_Col = 'Date_Daily',  Measure = 'Sales',
                           Cluster = 'Cluster', Changed = 'Changed', Test = 'Test',
                           trend_data = trend_data,
                           measure_data = sales_data,
                           cluster_date = cluster_date_data)
```

```
Calling AB Module with data
```

User Provided Values / Data

- *no_of_control* = # (Provide the number of Controls) , # = Control per Treatment Store
- *with_replacement* = T or F.
- *Performance_Measure* = Units (Constant Values in the Output)
- *Lift_Threshold* = # (assign number, so while calculating. the lift at store level, it gives lift no. and threshold is manually assigned.)
- *Identifier* = Store (Map the Store Column from Trend Data table)
- *Date_Col* = Date (Map Date Column)
- *Measure* = Sales (Map Sales column from Sales data table)
- Cluster = Cluster (Column name should be same as the Cluster Data and Trend Data)
- Lift_Data (all the results are saves under this name which can be defined as per the user)

Outputs:

This the ab_analysis return a list of four DataFrames.

1. The first DataFrame is the Lift Analysis data
2. The second DataFrame is the Timeseries data
3. The third DataFrame is the Summary stat data
4. And the fourth DataFrame is the test-control mapping data

User input data: trend data / Sales data / Cluster data (Sample Data)

- Avoid using (_df) name like trend_data = trend_df or measure_data = sales_df , instead use trend_data = trend_ori_df
- Data structure of the data should be same. (Column names)
- Use data format as yyyy-mm-dd
- Cluster Column name of **Cluster Date** table should be same as Cluster Column of **Trend Data** table (user can assign other column names as well but both the table should have same column name)
    - Cluster Date
- Use the template for saving dates

Cluster	Test_StartDate	Test_EndDate	Prior_StartDate	Prior_EndDate	YoY_StartDate	YoY_EndDate
A	9/10/2017	10/7/2017	6/18/2017	9/9/2017	9/11/2016	10/8/2016
B	9/10/2017	10/7/2017	6/18/2017	9/9/2017	9/11/2016	10/8/2016
C	9/10/2017	10/7/2017	6/18/2017	9/9/2017	9/11/2016	10/8/2016
All	9/10/2017	10/7/2017	6/18/2017	9/9/2017	9/11/2016	10/8/2016

    - Trend Data
- Avoid using Store values as Integer (1,2, etc) . Using store no. as (S001, S002. etc.) is recommended

Store	Trend	Seasonality	Test	Cluster	Changed
1	0.005192776	-0.002199118	FALSE	B	FALSE
2	0.066038106	-0.000428914	FALSE	B	TRUE

- Test / Changed = Boolean
- Trend / Seasonality = Integer
- Cluster = String
    - Sales Data

Store	Date	Sales
1	5/24/2015	74468.05
1	5/31/2015	87829.99
1	6/7/2015	88058.13