Final Submission

For submissions obtained within one week after the deadline, there will be a 30% penalty. Submissions beyond one week after the deadline will not be accepted.

Submissions required

As part of the submission, you have to submit —

1. **One well-commented Jupyter notebooks:** One notebook should consist of all the methods (Smoothing techniques + ARIMA set of techniques) for the sales forecasts. This should include the initial data preparation part as well as the model building parts including the forecast plots and the MAPE values.
2. **Presentation:**One presentation consisting of the points mentioned below
   1. What are the 21 market Segments?
   2. Comparison showing the table of values for the coefficient of variation calculated on the profit for the 21 market segments.
   3. The reason why a market segment “ABC” is the most profitable market segment
   4. Concluding the optimum technique from the flow chart that might work best for the sales forecast.
   5. Comparing the sales forecast plots for all the smoothing techniques and their MAPE values.
   6. Comparing the sales forecast plots for all the ARIMA techniques and their MAPE values.
   7. Conclusions on which technique works the best for the sales forecast and why ? Then reason this using the forecast plot and the MAPE values both.

Please put the notebook file and the presentation (exported as a PDF) in a zip folder and add that in the submission window provided below.

**Note: Make sure you have not made any changes to the original dataset provided to you including its name. Your code should work on the dataset given to you as part of the problem statement. You are not allowed to make modifications in the dataset using Excel and then use it in your Python code. The entire assignment must be done in Python only. During grading, we will be running your code on the dataset provided by us; in case your code gives errors with that, then marks will be deducted accordingly.**