Introduction

For the last piece of CA you will produce your **Predictive Modelling** documentation. In this CA you will analyse and evaluate your chosen predictive model, forecast output from your model, critique your results, and discuss all these steps through your conclusion.

Predictive model selection

In this section you must define and evaluate your predictive model of choice.

Firstly, you must discuss which predictive model you've selected and why. This choice will be influenced by factors such as the structure of your dataset, and whether the model will output the most relevant forecasts to answer your research question.

This should be done:

- Descriptively by justifying your model selection in terms of how it fits with your dataset.
- Visually through plotting your data of interest including relevant analysis of the visual output.

For example, if you've decided to build a multiple regression model, describe why this particular model fits your data.

Build and evaluate the predictive model

Once you've decided on which model suits your data, discuss in detail each step you used to build your model. For example, if you are using the ARIMA forecasting model, you should critique each step used to build the ARIMA model including evaluation of stationarity and which particular ARIMA model you selected and why.

If you are using a Multiple Linear Regression (MLR) model, you must critique and evaluate how your model fits with your data variables using relevant metrics such as regression diagnostics.

Show R code you used to build and evaluate your model throughout your document, or in the appendices section of the final document. **Include a link to your R code in GitHub in this document**.

Model validation

Once your model is constructed, you must evaluate the accuracy of your model. The validation method you use will depend on your implemented model. For example, if you are using MLR then you should use training and testing data to evaluate model performance. If you are using a time series ARIMA model then this is shown through comparison of predicted versus actual dataset values.

Model forecasting and appraisal

Provide relevant predictions from your model. Critically appraise these predictions in detail. Discuss what these predictions indicate? Evaluate whether your model proves / disproves your research question.

Conclusion

Conclude your work by summarising your work including the predictive model selection, the validation you performed, the forecasting outputs it produced, and any relevant points of interest you found in your analysis.

Important Information

Plagiarism will not be accepted and will result in an automatic mark of zero.

If you use references, the Harvard referencing must be adopted. Please use the following link which might help you create the references required:
http://www.neilstoolbox.com/bibliography-creator/.
Late submissions will not be accepted without a valid medical certificate.

Any deviation from the above project specification must be approved by myself before submission.

Due Date: 23:59 pm on Sunday 24th May.

Work submitted after this date and time will incur a late penalty. Refer to the cover sheet for late penalty information.

You must submit your work through Blackboard. Submit your work as a pdf document. A cover sheet must be first page of your final submitted document. Use the cover sheet on Blackboard.

Include a link to the GitHub repo containing your R code.