Final Project – Individual

Objective

The objective of this project is to develop a data solution for a marketing firm

Overview – Scenario

In this scenario, you are hired as a data professional/expert from a reputed marketing firm. Your client is an Automobile research company which is going to launch a new research based on given data sets, fuel economy cars for 2015 model year cars. The company would like to analyse fuel economy between different car manufacturers. To achieve this goal, you will use publicly available data sets that have been prepared for you and available under appendix section

Given dataset has approximately 729 entries and 19 attributes, which shows following car's information

1. **Model Year** 2. **Mfr Name** 3. **Division** 4. **Carline** 5. **Engine Displacement** 6. **# Cylinders** 7. **Transmission** 8. **City FE** 9. **Highway FE** 10. **Combined FE**	11. **Air Aspiration Method** 12. **Transmission Description** 13. **# Gears** 14. **Drive Desc** 15. **Carline Class Desc** 16. **Release Date** 17. **City CO2** 18. **Highway CO2** 19. **Combined CO2**

Minimum Suggested Requirements:

- You must demonstrate Python and Data skills
- You must demonstrate ETL operations using Python
- Consider building an end-to-end data pipeline
- Consider extracting relevant data from more than one data source
- Extend your project by extracting the datasets from the year 2016 till latest year, analyse, process, and make the data relevant and meaningful
- Establish correlation between data attributes/columns
- You must use Data Analytics Tool to analyse and discover various associations within the given data set. Justify your analysis approach and methods/tools used.
- Using Data Analytics tool, discover answers to the following at least ten questions in based on your analysis
- Each question must have separate worksheet with a chart, graph or a table that should show your findings.
- Consider following appropriate data project development and deployment methodology

Sample Data Analysis Questions

1. Find the car manufacturer, which contains most quantity of car models e.g. BMW 3 series and BMW 5 series are different models**.**

2. Find the top average fuel economy for the city and highway driving from the given data set.

3. Find good and bad average fuel economy cars from all transmission types.

4. Find car manufacturers, which have 4WD (4-wheel drive) and 2WD (2-wheel drive) with engine power is more than 3.5.