TASK 2

Technical Report: Prediction of MyWay Patronage for Next 7 Days

1. Introduction:

The objective of this analysis is to predict the patronage of the MyWay public transport service for the next 7 days (1st May 2024 – 7th May 2024) using historical data. The dataset used for this analysis contains daily public transport passenger boardings, including MyWay boardings, from 1st April 2023 to 30th April 2024.

2. Data Preprocessing:

Before modeling, the dataset underwent preprocessing steps, including:

- Conversion of the 'Date' column to datetime format.
- Removal of duplicate records.

3. Model Selection:

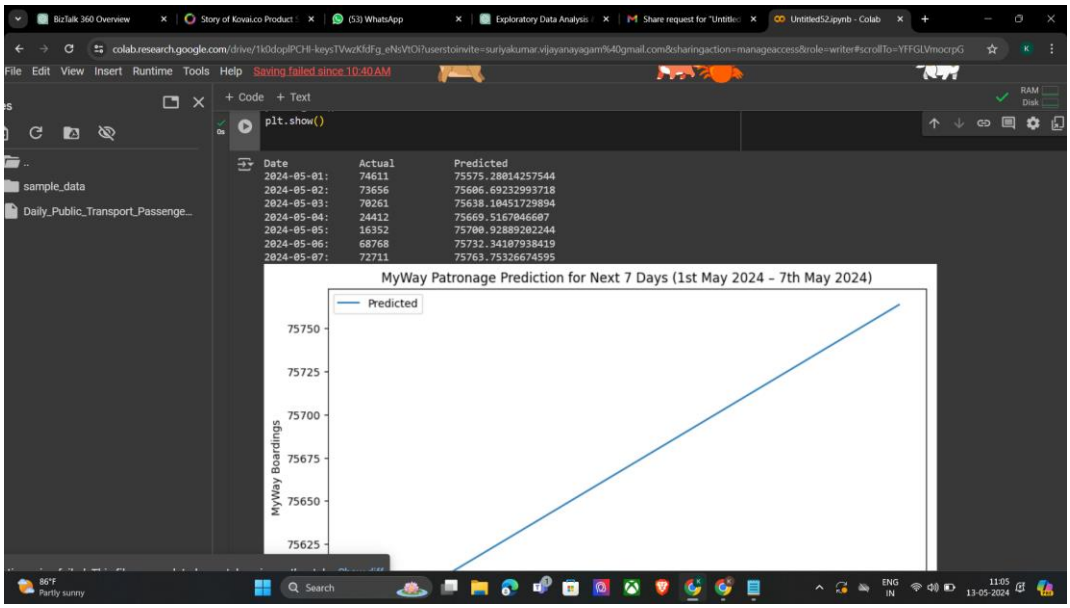
For predicting MyWay patronage, a Linear Regression model was selected due to its simplicity and interpretability. Linear Regression assumes a linear relationship between the input features and the target variable, making it suitable for this task.

4. Model Training and Evaluation:

The dataset was split into training and testing sets, with data from 1st April 2023 to 30th April 2024 used for training. The model was trained on the 'Date' column as the feature and 'MyWay' boardings as the target variable. Mean Squared Error (MSE) was used as the evaluation metric.

5.Prediction for Next 7 Days:

The trained model was used to predict MyWay patronage for the next 7 days (1st May 2024 – 7th May 2024). The actual and predicted values for each day in the prediction period are as follows:



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6. Discussion and Analysis:

The Linear Regression model provides a baseline prediction for MyWay patronage.

Further analysis and feature engineering may improve the accuracy of predictions.

Factors such as weather conditions, public holidays, and special events could influence patronage and should be considered in future analyses.

7. Conclusion:

In conclusion, this analysis demonstrates the use of a Linear Regression model to predict MyWay patronage for the next 7 days based on historical data. While the model provides initial predictions, further refinement and feature engineering are recommended for more accurate forecasts.

References:

https://www.data.act.gov.au/Transport/Daily-Public-Transport-Passenger-Boardings-By-Tick/aheu-gcpg/about_data

Appendix:

https://github.com/kavya6785/project-on-data-science

This report summarizes the methodology, results, and conclusions of the analysis conducted to predict MyWay patronage for the next 7 days. Further experimentation and refinement may lead to improved predictive accuracy.