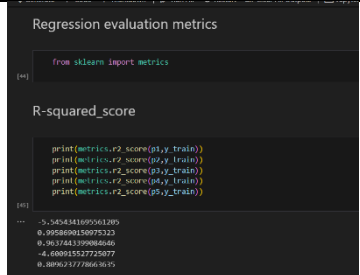
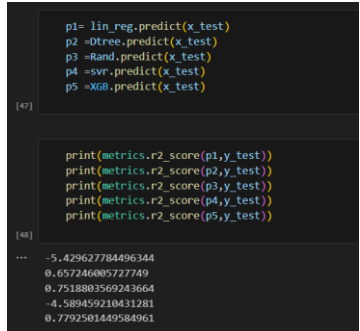
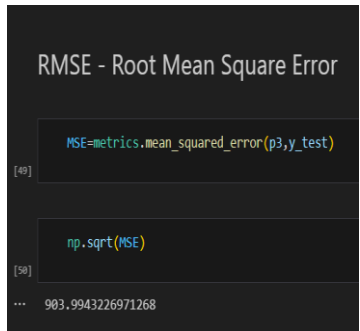


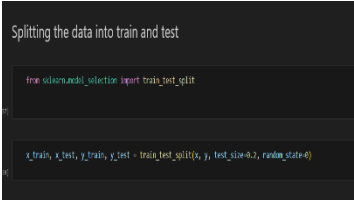
## Project Development Phase Model Performance Test

Date	25 June 2025
Team ID	LTVIP2025TMID40870
Project Name	TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning.
Maximum Marks	10 Marks

### Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No	Parameter	Values	Screenshot
1.	Metrics	<b>Regression Model:</b> <ul style="list-style-type: none"> <li>MSE <math>\approx</math> 813720.2</li> <li>RMSE 903.99</li> <li>R<sup>2</sup> Score (Test Set) 0.7519 for Random Forest Regressor (best performing model)</li> <li>Other R<sup>2</sup> Scores - Linear Regression: -5.42</li> <li>- Decision Tree: 0.6572</li> <li>- SVR: -4.58</li> <li>- XGBoost: 0.7792</li> </ul>	  
2.	Tune the Model	<b>Hyperparameter Tuning</b> Not applied in this version — model used	

		<p>with default parameters (can be improved using GridSearchCV or RandomizedSearchCV)</p> <p><b>Validation Method</b> --</p> <p>train_test_split (80% training / 20% testing) was used for model validation and performance comparison.</p>	 <p>The screenshot shows a Jupyter Notebook interface with a dark background. The title of the cell is "Splitting the data into train and test". The code in the cell is as follows:</p> <pre>from sklearn.model_selection import train_test_split  x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.2, random_state=0)</pre>
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