Project Development Phase
Model Performance Test

Date	16 November 2023
Team ID	Team - 592211
Project Name	Understanding Audience: A Machine Learning Approach To Customer Segmentation
Maximum Marks	10 Marks

Model Performance Testing:

S.No.	Parameter	Values	Screenshot
1.	Metrics	**Classification Model:** Confusion Matrix -[[216 1 0] [1 648 0] [0 0 2]] , Accuray - 99 Score- 0.602 & Classification Report - precision recall f1-score support 0 1.00 1.00 1.00 217 1 1.00 1.00 1.00 649 2 1.00 1.00 1.00 2	Cluster 0 1080 1 3246 2 13 Name: count, dtype: int64 Silhouette Score: 0.6023126726335443 Confusion Matrix: [[217 0 0] [1 647 1] [0 0 2]] Accuracy Score: 0.9976958525345622 Classification Report: precision recall f1-score support 0 1.00 1.00 1.00 217 1 1.00 1.00 1.00 649 2 0.67 1.00 0.80 2 accuracy 1.00 868 macro avg 0.89 1.00 0.93 868 weighted avg 1.00 1.00 1.00 868

2.	Tune the Model	Hyperparameter Tuning -	Best Hyperparameters: {'max_depth': 20, 'min_samples_leaf': 1, 'min_samp Best Model - Confusion Matrix: [[217 0 0] [1 648 0] [0 0 2]] Accuracy Score: 0.9988479262672811 Classification Report: precision recall f1-score support 0 1.00 1.00 1.00 217 1 1.00 1.00 1.00 649 2 1.00 1.00 1.00 2 accuracy 1.00 868 macro avg 1.00 1.00 1.00 868 weighted avg 1.00 1.00 1.00 868