ABHILASH MOHAN DAS

1BM21AI005

7A AIML

Analysis on results on Workshop:

Logistic Regression with ADASYN:

- **Suitable for**: Medium-Sized Banks.
- **Reason**: High recall (0.894) and ROC AUC score (0.934) make it highly effective for medium-scale operations needing reliable fraud detection.

Decision Tree with ADASYN:

- **Suitable for**: Large Multinational Banks.
- **Reason**: Both a high recall (0.894) and ROC AUC score (0.934) provide strong fraud detection capabilities necessary for large volumes of transactions.

Logistic Regression with Oversampling:

- **Suitable for**: Large Multinational Banks.
- **Reason**: Highest ROC AUC score (0.935) and high recall (0.886), crucial for minimizing false negatives in large-scale fraud detection.

Decision Tree with Oversampling:

- **Suitable for**: Regional Banks.
- **Reason**: Combines good ROC AUC score (0.910) with enhanced recall (0.829) through oversampling, ideal for regional operations with moderate data volumes.

Decision Tree:

- **Suitable for**: Local Small Banks.
- **Reason**: Balanced recall (0.821) and ROC AUC score (0.910) make it sufficient for smaller datasets and resource-limited settings.

Logistic Regression IMB:

- **Suitable for**: Small local operations having conservative approach
- **Reason**: Even though recall (0.756) is relatively low, ROC AUC score (0.877) makes it effective for small operations preferring precision over recall to avoid inconvenience from AMEX automatic restrictions