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**Problem Description**
ABC Bank wants to promote its new term deposit product. To make its marketing efforts more efficient and cost-effective, it needs a machine learning model that can predict whether a customer will subscribe to the term deposit based on their personal, interaction, and socio-economic data. This model will help the bank focus its resources on customers with a higher likelihood of subscribing.

**Data Cleansing and Transformation**
Several data cleansing and transformation steps were applied to prepare the dataset for machine learning analysis:

1. Handling Missing Values:
   - Replaced 'unknown' entries with NaN to identify missing values clearly.
   - Used Mode Imputation for categorical features like 'job' and 'education'.
   - Applied Median Imputation for numerical features like 'balance' to avoid distortion from outliers.
2. Handling Outliers:
   - Applied the IQR Method to detect and cap outliers in features like 'balance' and 'duration'.
   - Used Log Transformation on skewed numeric variables such as 'balance' to reduce skewness and normalize distribution.
3. Encoding Categorical Variables:
   - Used One-Hot Encoding for nominal categorical variables like 'job', 'marital status', and 'contact'.
   - Applied Label Encoding for ordinal variables when necessary.
4. Feature Scaling:
   - Performed Standardization (Z-score scaling) on numeric features to ensure that all features contribute equally to the model.

These preprocessing techniques improved the data's consistency, reduced noise, and ensured better model performance and interpretability.

**GitHub Repository Link:**
https://github.com/ManilShangle/DataGlacierProject