

# BANK MARKETING (CAMPAIGN)

## WEEK 10

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### 1. Problem description:

ABC Bank is preparing to launch a term deposit product and seeks to develop a predictive model to determine if customers will purchase the product based on their past interactions with the bank or other financial institutions.

### 2. EDA performed on the data:

The dataset includes information on 41,188 clients across 20 different features, encompassing both categorical aspects (marital status, job type, education, etc.) and numeric variables (age, number of days since previous contact, etc.). The target variable is binary, with "Yes" indicating that the client has subscribed and "No" indicating that the client has not subscribed.

The distribution of both categorical and numerical variables in the dataset was examined. Additionally, an analysis based on these variables with respect to the target variable was conducted.

The 'duration' feature was removed to avoid potential data leakage. This feature represents the duration of the phone call between the bank's marketing representative and the customer. Because this information is only available after the call ends and the outcome for that customer is already known, including it in a predictive model wouldn't yield realistic results.

### 3. Final recommendation:

ML models such as logistic regression, random forest, and XGBoost will be employed for prediction.

Since the dataset is imbalanced, appropriate metrics for evaluation will be selected. Additionally, resampling can be performed.