BANK MARKETING DATASET

The dataset pertains to direct marketing campaigns of a Portuguese bank, where marketing was conducted via phone calls. Multiple contacts were often required to determine if a client would subscribe to a term deposit.

* **Instances**: 45,211 (bank-full.csv) and 4,521 (bank.csv)
* **Attributes**: 16 input variables + 1 output variable

**Input Variables**:

1. **age**: Numeric
2. **job**: Categorical (e.g., "admin", "student", "blue-collar")
3. **marital**: Categorical ("married", "divorced", "single")
4. **education**: Categorical ("unknown", "secondary", "primary", "tertiary")
5. **default**: Binary ("yes", "no")
6. **balance**: Numeric (average yearly balance in euros)
7. **housing**: Binary ("yes", "no")
8. **loan**: Binary ("yes", "no")
9. **contact**: Categorical ("unknown", "telephone", "cellular")
10. **day**: Numeric (last contact day of the month)
11. **month**: Categorical ("jan" to "dec")
12. **duration**: Numeric (last contact duration in seconds)
13. **campaign**: Numeric (number of contacts in this campaign)
14. **pdays**: Numeric (days since last contact; -1 indicates no previous contact)
15. **previous**: Numeric (number of previous contacts)
16. **poutcome**: Categorical ("unknown", "other", "failure", "success")

**Output Variable**: 17. **y**: Binary ("yes", "no") - Indicates whether the client subscribed to a term deposit

**Analysis Performed**: Campaign effectiveness, loan analysis, financial, and demographic analysis.