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**Dataset Description with Attribute Types**

| **Column Name** | **Description** | **Attribute Type** |
| --- | --- | --- |
| **Age** | The age of the individual applying for credit (in years). | Numerical (Continuous) |
| **Sex** | The gender of the individual (male or female). | Categorical (Nominal) |
| **Job** | The job category of the individual, represented as a numerical code (e.g., 1, 2). | Categorical (Ordinal) |
| **Housing** | The type of housing situation (1 = own, 2 = rent, etc.). | Categorical (Ordinal) |
| **Saving accounts** | The status of saving accounts (e.g., NA = not applicable, little, moderate, etc.). | Categorical (Ordinal) |
| **Checking account** | The status of checking accounts (e.g., NA = not applicable, little, moderate, etc.). | Categorical (Ordinal) |
| **Credit amount** | The amount of credit requested (in currency units). | Numerical (Continuous) |
| **Duration** | The duration of the credit in months. | Numerical (Discrete) |
| **Purpose** | The purpose for which the credit is requested (e.g., radio/TV, education, furniture/equipment). | Categorical (Nominal) |

Numerical Attributes

* **Age**: Continuous numerical value representing years.
* **Credit amount**: Continuous numerical value representing the requested credit amount.
* **Duration**: Discrete numerical value representing the duration in months.

Categorical Attributes

* **Sex**: Nominal categorical value indicating gender.
* **Job**: Ordinal categorical value representing job categories (requires further decoding).
* **Housing**: Ordinal categorical value indicating housing status (e.g., ownership vs. renting).
* **Saving accounts**: Ordinal categorical value indicating the status of saving accounts.
* **Checking account**: Ordinal categorical value indicating the status of checking accounts.
* **Purpose**: Nominal categorical value representing the purpose of the credit request.

This classification of attributes is essential for understanding how to analyze the dataset effectively, as different types of attributes may require different statistical techniques or visualizations.

Simple Rules for Credit Assessment

1. Age

* **Rule**: Applicants aged 18-25 may have limited credit history, which could increase risk. Older applicants (e.g., 40+) may have more stable financial backgrounds.

2. Job

* **Rule**: Applicants in stable, well-paying jobs (e.g., professionals) are generally considered lower risk than those in unstable or low-paying jobs (e.g., part-time or temporary positions).

3. Housing

* **Rule**: Homeowners (indicated by a housing status of "own") are often seen as more stable than renters, as they have a vested interest in maintaining their property.

4. Saving Accounts

* **Rule**: Applicants with savings accounts labeled as "moderate" or "high" are generally viewed as more financially responsible and less risky than those with "little" or no savings.

5. Checking Accounts

* **Rule**: A checking account status of "moderate" or "high" suggests that the applicant manages their finances well, while "little" or "NA" may indicate potential financial instability.

6. Credit Amount

* **Rule**: The requested credit amount should be proportional to the applicant's income and financial situation. Large requests from individuals with low income or savings may be considered risky.

7. Duration

* **Rule**: Shorter loan durations (e.g., under 12 months) may indicate lower risk, as they suggest the applicant intends to repay quickly. Longer durations (e.g., over 36 months) may require more scrutiny.

8. Purpose

* **Rule**: Credit requests for essential needs (e.g., education or necessary home improvements) may be viewed more favorably than those for non-essential items (e.g., luxury goods).

Summary of Rules

* **Younger applicants** may require more scrutiny due to limited credit history.
* **Stable employment** is a positive indicator of creditworthiness.
* **Homeownership** is generally seen as a sign of financial stability.
* **Higher savings** suggest better financial management and lower risk.
* **Moderate checking account activity** indicates responsible financial behavior.
* **Credit requests** should align with the applicant's financial capabilities.
* **Shorter loan durations** are typically less risky than longer ones.
* **Essential purposes** for credit are favored over non-essential ones.