**CREDIT ANALYSIS**

**LIST\_NUMBER 1:**

**FACT1:** 25% of people are in graduate school, and 50% are in university.

**FACT2:** The mean of marriage is 1.666, indicating that most people are single (1 = single, 2 = marriage, 3 = others).

**FACT3:** Most people are either in graduate school or university.

**LIST\_NUMBER 2:**

The means of PAY\_1 to PAY\_6 are below 0. This means that most credit users have paid without any due date, and sometimes there may be a due date for a month.

**LIST\_NUMBER 3:**

The analysis of the mean of `BILL\_AMT1` grouped by `PAY\_1` reveals that individuals with a history of delayed payments (positive `PAY\_1` values) tend to have lower average bill amounts in the first month, with a decreasing trend as the delay duration increases. However, individuals with a `PAY\_1` value of -2 (delayed payment for two months) have the highest mean `BILL\_AMT1`, suggesting a unique pattern for this group. Overall, this information provides insights into the relationship between payment history and initial bill amounts, which can be relevant for credit risk assessment.

**LIST\_NUMBER 4:**

The analysis of mean age grouped by PAY\_2 provides insights into age distribution patterns across different payment delay categories, with category 8 standing out for its unusually low mean age.

**LIST\_NUMBER 5:**

The large deviation in age for PAY\_2 category 8 might be due to data anomalies. By using the `.nunique()` method on the AGE column grouped by PAY\_2, it is revealed that there are only 11 unique ages in PAY\_2. This lack of age diversity within category 8 could explain the deviation, indicating potential data entry errors or inaccuracies leading to an artificially low mean age.

**LIST\_NUMBER 6:**

The analysis of unique values using `.nunique()` for PAY\_1 and PAY\_6 in gender subsets reveals:

- Both male and female subsets exhibit a diverse range of payment delay categories at the initial assessment (PAY\_1).

- Over time (PAY\_6), females show slightly fewer unique values than males, suggesting potential gender-specific differences in payment behavior evolution.

- Understanding these trends is crucial for credit risk assessment and may indicate changes in payment patterns over the months.

**LIST\_NUMBER 7:**

Yes, the information provided in LIST\_NUMBER 1 and LIST\_NUMBER 3 has been analyzed:

**LIST\_NUMBER 1 Insights:**

1. 25% of individuals are in graduate school, and 50% are in university.

2. The mean marriage value of 1.666 suggests that most people are single (1 = single, 2 = marriage, 3 = others).

3. The majority of people are either in graduate school or university.

**LIST\_NUMBER 3 Insights:**

The analysis of mean `BILL\_AMT1` grouped by `PAY\_1` indicates that individuals with a history of delayed payments tend to have lower average bill amounts, with a decreasing trend as the delay duration increases. Notably, those with a `PAY\_1` value of -2 (delayed payment for two months) show the highest mean `BILL\_AMT1`, suggesting a unique payment pattern for this group.

In summary, the information aligns with the goals outlined in LIST\_NUMBER 1 and LIST\_NUMBER 3, providing insights into education levels, marital status, payment history, and their implications for credit risk assessment.