**Credit Risk Machine Learning Report**

**Purpose:** The purpose of this analysis is to evaluate the performance of a Logistic Regression model in predicting loan outcomes, specifically distinguishing between healthy loans and high-risk loans.

**Machine Learning Model 1: Logistic Regression**

* **Accuracy:** 99%  
  This high accuracy is likely due to the imbalance in the dataset, where the majority of loans are healthy (class 0).
* **Precision:**
  + **Class 0 (Healthy Loan):** 1.00 — Perfect precision.
  + **Class 1 (High-Risk Loan):** 0.86 — 86% of the high-risk loans predicted were actually high-risk, which indicates the model did not accurately predict 24%.
* **Recall:**
  + **Class 0 (Healthy Loan):** 0.99 — The model correctly identified 99% of the healthy loans.
  + **Class 1 (High-Risk Loan):** 0.94 — The model identified 94% of actual high-risk loans, but missed 6%.
* **F1-Score:**
  + **Class 0 (Healthy Loan):** 1.00 — Excellent balance between precision and recall for healthy loans.
  + **Class 1 (High-Risk Loan):** 0.90 — Good balance, but there is room for improvement in capturing all high-risk loans.

**Summary**

* The **Logistic Regression** model performs very well in predicting healthy loans (0), with excellent precision and recall scores. However, it is less effective at predicting high-risk loans (1), as indicated by the lower precision and recall scores for the minority class. Some recommendations include primarily or only using to model to predict healthy loans Additionally, adjusting for class imbalance or trying different algorithms could provide a better balance between the two classes.