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Module 20 Challenge

Analysis Report

**Overview of the Analysis**

The purpose of this analysis is to evaluate the performance of a Logistic Regression machine learning model in classifying credit risk. This will aid in determining whether loan applicants are likely to repay their loans or default using historical customer data from a lending service company. Accurate classification of credit risk is crucial for financial institutions to mitigate company losses and manage risk effectively.

**Results**

\* Machine Learning Model 1: Logistic Regression

\* This model has an overall accuracy of 99% which signifies that it performs well in making predictions.

\* The precision and recall scores being above 85% indicate that the model is very effective at identifying Class 0 cases and mostly effective at identifying Class 1 cases.

\* The high F1 scores also confirm the model's great quality, especially for Class 0 classification cases where the score was perfect.

**Summary**

Given the high accuracy and the balanced performance across precision and recall for both classes, I recommend the use of this model for credit risk classification. The model's ability to accurately identify potential defaults will assist the company in minimizing financial risks and making informed credit lending decisions. For default cases (class 1) where the accuracy, precision, and F-1 scores are slightly lower, additional features may be considered and added to the model to fine-tune it for better accuracy. Overall, the current modelis a great tool for credit risk assessment.