# Prosper Loan Outcome and Home Ownership Analysis

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# Data Summary

- Prosper Marketplace, Inc. is a San Francisco, California-based company in the peer-to-peer lending industry. Prosper Funding LLC, one of its subsidiaries, operates Prosper.com, a website where individuals can either invest in personal loans or request to borrow money.

- This data set contains 113,937 loans with 81 variables on each loan, including loan amount, borrower rate (or interest rate), current loan status, borrower income, and many others.

- This analysis is interested in investigating the factors that affect a loan's outcome status.
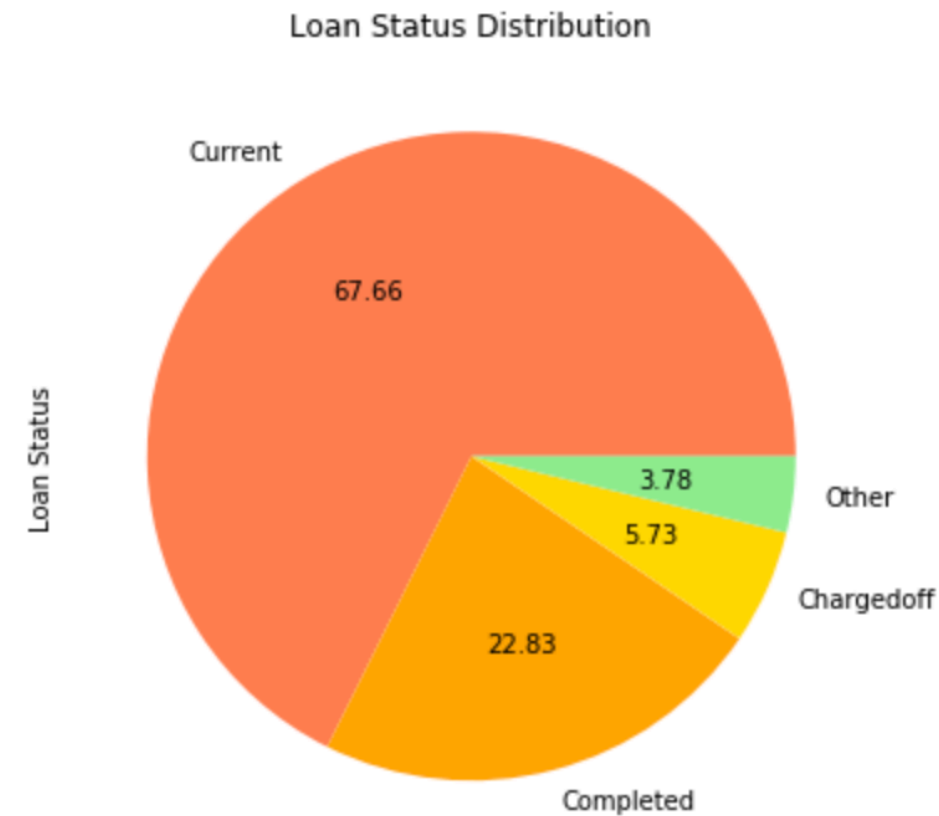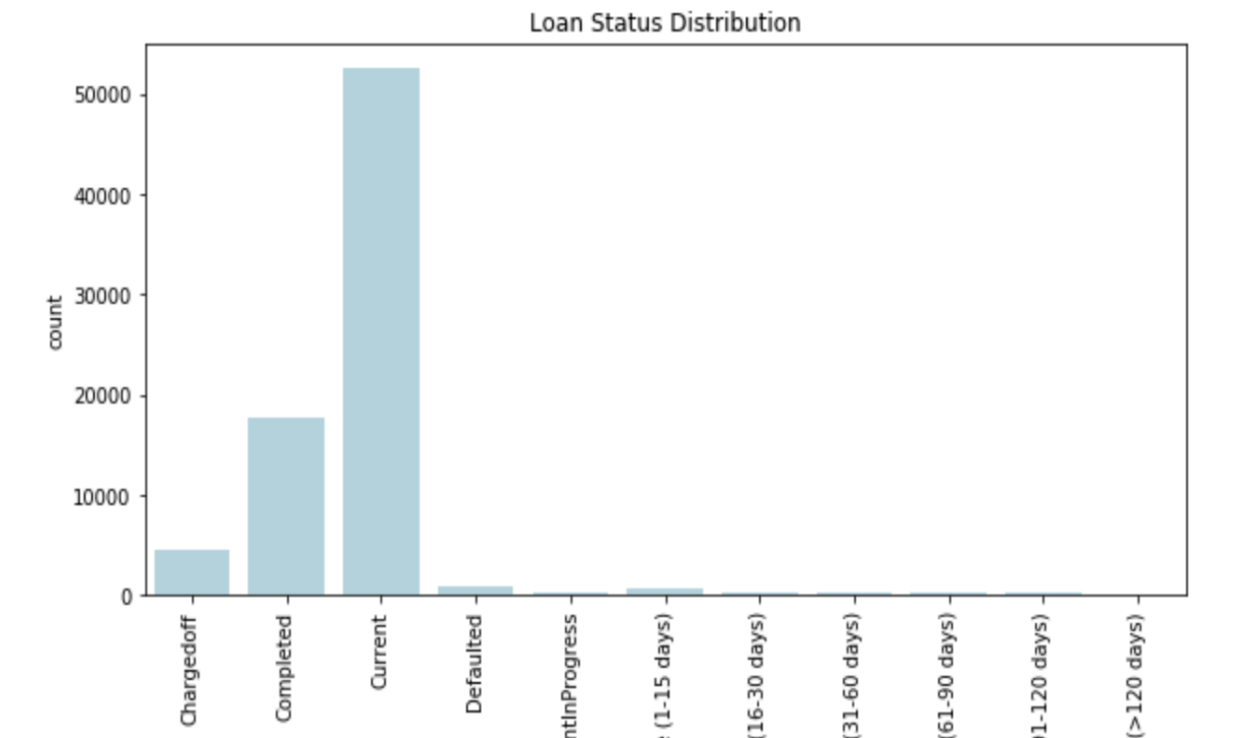
First, an overview of the distribution of loan outcome can be observed by a bar graph and a pie chart. The graphs indicate that current loans comprise most of all loans, whereas the charged-off, defaulted and past due loans take up only 9.51% of all the loans.
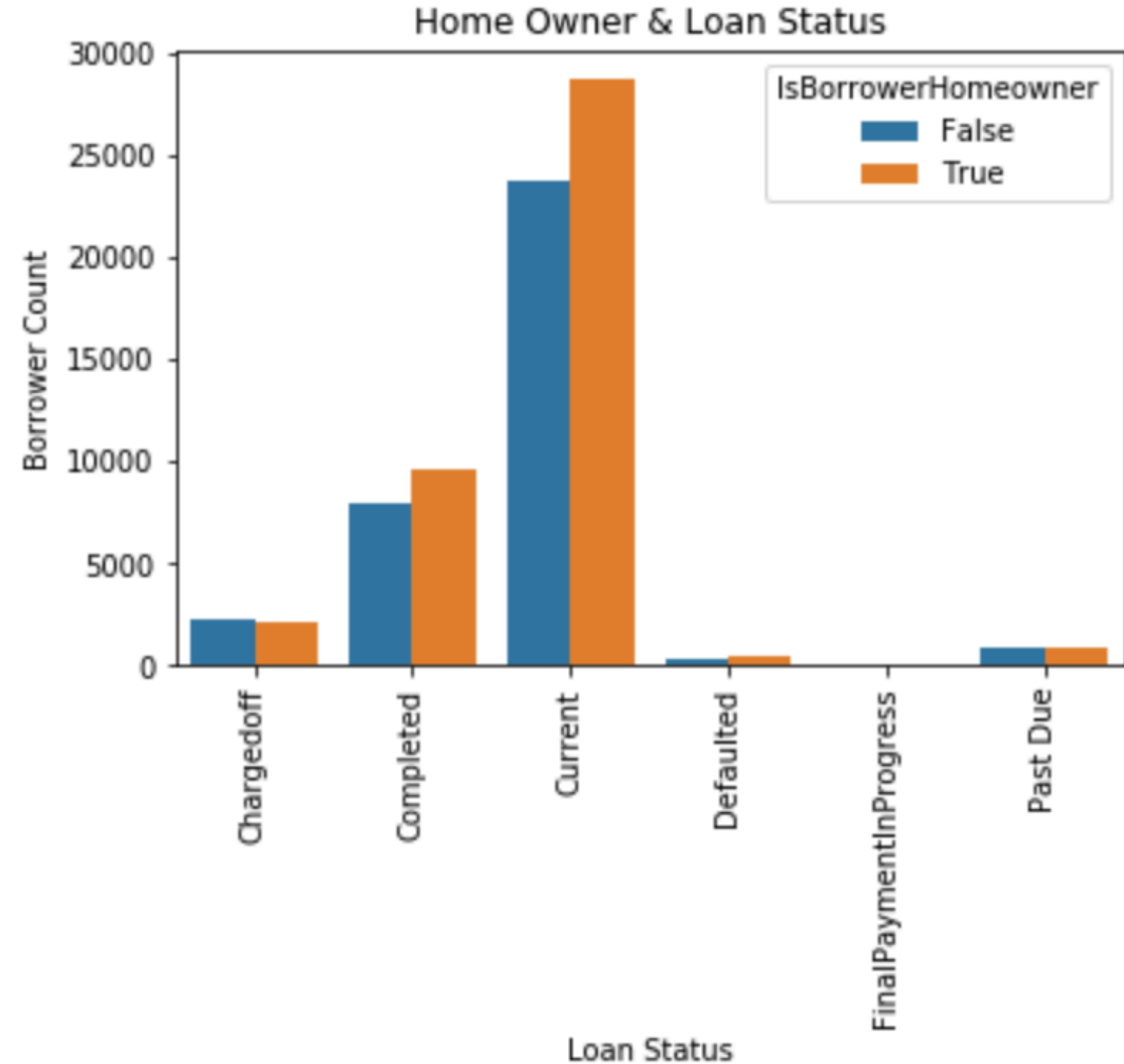
# Home Ownership

- From the univariate analysis, we can see that the majority of borrowers are homeowners.

## Home Ownership Distribution
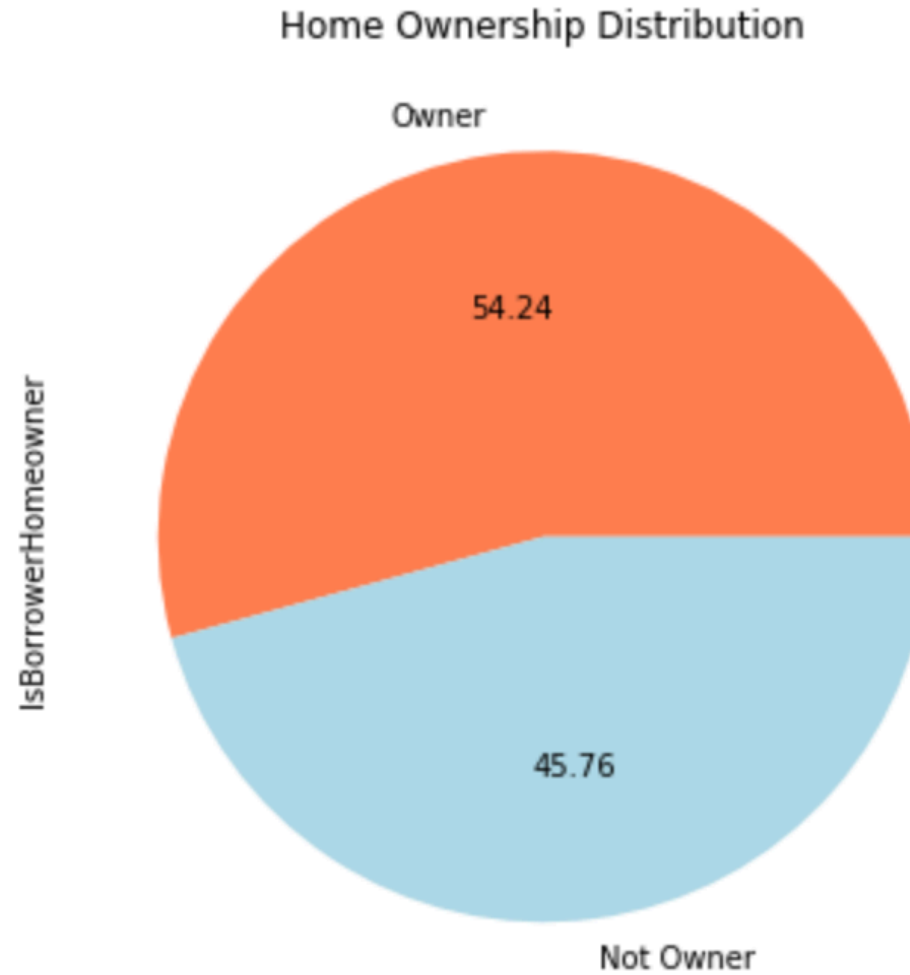
# Home Ownership & Loan Status

- From the bivariate analysis, we can clearly visualize that for all the current and completed loans, most borrowers are homeowners. On the other hand, for the poor-quality loans, there is a larger portion of borrowers who don't own properties.

- This is a positive indicator to the current loans from a home ownership perspective.

# Loan Outcome, Home Ownership & Credit Score Lower Range

- As credit score lower is an important indicator of the borrowers' credit quality, the multivariate analysis shows that 1. borrowers who own homes generally have higher credit score lower range 2. completed loan borrowers have higher credit score lower range than all other borrowers for the homeowners, but not for the ones who own no property.
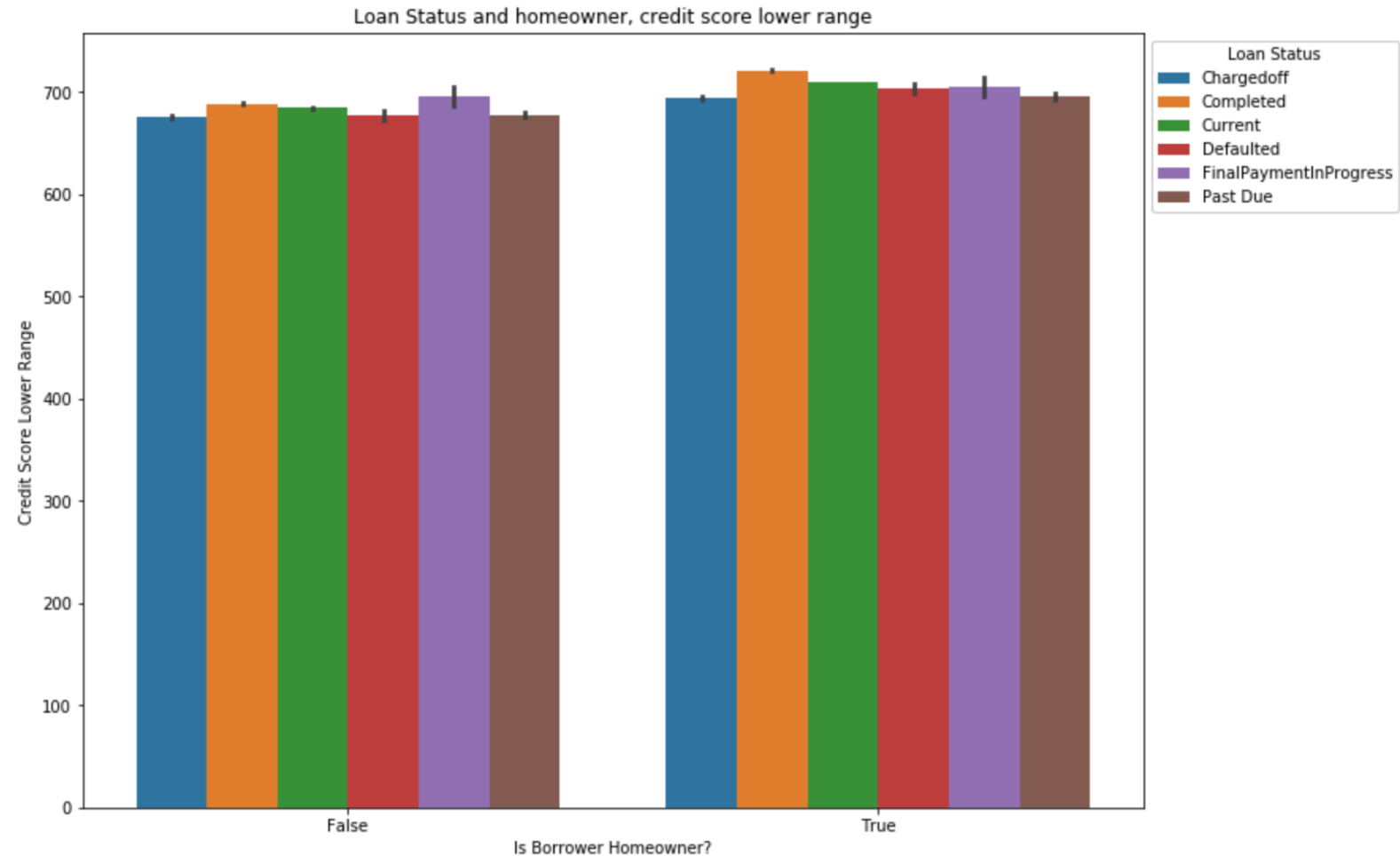
# Summary

- From the analyses, we can see that there is some association between home ownership and loan outcome.

- As predicted, completed loans have a higher portion of homeowners than the poor-quality loans. A positive indicator is that the current loans also have a much higher portion of homeowners.

- The multivariate analysis shows that we should not arrive at decisions from the bivariate analysis, as for the homeowners, the completed loan borrowers have higher credit score lower range than the current loan and other borrowers.

- To conclude, we used homeownership as a potential predictor of loan outcome to show that it is a difficult task to pin down one factor that exhibits predictive power to loan outcome.