Lending Club Case Study

Summary

- Lending Club is the largest online loan marketplace, facilitating personal loans, business loans, and financing of medical procedures. Borrowers can easily access lower interest rate loans through a fast online interface. When the company receives a loan application, the company has to make a decision for loan approval based on the applicant's profile. Likely to pay and not likely to repay the loan are two types of risks associated based on the decision.

Problem

When borrowers apply for a loan at Lending Club, the company team wants to reduce financial risk of losing money to borrowers who fails to pay the loans. By identifying the driving factors from the dataset of existing and previous customers, team wants to reduce this risk.

Assumptions

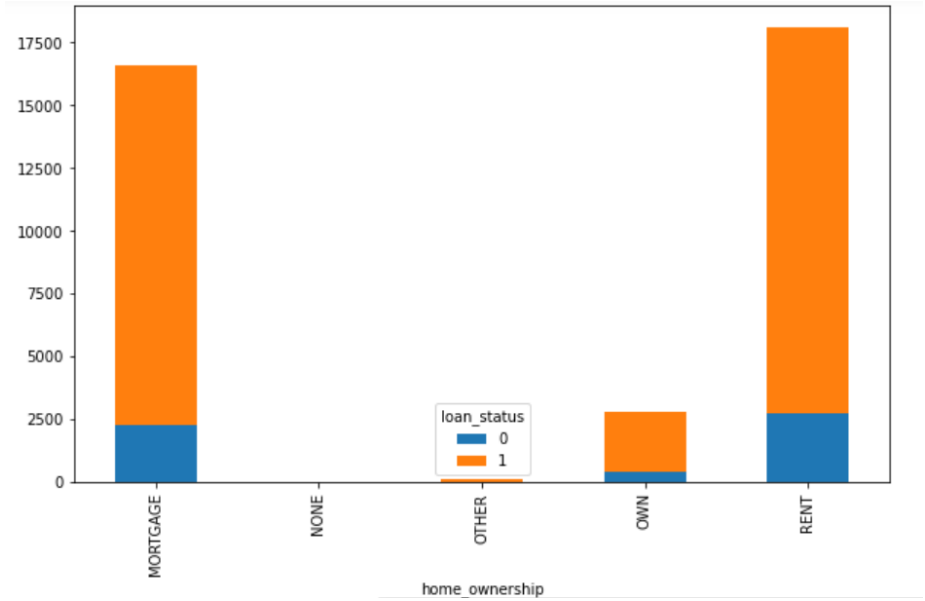
- Customers with employment less than 1 year as 0 years and 10 + as 11 years employment length for the column emp_length
- Customer behavior variables not available at time of application

Analysis

- Interest rate among charged off customers is more than the Fully paid
- Customers of grade A are less likely to default than other grade customers
- Income source not verified customers are more likely to default than verified and source verified customers

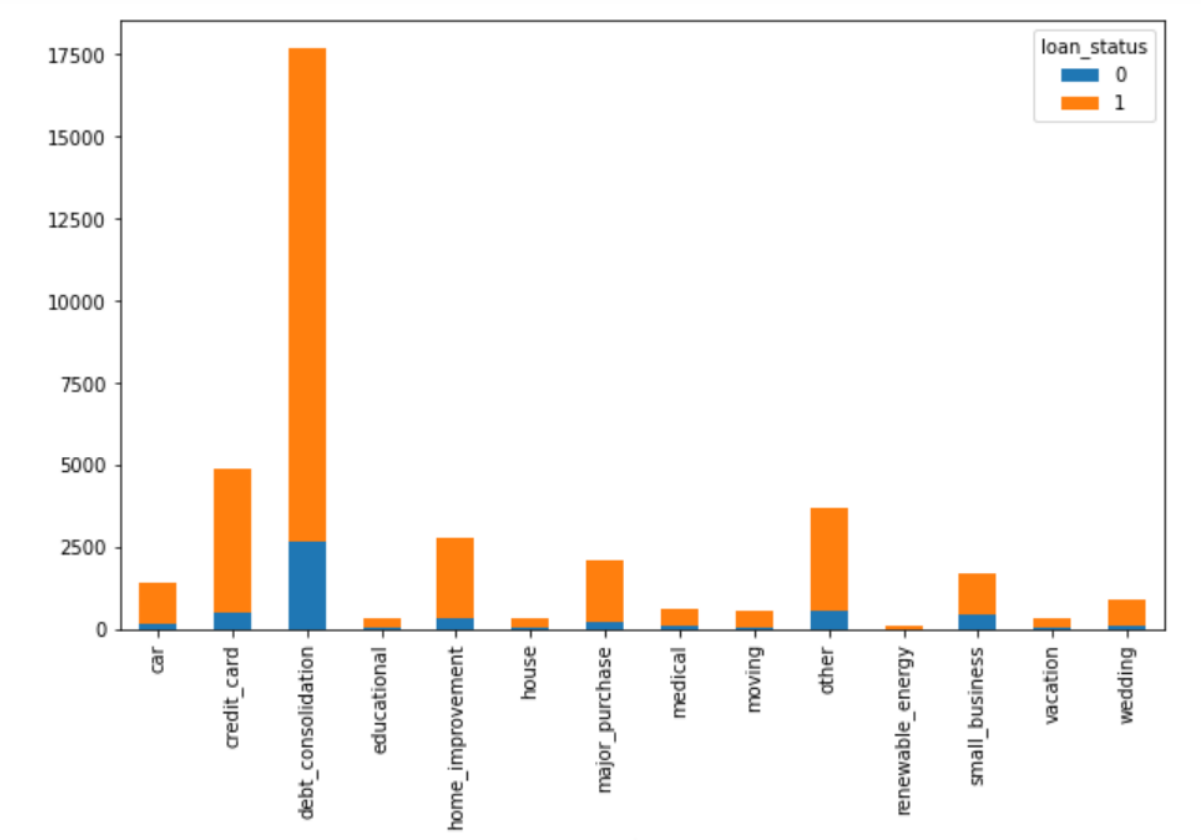
Analysis

- Customers with own home ownership are less likely to default



Analysis

- More number of customers are opted for loan with debt_consolidation purpose. These customers are more likely to default because of increased debt risk



Solution

- Driving factors to determine the risk:
  - Customers with purpose debt_consolidation
  - Less annual income and high debt to income ratio
  - Employment length
  - Rented and Mortage Home Ownership

References

- https://www.consumerfinance.gov/ask-cfpb/what-is-a-debt-to-income-ratio-why-is-the-43-debt-to-income-ratio-important-en-1791/ - Debt to Income ratio
- https://www.mdpi.com/1911-8074/14/7/320/htm - Loan Delinquency Factors
- https://www.investopedia.com/terms/d/derogatory-information.asp - Derogatory Information