Lending Club Case Study

Background -

Lending club is the largest peer-to-peer marketplace connecting borrowers with lenders. Borrowers apply through an online platform where they are assigned an internal score. Lenders decide -
1) whether to lend and
2) the terms of loan such as interest rate, monthly instalment, tenure etc. Some popular products are credit card loans, debt consolidation loans, house loans, car loans etc.

Business Objectives -

This company 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.

Like most other lending companies, lending loans to ‘risky’ applicants is the largest source of financial loss (called credit loss). Credit loss is the amount of money lost by the lender when the borrower refuses to pay or runs away with the money owed. In other words, borrowers who default cause the largest amount of loss to the lenders. In this case, the customers labeled as 'charged-off' are the 'defaulters'.

If one is able to identify these risky loan applicants, then such loans can be reduced thereby cutting down the amount of credit loss. Identification of such applicants using EDA is the aim of this case study.

In other words, the company wants to understand the driving factors (or driver variables) behind loan default, i.e. the variables which are strong indicators of default. The company can utilize this knowledge for its portfolio and risk assessment.

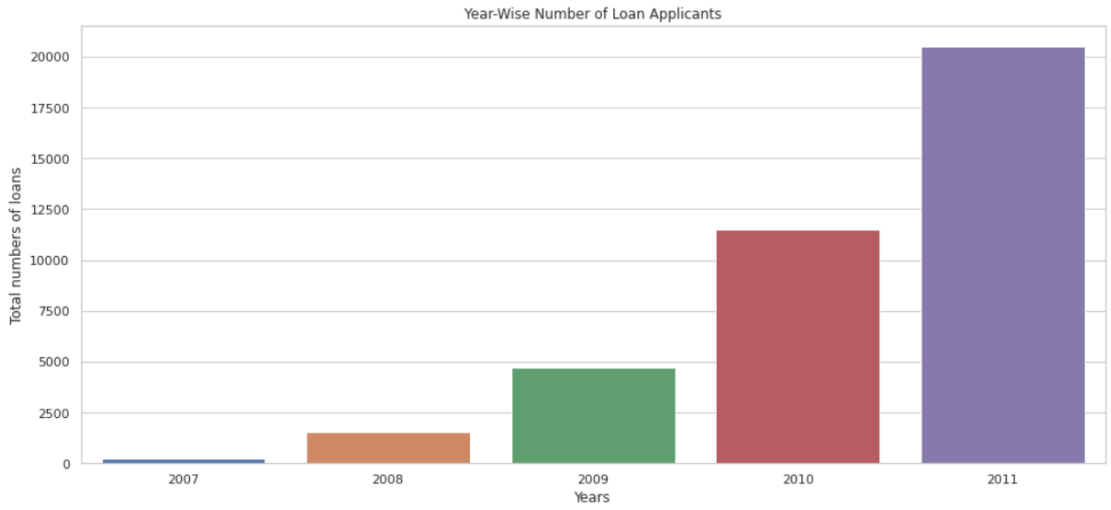
To develop your understanding of the domain, you are advised to independently research a little about risk analytics (understanding the types of variables and their significance should be enough).

Types of variables

- Users details
- Loan related information & characteristics
- User behavior (if the loan is granted)

Time Frame of the Data – 2007-2011

```
#draw a countplot to show the year wise increasing amount of loans in
lending clubs -
```



Loan Purpose Distribution

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#Count plot to show the different loan purpose from the lending clubs
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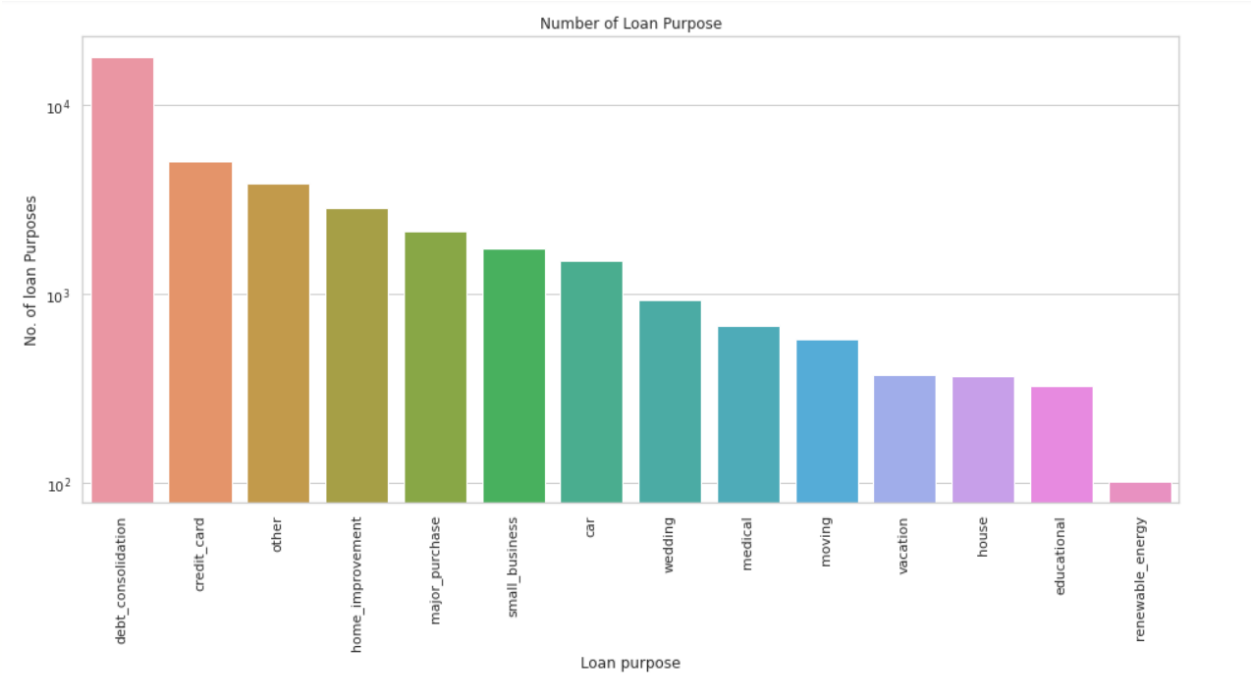

Risk Analysis of defaulters acc. to grades

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#Percentage of risk of defaulter using grades
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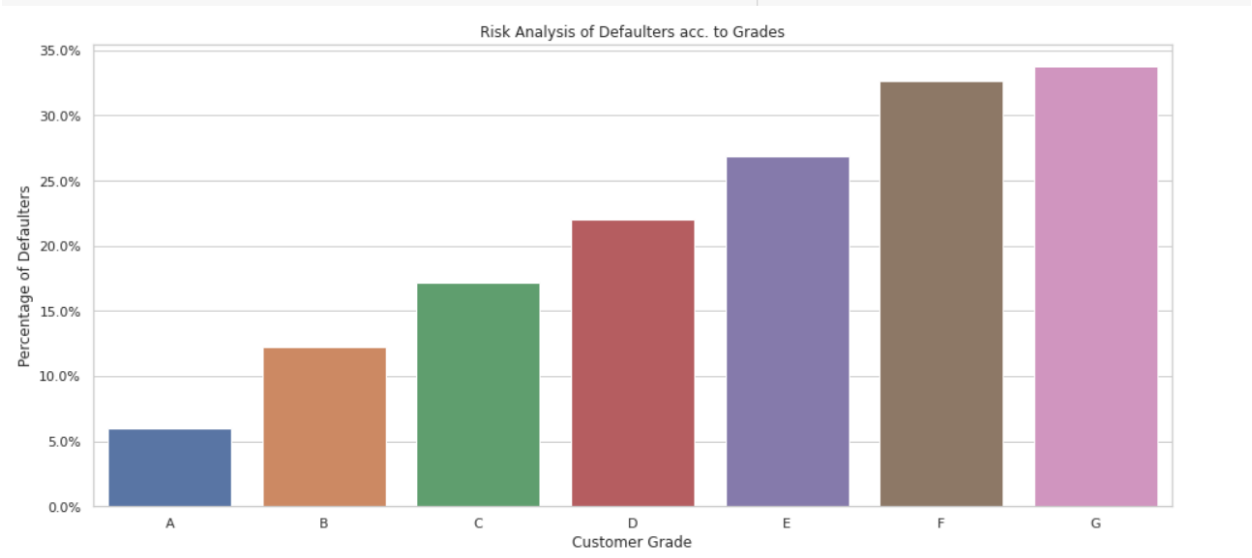
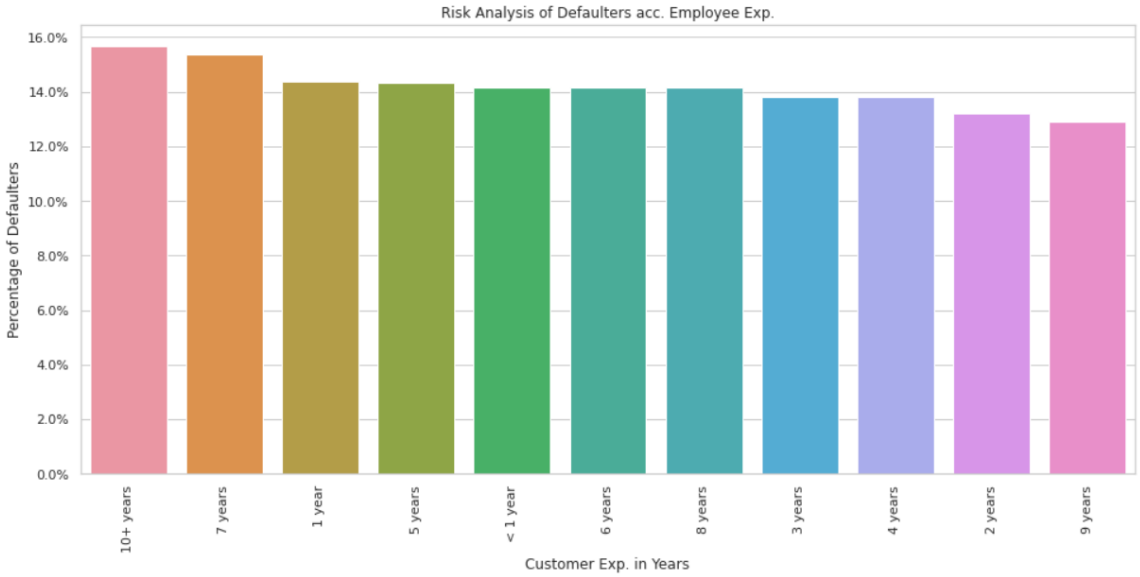
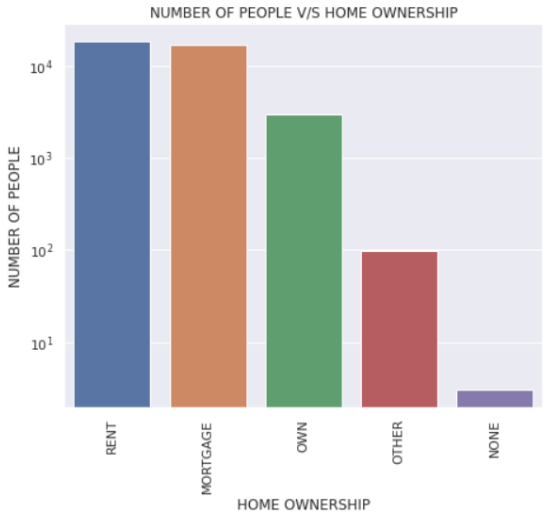
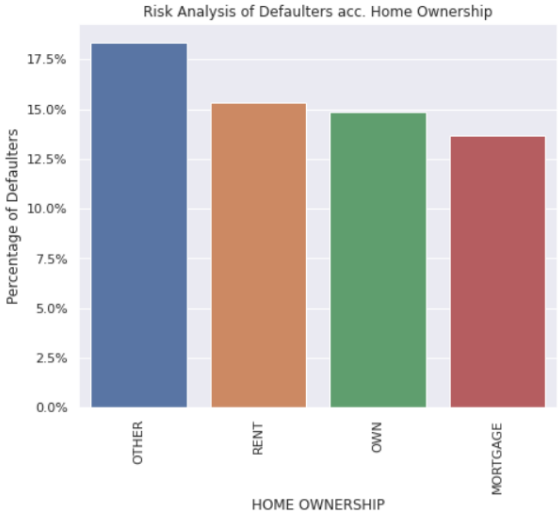


Risk Analysis of defaulters acc. Employee Exp.



Number Of People V/S Home Ownership





DTI VS Employee Exp.

#By doing bivariate analysis it has been observed that 10+ years of employee exp. Is having debt to income in maximum range apart from that rest year of employee exp. are more or less in the same range.