Lending Club Case Study

Group Member:

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Problem Statement

Lending Club is a marketplace for personal loans that matches borrowers who wants a loan with investors looking to lend money.

With each new loan application, company has to identify the risky loan applications, so that loans can be avoided to reduce the credit loss.

Company wants to understand the driving factors behind loan default.

The objective is to analysis past loan applications and identify the possibility of defaulting the loan of new applicant based on the loan application data.

Problem Solving Approach

01
Data Understanding

Going through each column and getting understanding of all columns and with respect to business domain.

02
Data Cleaning

Removing null columns
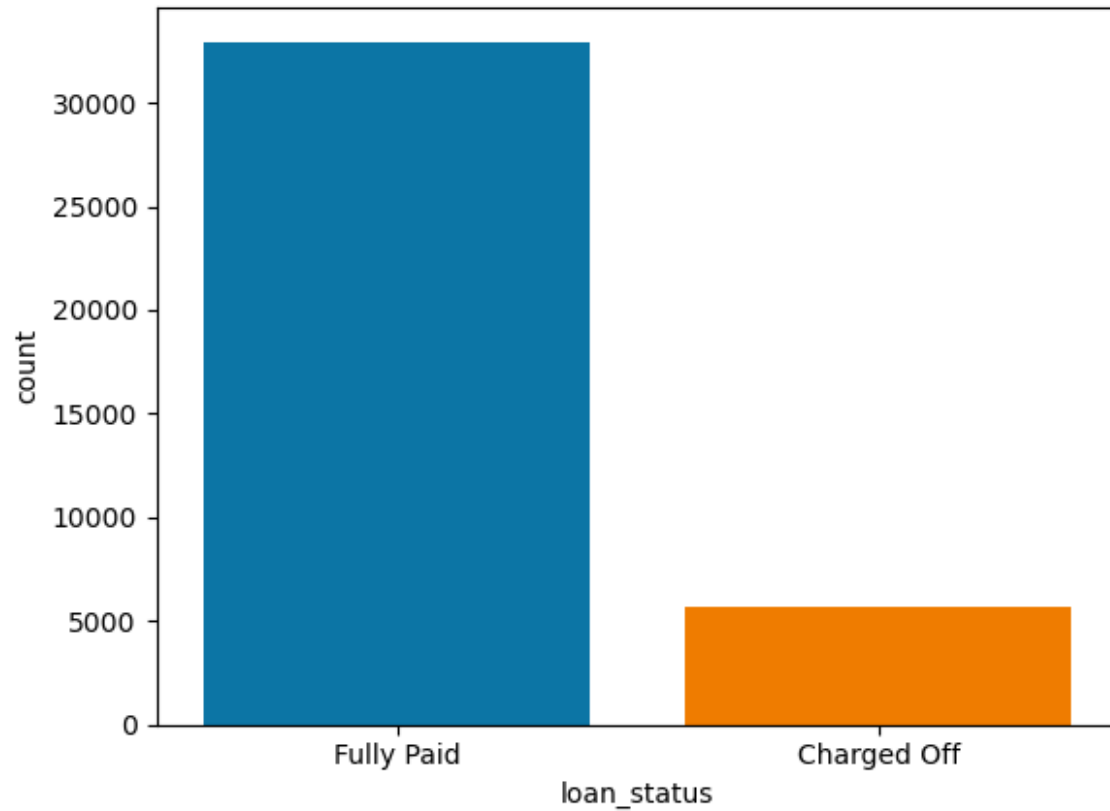
Remove unused Rows

03
Data Analysis

Univariate Analysis

Bivariate Analysis

04
Recommendation

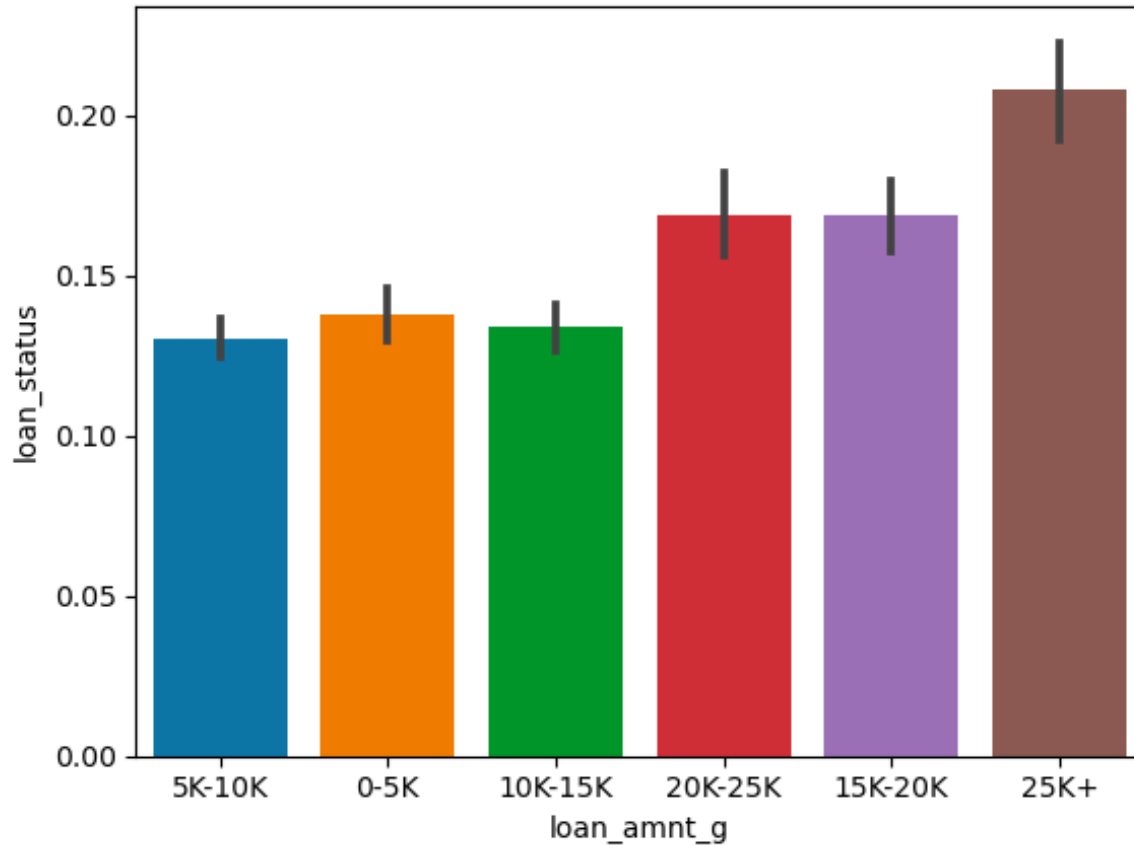Analyzing all plots and present recommendations to reduce default loan loss.

Analysis - Loan Status

Observations:
1. Majority of the loans are fully paid.
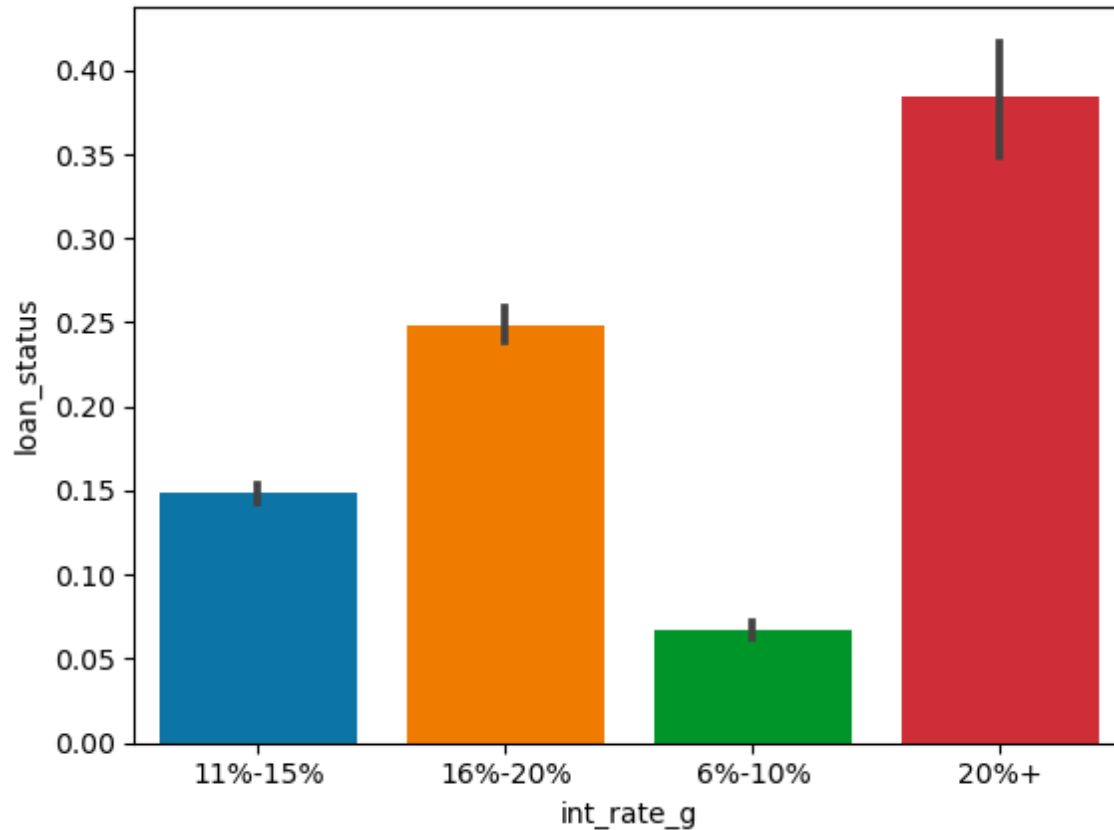2. About 15% of loan are Charged off.

Analysis - Loan Amount

Observations:
1. As the loan amount increases, tendency to default loan also increasing.
2. People with loan amount more than 15k has high chances of defaulting the loan.
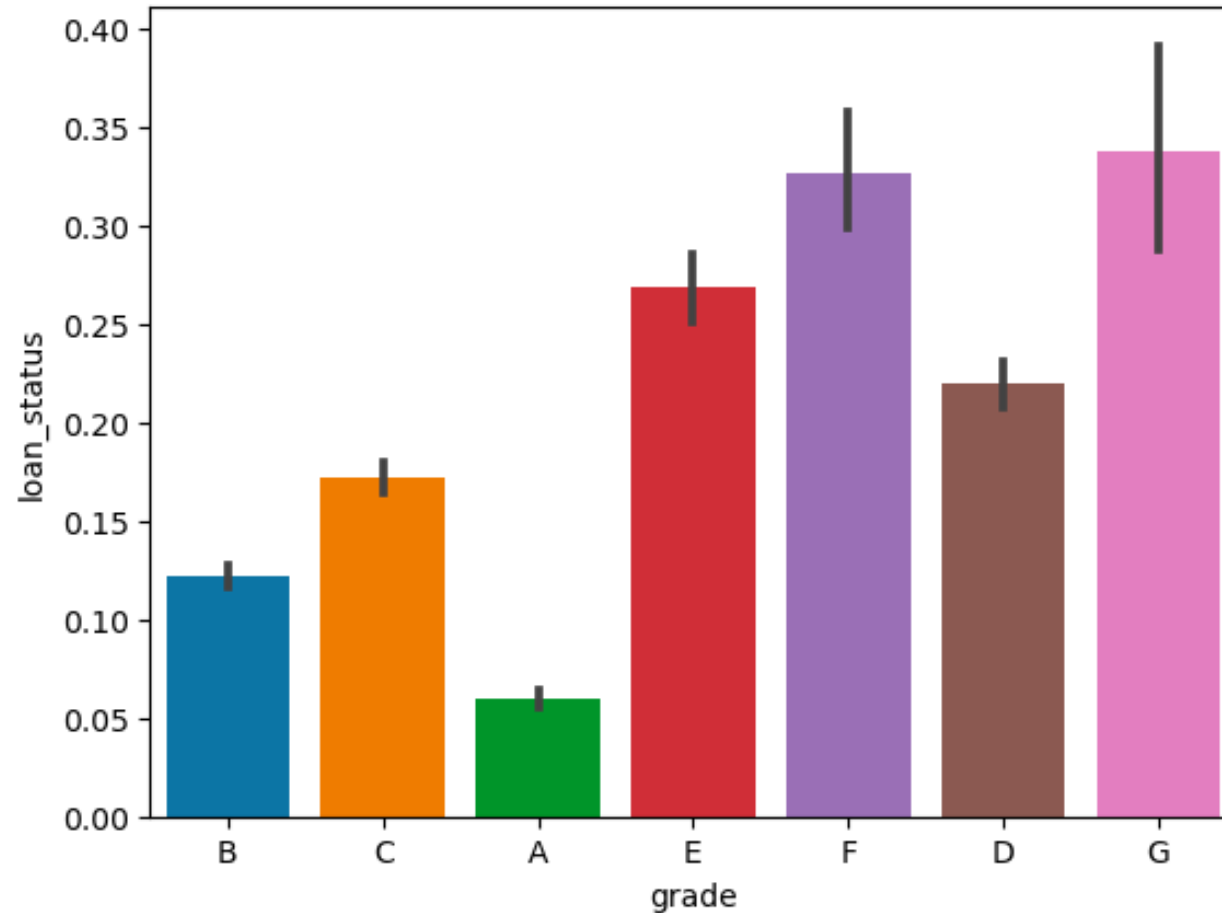
Analysis - Interest Rate

Observations:
1. Chances of defaulting loan is higher in case of high interest rates.
2. People with interest rate more than 20% has high chances of defaulting the loan.
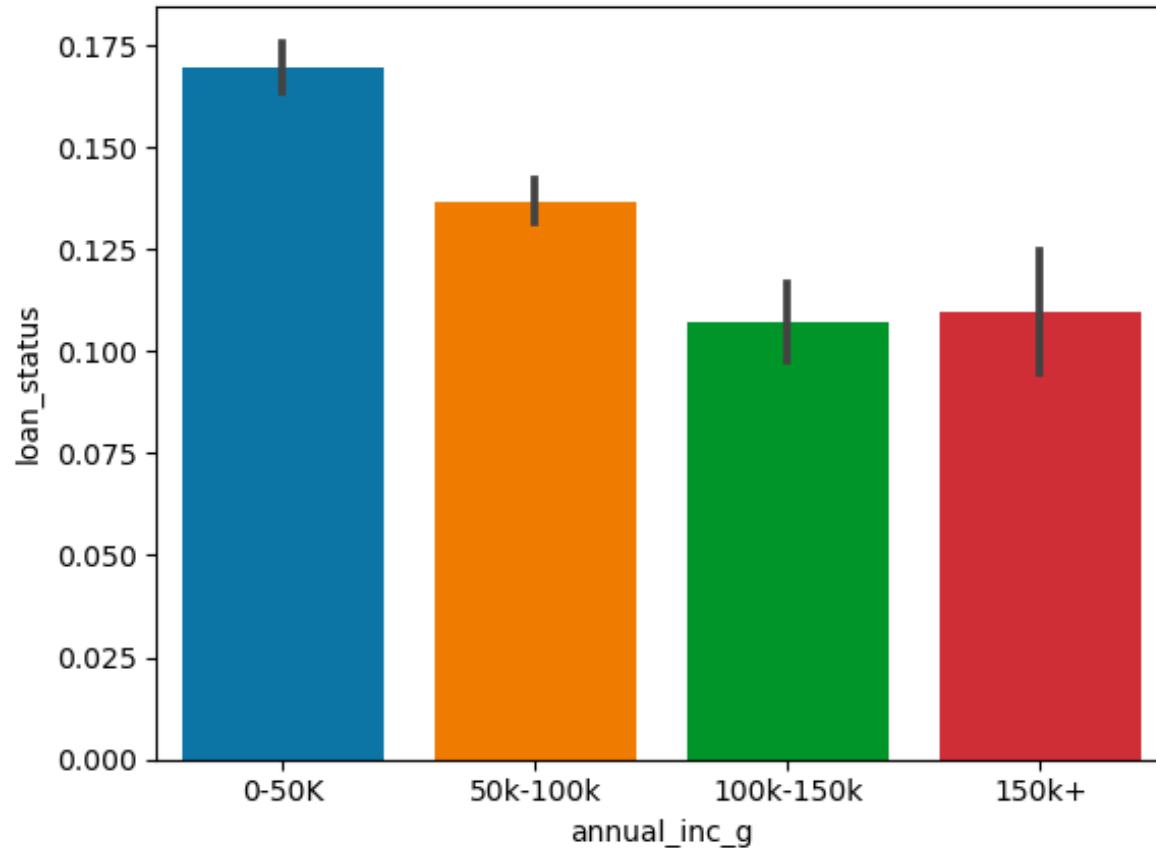
Analysis - Grade

Observations:
1. As Grade increases, chances of defaulting loan also increases.
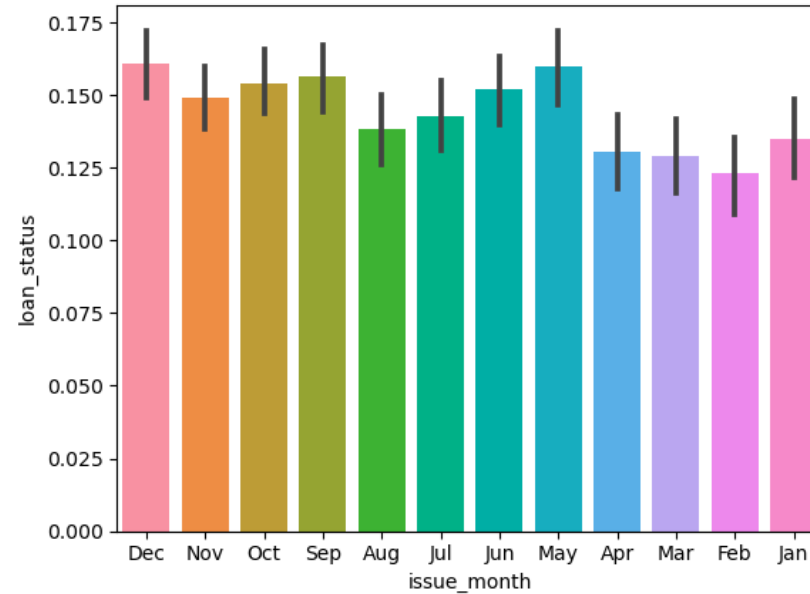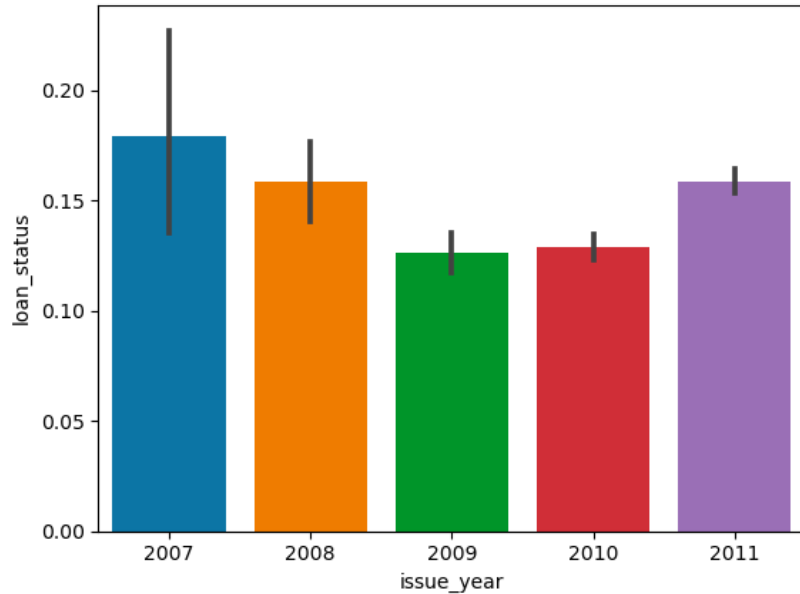
Analysis - Annual Income

Observations:
1. Chances of defaulting loan is high with person having low income.
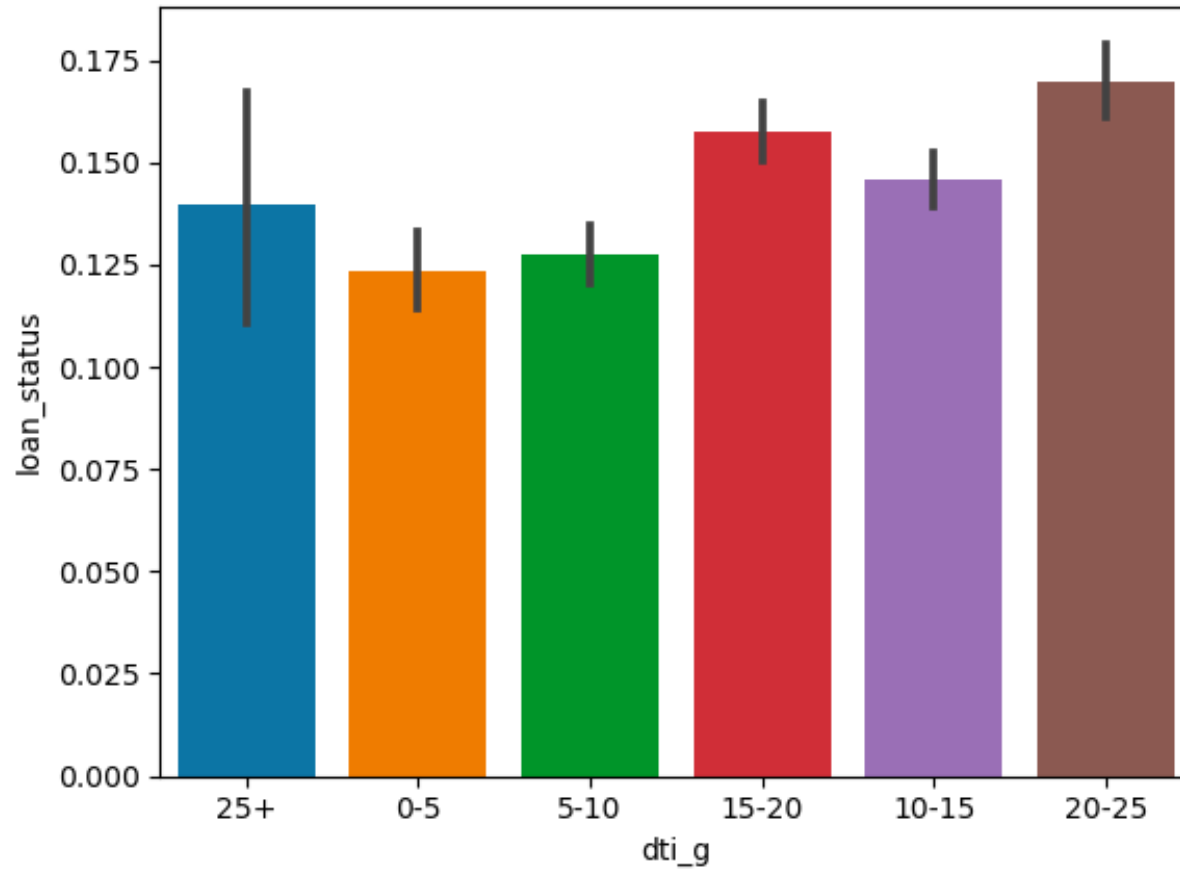2. Higher the income, more the chances of paying the loan

Analysis - Issue Date

Observations:
1. In year 2007, there are high rate of loan defaults That may be due to Recession.
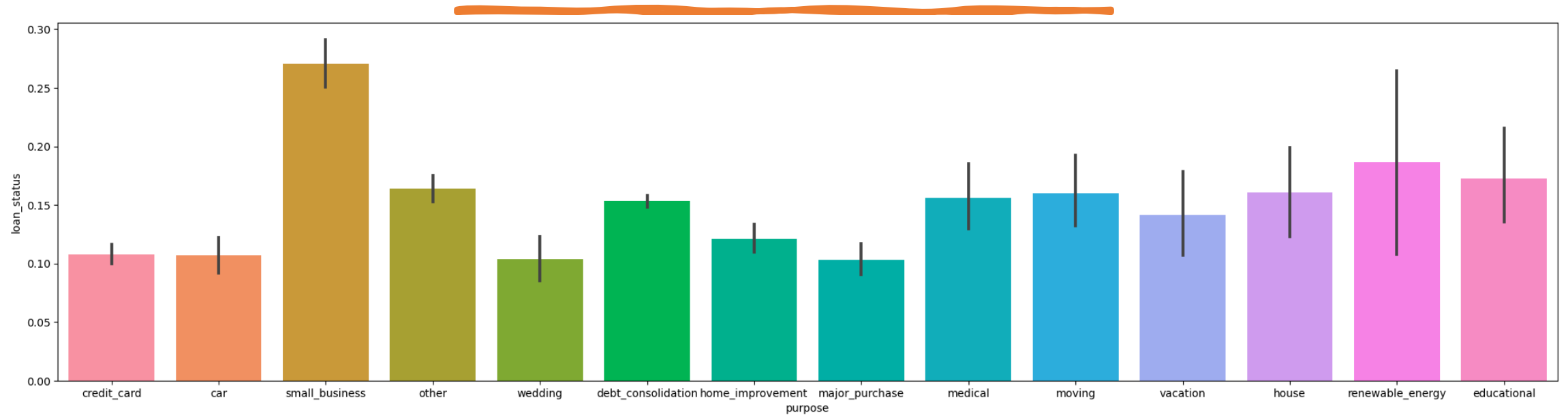2. Chances of defaulting the loan is less in initial month of years.

Analysis - DTI

Observations:
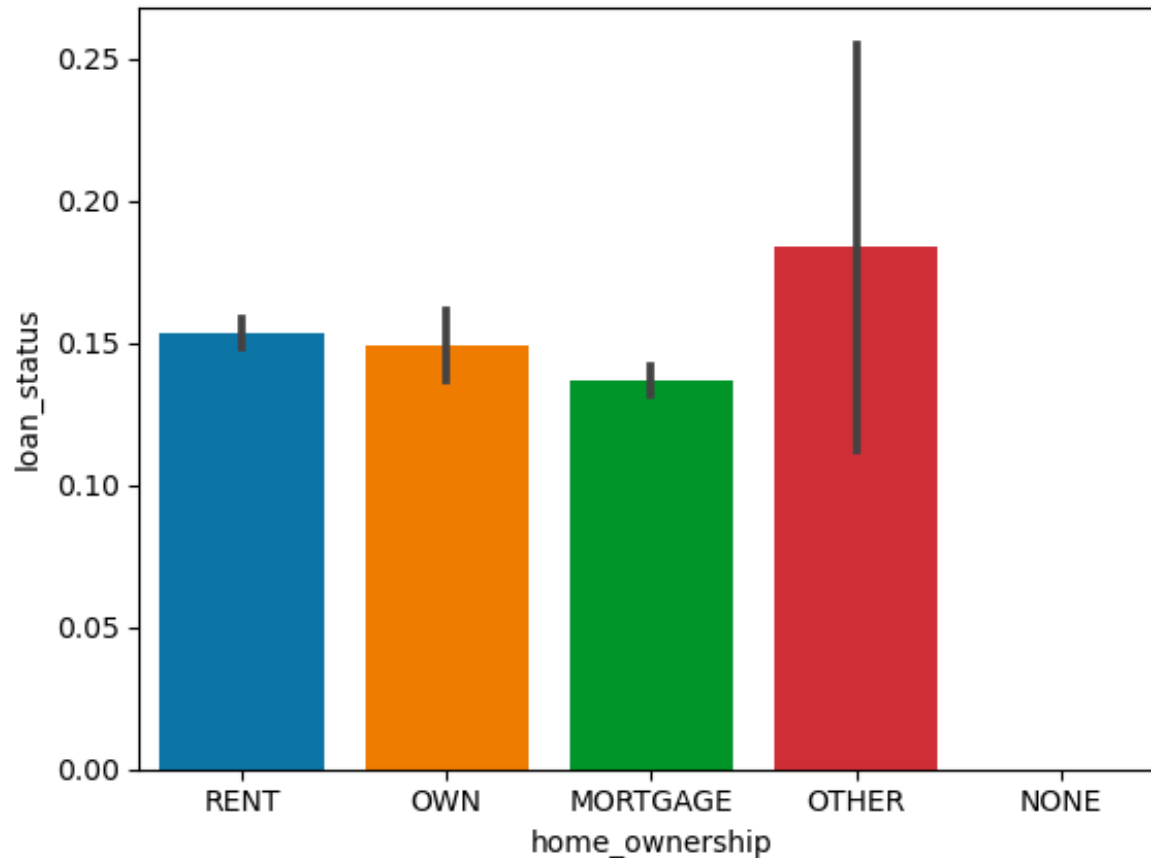1. Higher the DTI, higher are the chances of defaulting loan.

Analysis - Purpose

Observations:
1. Chances of defaulting loan is higher in case of small business.

Analysis – Home Ownership

Observations:
1. Other type loans have more tendency to default loan.
2. Mortgage home ownership has less chances to default.

Recommendations

- Lending club should approve loans with loan amount more than 20k after having more verification checks.

- Lending club should try to reduce the interest rate and bring it less than 15%

- Lending club should avoid approving loans with high grade.

- People having less annual income has more chances of defaulting loan, So lending club should be careful while giving loan in such scenario.

- Less DTI values have less chances of defaulting. So lending club should be careful while approving loans with higher DTI.

- Lending club should be careful while giving loan for small business.