LENDING CLUB CASE STUDY

Lloyd Dsouza

AGENDA

- Objectives
- Process Overview
- Data Analysis
- Data Cleaning
- Univariate Analysis
- Bivariate Analysis
- Recommendations

Objectives

- As we are a Consumer finance company which 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.
- Based on the applicants we must check
  - If the applicant is likely to repay the loan, then not approving the loan results in a loss of business to the company
  - If the applicant is not likely to repay the loan, i.e. he/she is likely to default, then approving the loan may lead to a financial loss for the company
- The company wants to understand the driving factors behind loan default, i.e. the variables which are strong indicators of default. The company can utilise this knowledge for its portfolio and risk assessment.

Process Overview

- Data Analysis
- Data Cleaning
- Univariate Analysis
- Bivariate Analysis
- Segmented Analysis
- Recommendation

Data Analysis

- We need to first understand the data using data dictionary. And then analyse the data provided.
- Import the data using pandas and check small set of data using head function.
- List all the columns and number of non null values using info function.

Data Cleaning

- By checking the columns data using value counts we can see there are many columns with only null values or 0.
- We will drop all the columns with missing or zero values.
- Also we will drop the rows which have more than 50% missing values.

Univariate Analysis

Applicants who have grades B and C have defaulted more number of times
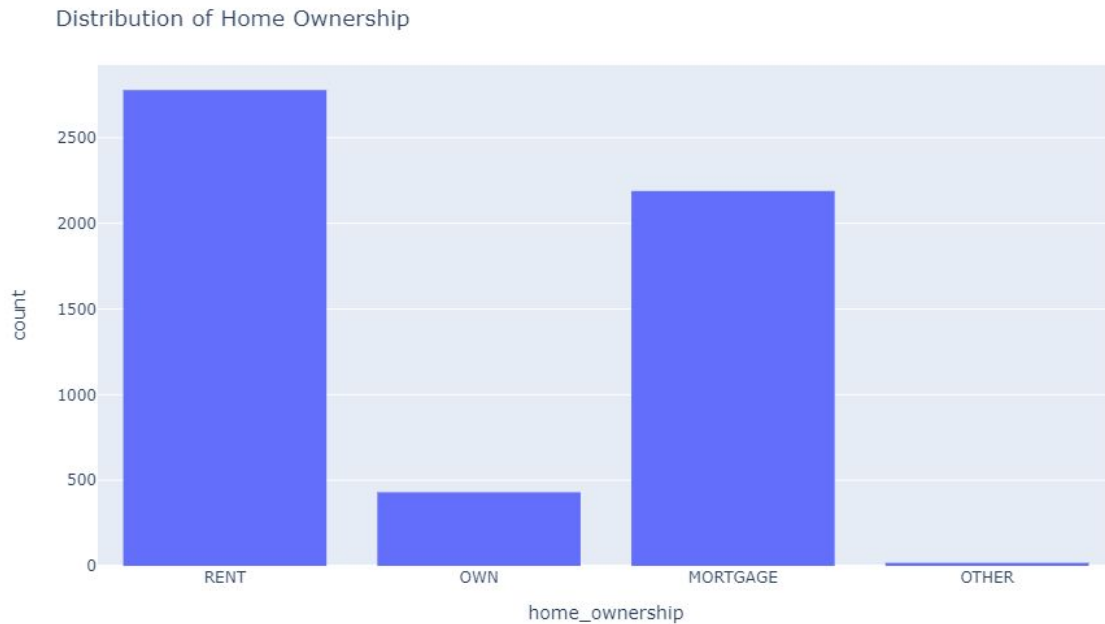

Distribution of grade
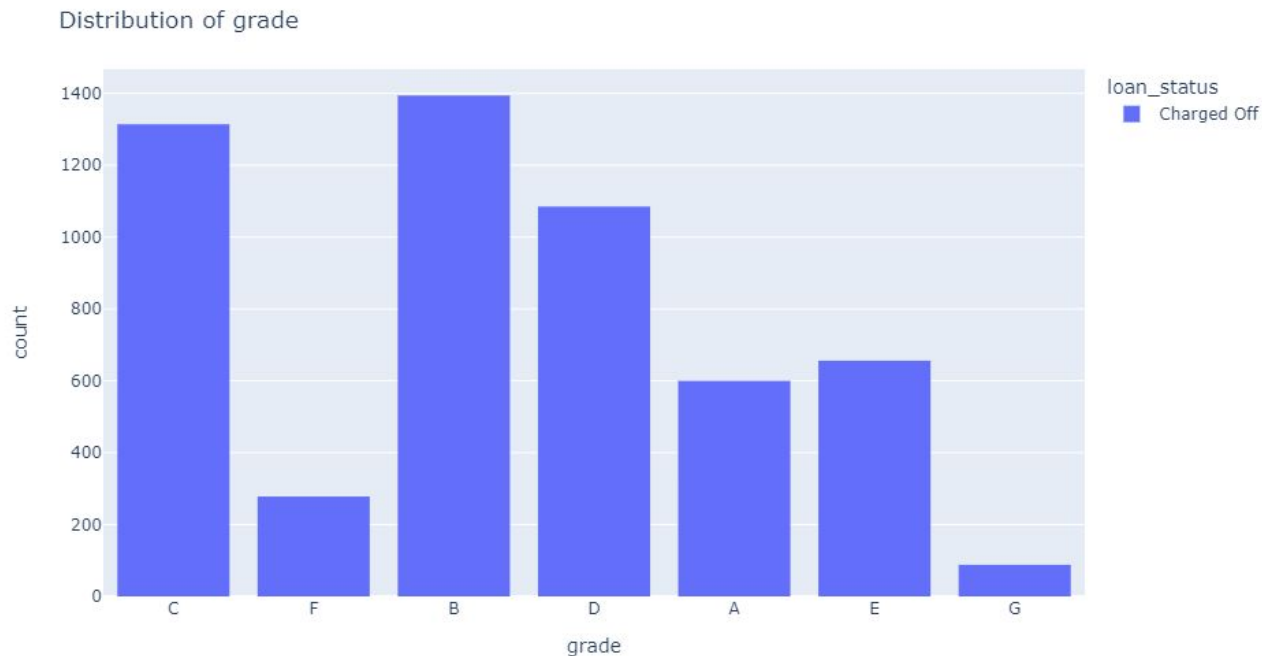
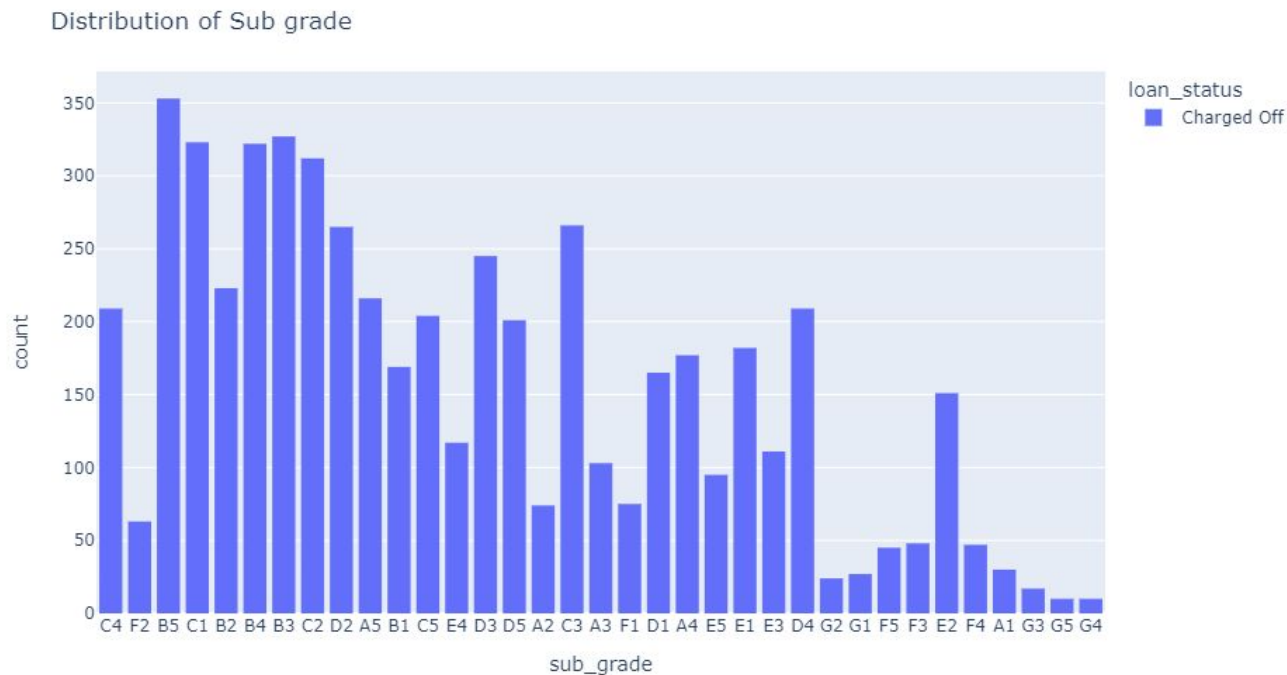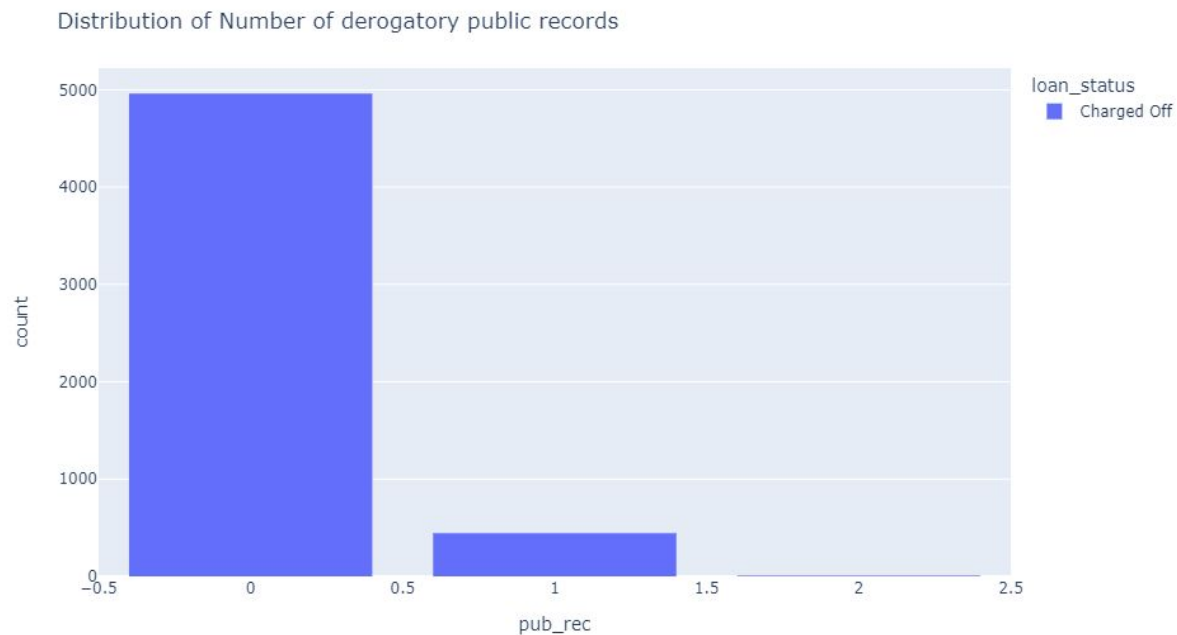Applicants who had debt consolidation as a purpose have defaulted many times

Distribution of Purpose
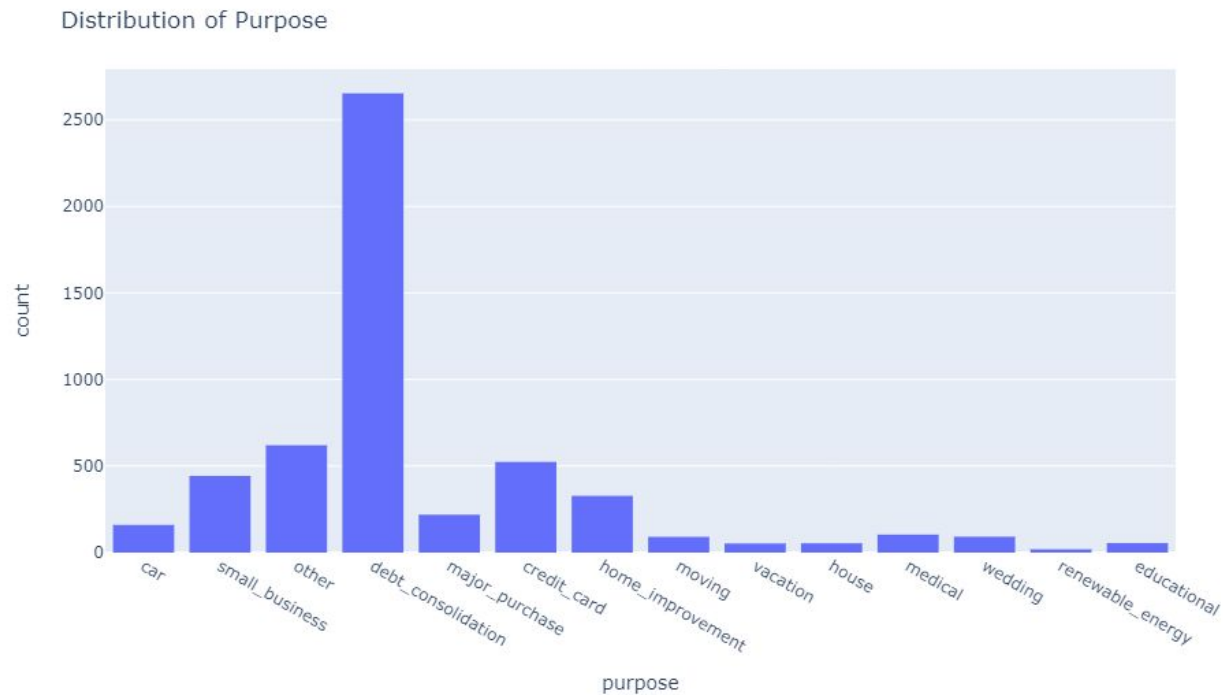
Applicants who are paying rent and mortgage have defaulted many times

Distribution of Home Ownership

Applicants who have su[b] grade B5 and C1 have defaulted many times

Distribution of Sub grade

Applicants who have no public derogatory records defaulted many times

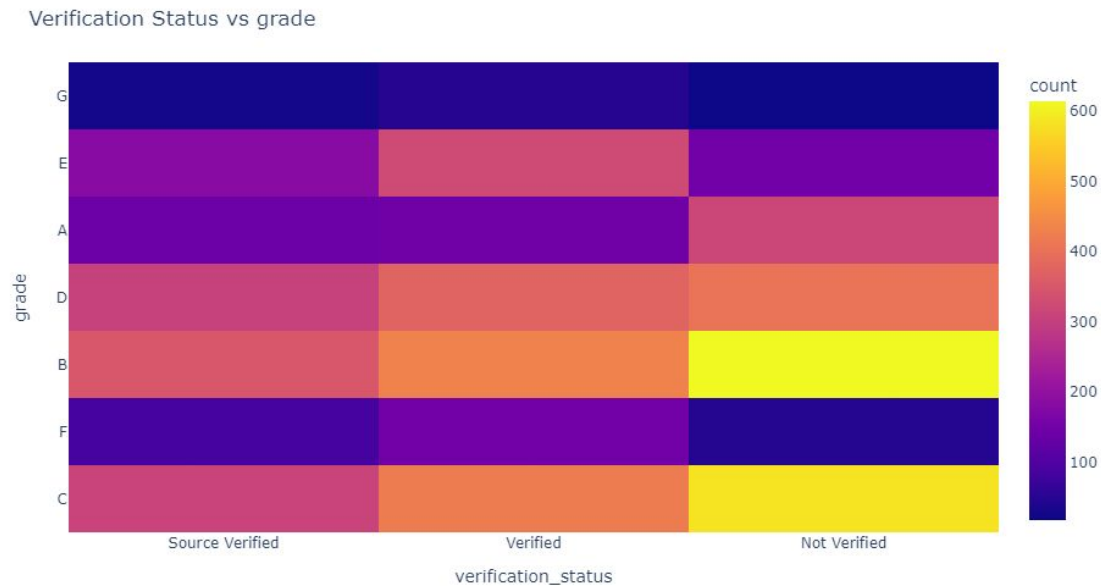Distribution of Number of derogatory public records

Bi-Variate Analysis

Applicants having 0 derogatory public records and debt consolidations have defaulted many times

Pupose vs Derogatory public records
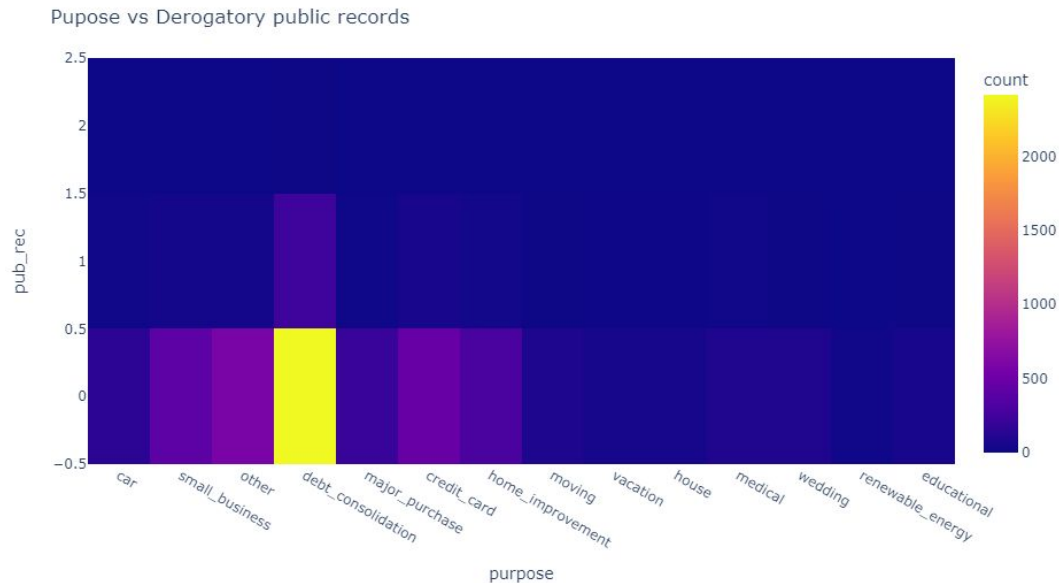
Applicants who have not been verified and have grade B,C have defaulted many times.

Verification Status vs grade

Applicants who have not been verified and have grade B1,B3,B4,C1 have defaulted many times.

Verification status vs sub grade
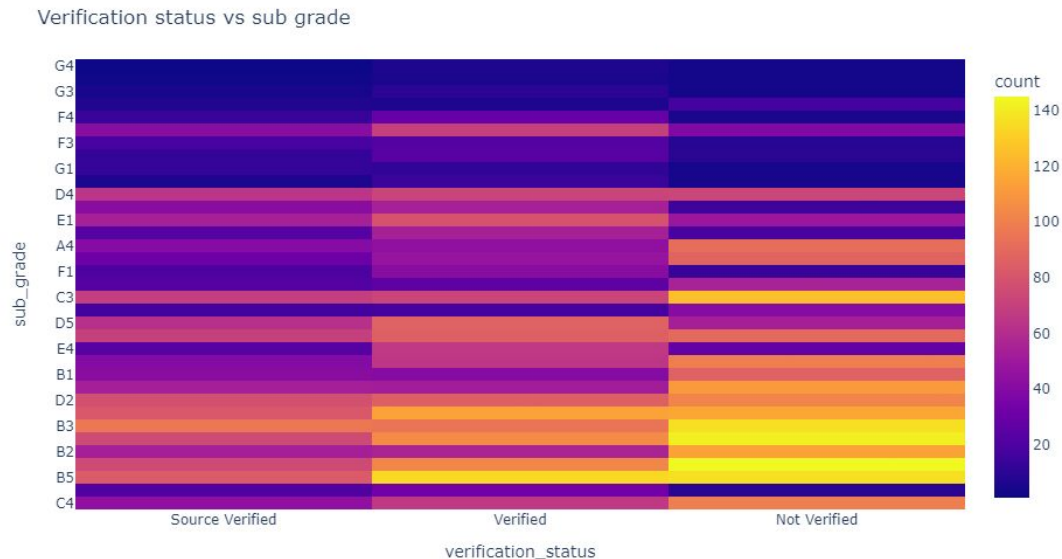
Applicants who have taken loan for debt consolidation and have MORTGAGE or RENT have defaulted many times.
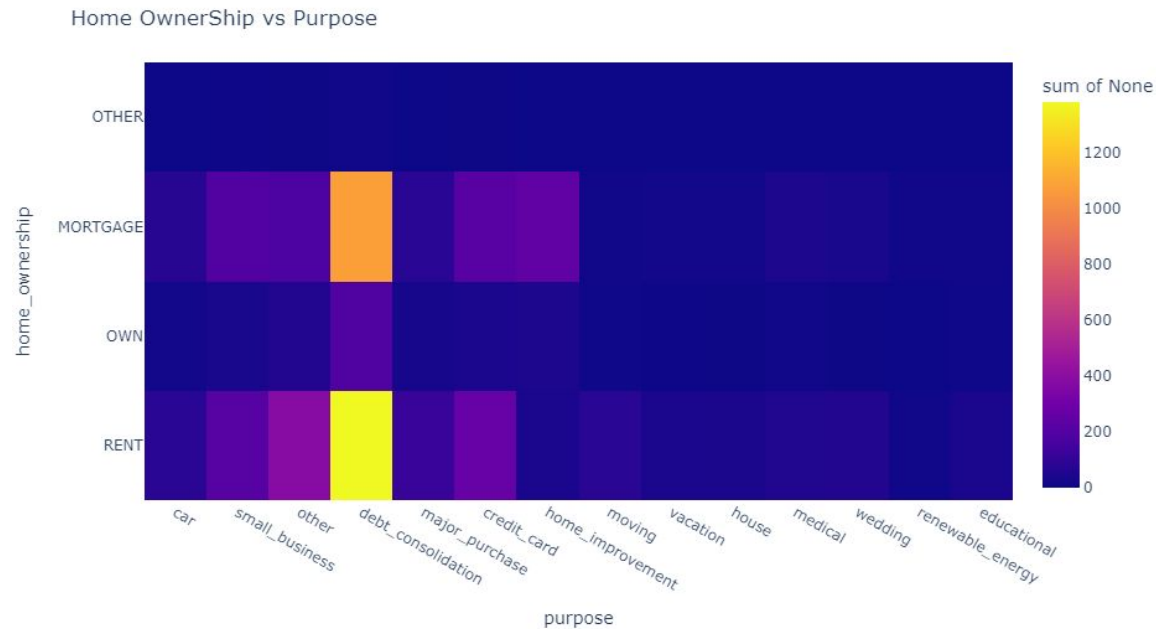
Home OwnerShip vs Purpose

Applicants who have taken loan for debt consolidation and have Annual income between 30k to 60k have defaulted many times.

Purpose vs Annual Income
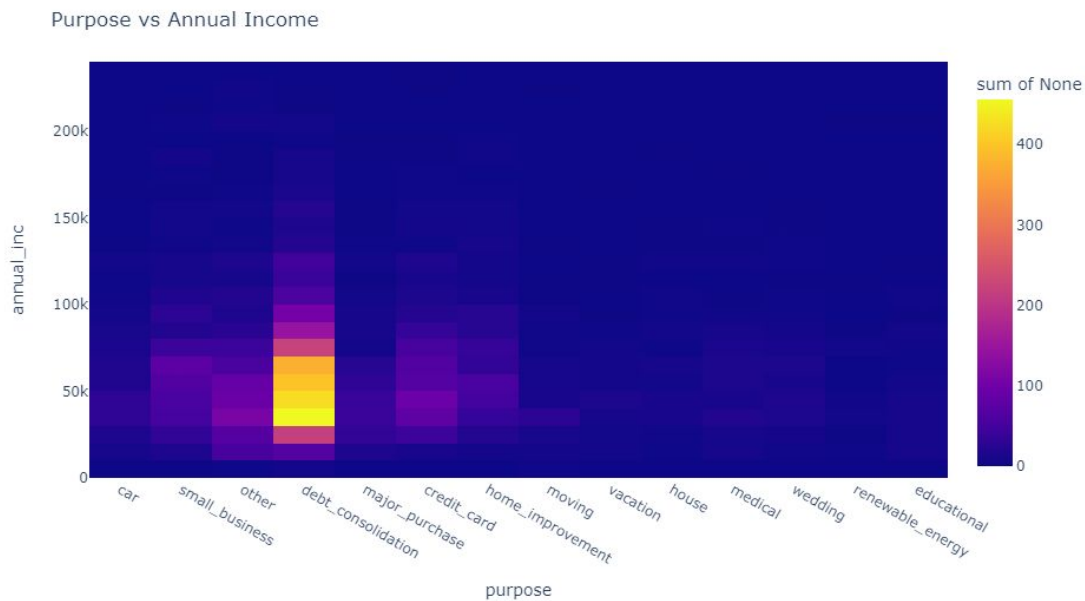
Recommendations

- There is more probability of defaulting when loan is taken for debt consolidation.
- Along with applicants with debt consolidation and home ownership as rent and mortgage.
- Applicants with B and C grade have high probability of defaulting along with non verified income status.
- Applicants having debt consolidation and have Annual income between 30k to 60k have defaulted many times.