LENDING CLUB CASE STUDY

BY:

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PROBLEM STATEMENT –

YOU WORK FOR A CONSUMER FINANCE COMPANY WHICH SPECIALISES IN LENDING VARIOUS TYPES OF LOANS TO URBAN CUSTOMERS. WHEN THE COMPANY RECEIVES A LOAN APPLICATION, THE COMPANY HAS TO MAKE A DECISION FOR LOAN APPROVAL BASED ON THE APPLICANT'S PROFILE.

TWO TYPES OF RISKS ARE ASSOCIATED WITH THE BANK'S DECISION:

- 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 DATA PROVIDED CONTAINS INFORMATION ABOUT PAST LOAN APPLICANTS AND WHETHER THEY 'DEFAULTED' OR NOT.

THE AIM IS TO IDENTIFY PATTERNS WHICH INDICATE IF A PERSON IS LIKELY TO DEFAULT, WHICH MAY BE USED FOR TAKING ACTIONS SUCH AS DENYING THE LOAN, REDUCING THE AMOUNT OF LOAN, LENDING (TO RISKY APPLICANTS) AT A HIGHER INTEREST RATE, ETC.
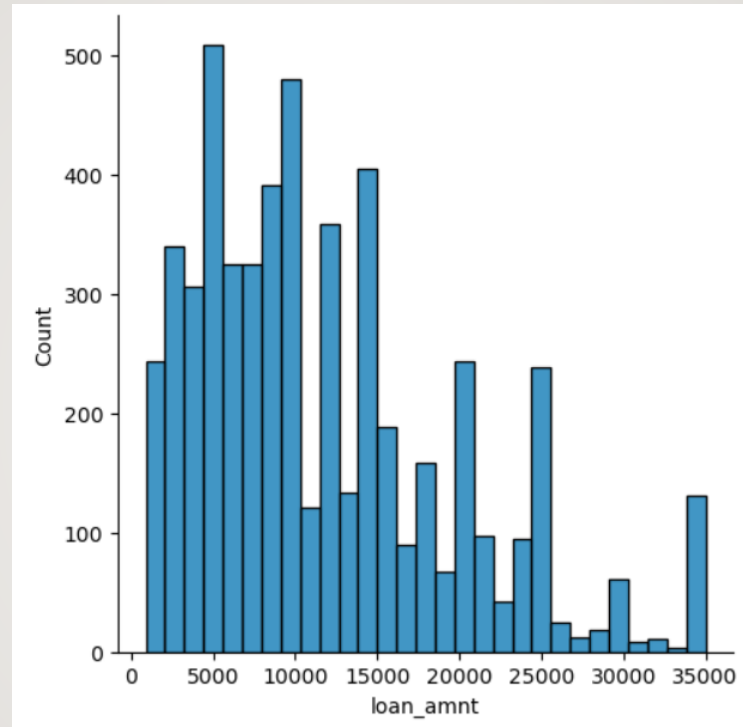
STEPS FOLLOWED –

- LOADING THE DATE

- CLEANING THE DATA

- DROPPING UNNECESSARY COLUMNS

- FILLING IN MISSING DATA

- FIXING DATA TYPES OF COLUMNS

- REMOVING EMPTY COLUMNS

- REMOVING UNIQUE COLUMNS

- VISUALIZATION AND UNIVARIATE ANALYSIS

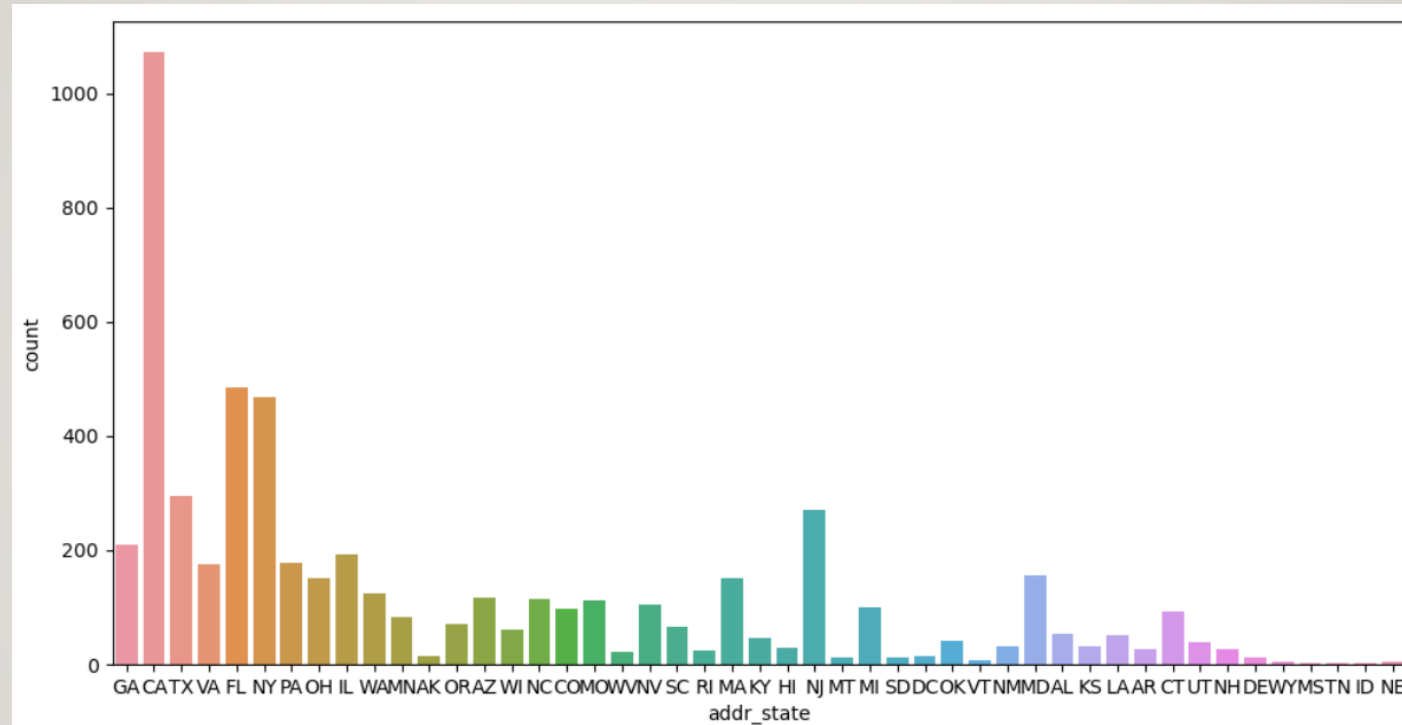- VISUALIZATION AND BIVARIATE ANALYSIS

OBSERVATIONS
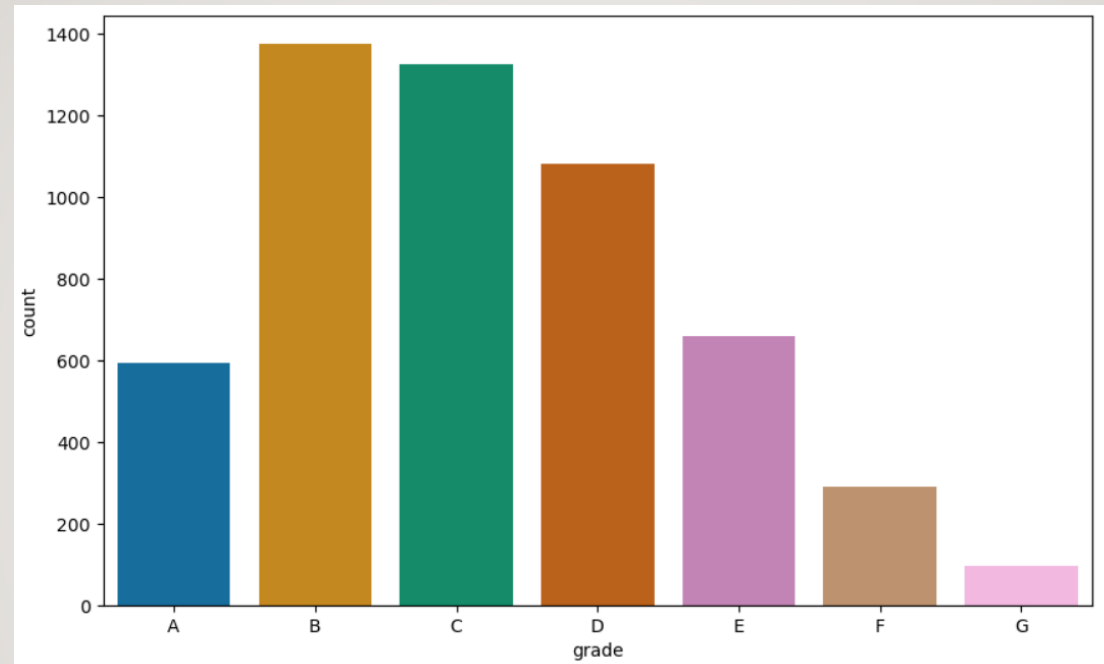
1. We see that grades B,C and D have the highest number of defaulters
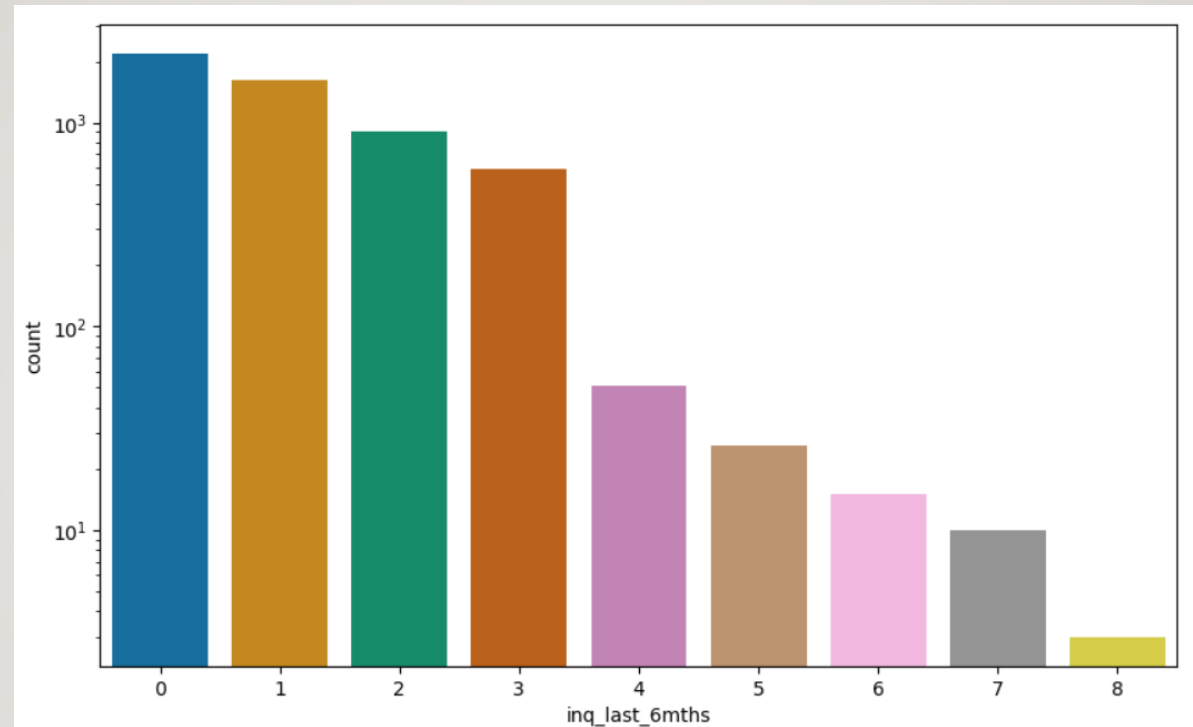
OBSERVATIONS

2. Most defaulters applied for a loan between 2000 - 15000
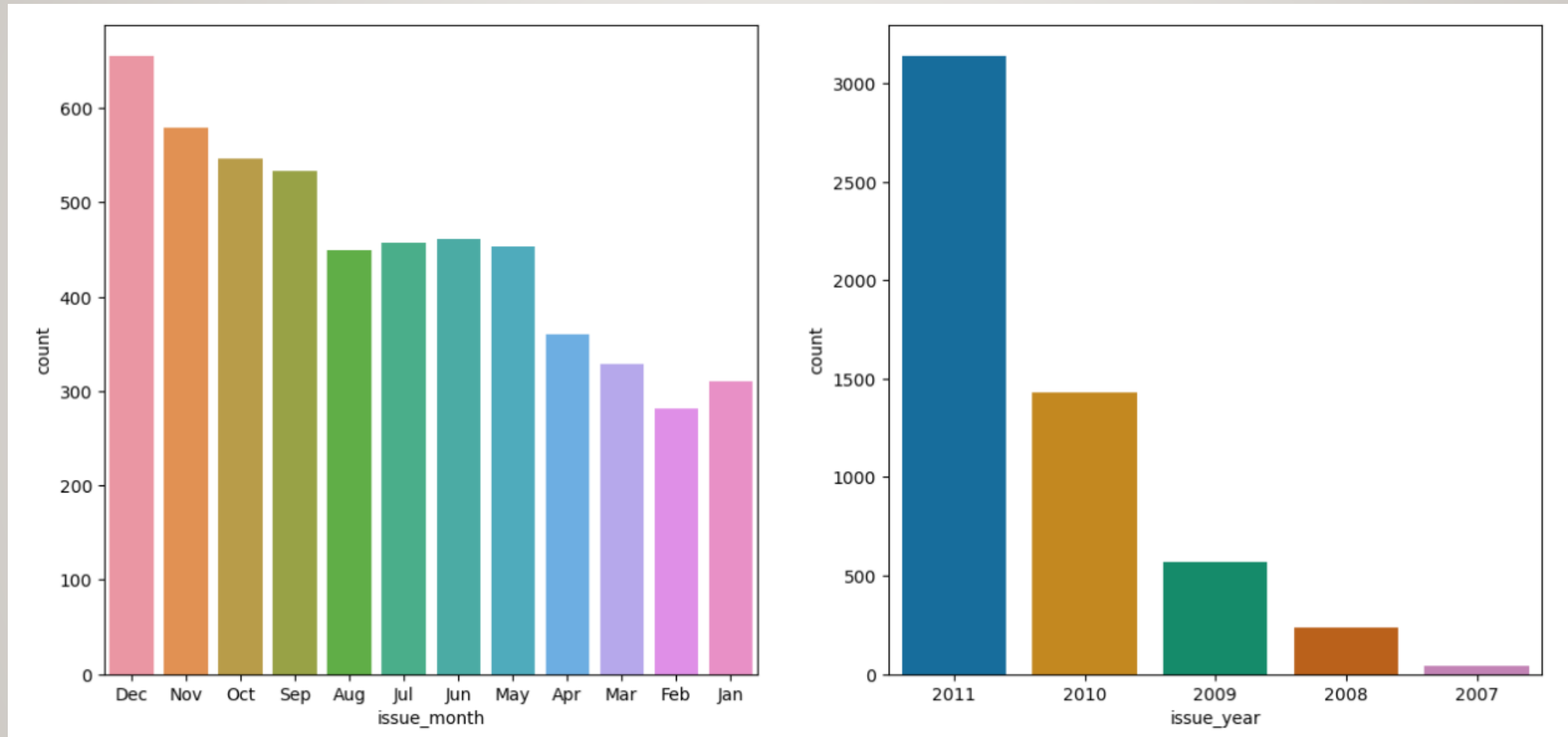
OBSERVATIONS

3. Applicants from state 'CA' have the highest probability of defaulting

OBSERVATIONS

4. Probability of defaulting decreases with more number of inquiries

OBSERVATIONS

5. People are more likely to default during year end. Most number of defaulters were seen in 2011.