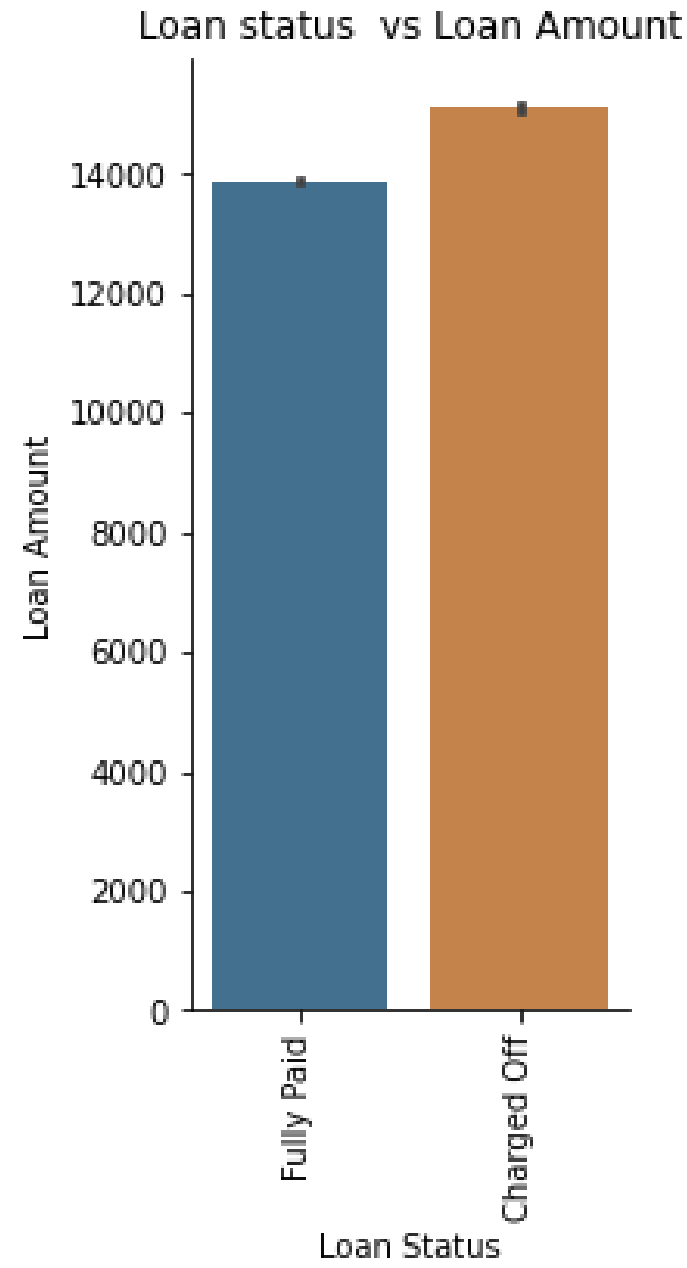# Probable Reasons of Loan Defaulting

By Kishan Patel
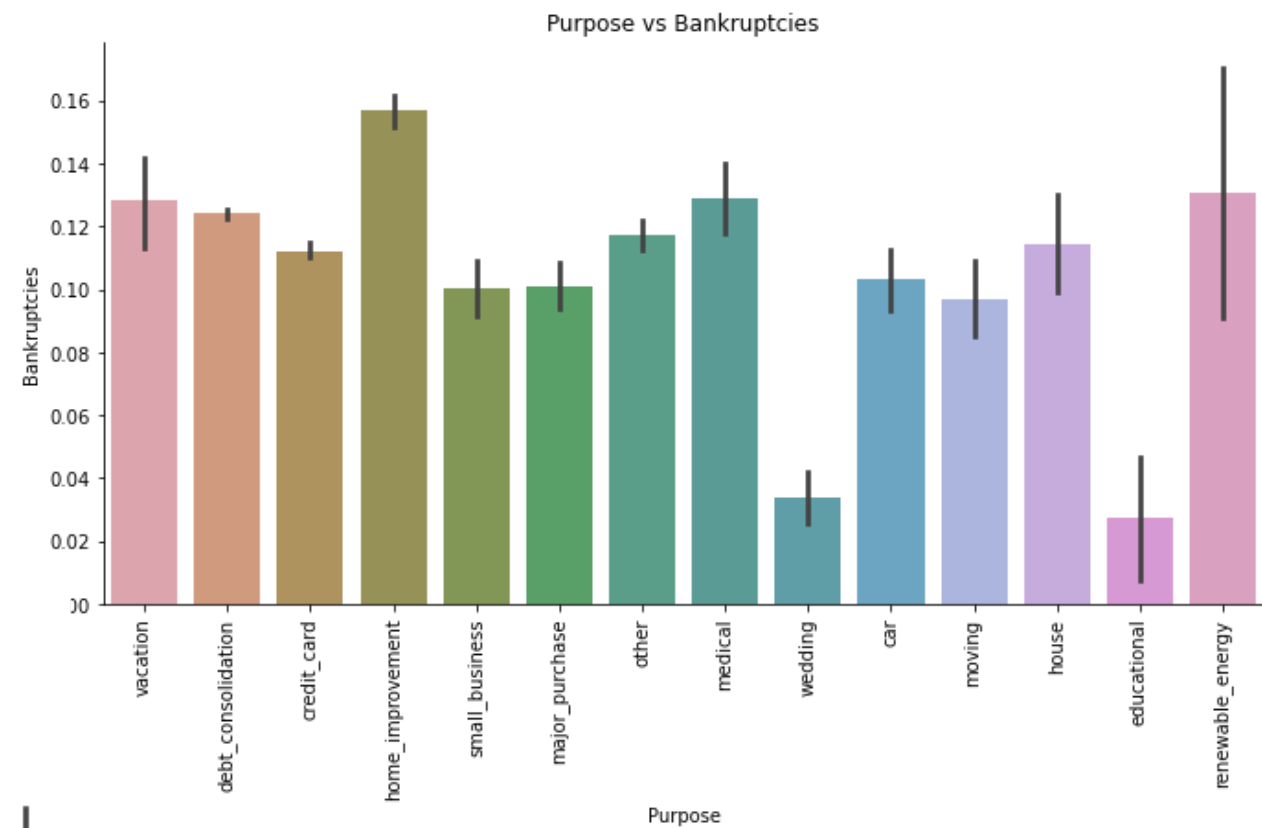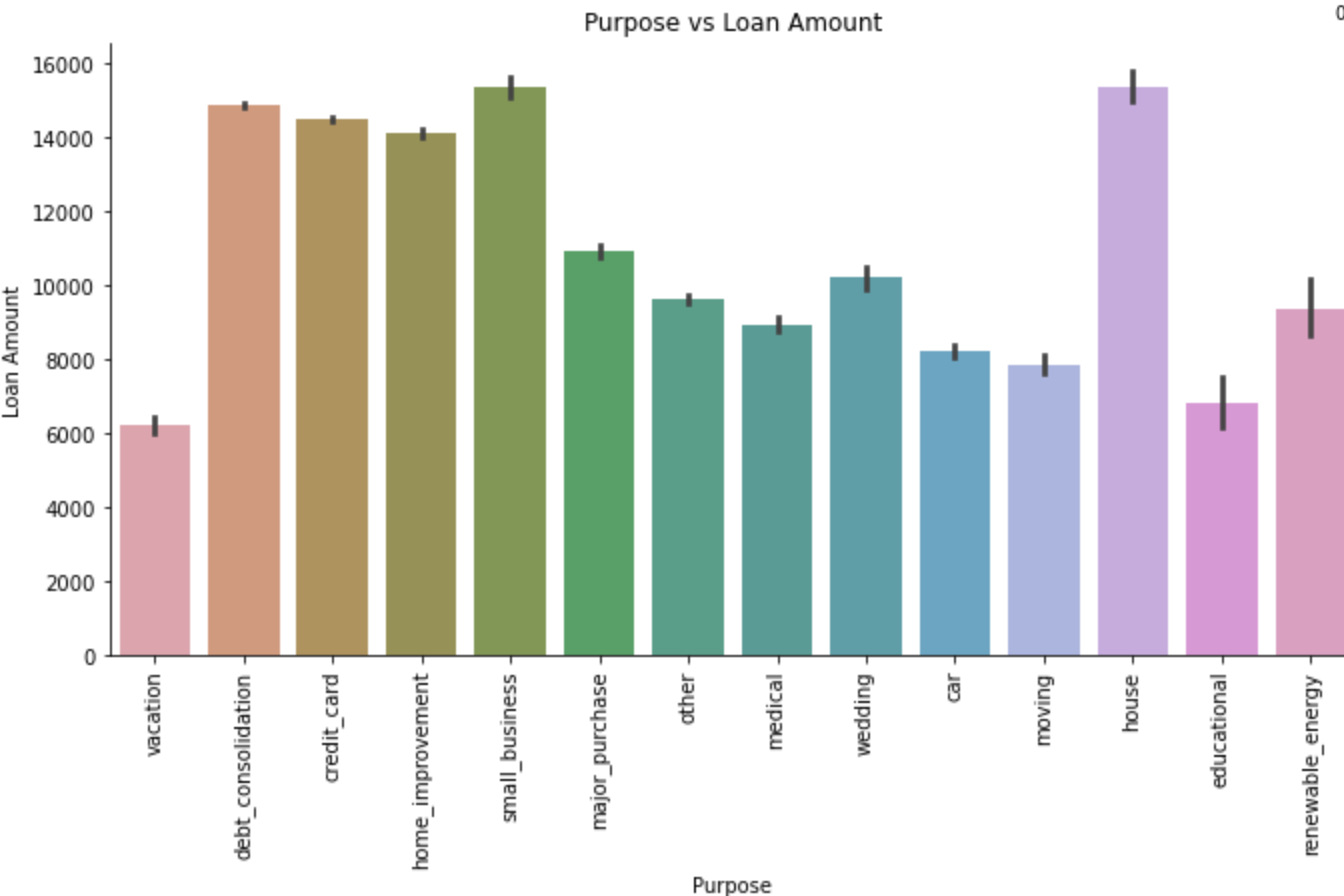
Loan Data: 2007-2016

Loans Given Out: 396030

Loan Amount Ranges:		Number of Bankruptcies Reported:	
<20k - >=10k	40.30	<2	99.41
<10k - >=5k	24.66	<3 - >=2	0.46
<30k - >=20k	18.27	<4 - >=3	0.08
<5k - >=1k	9.84	<5 - >=4	0.02
>=30K	6.91	>=5	0.01
<1k	0.002		

Loan status vs Loan Amount

Purpose of Taking Out Loan

Purpose vs Bankruptcies

Purpose vs Loan Amount

Loans taken out:
-High amount- House, small business, debt, credit card, home improvement
-Low amount- Vacation, education

-Bankrupt- highest home improvement, medical, renewable energy, vacation, debt.

Annual Income

-Most loans were by people with and annual income of <1M -500k, followed by >=1M, <500k-100k.

-Least loans were with people with annual income of <10k- 1k which was also shown to have a high bankruptcy reporting, followed by people who made <50k - >10k followed by <100k - >=50k.
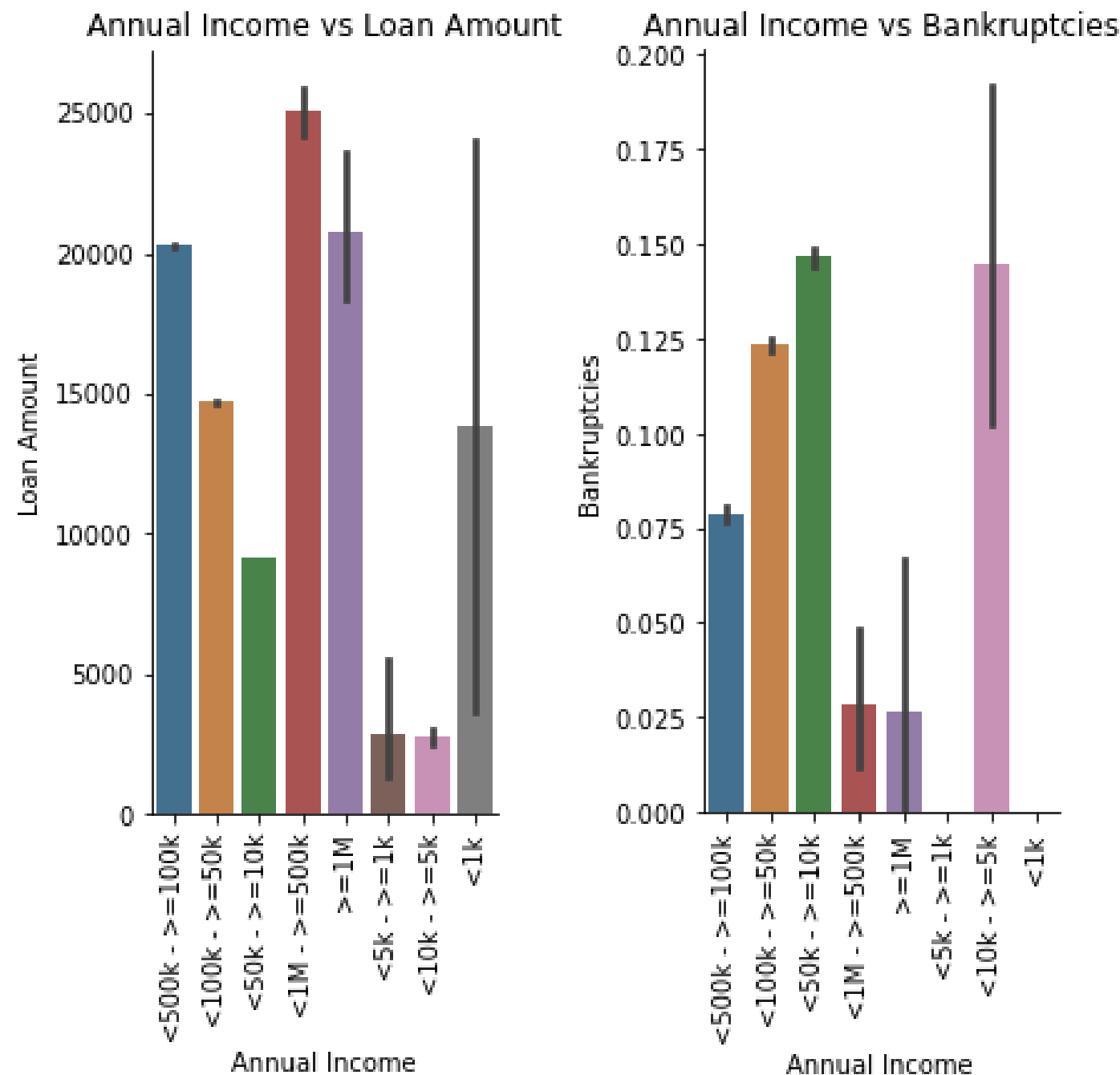
Home Ownership

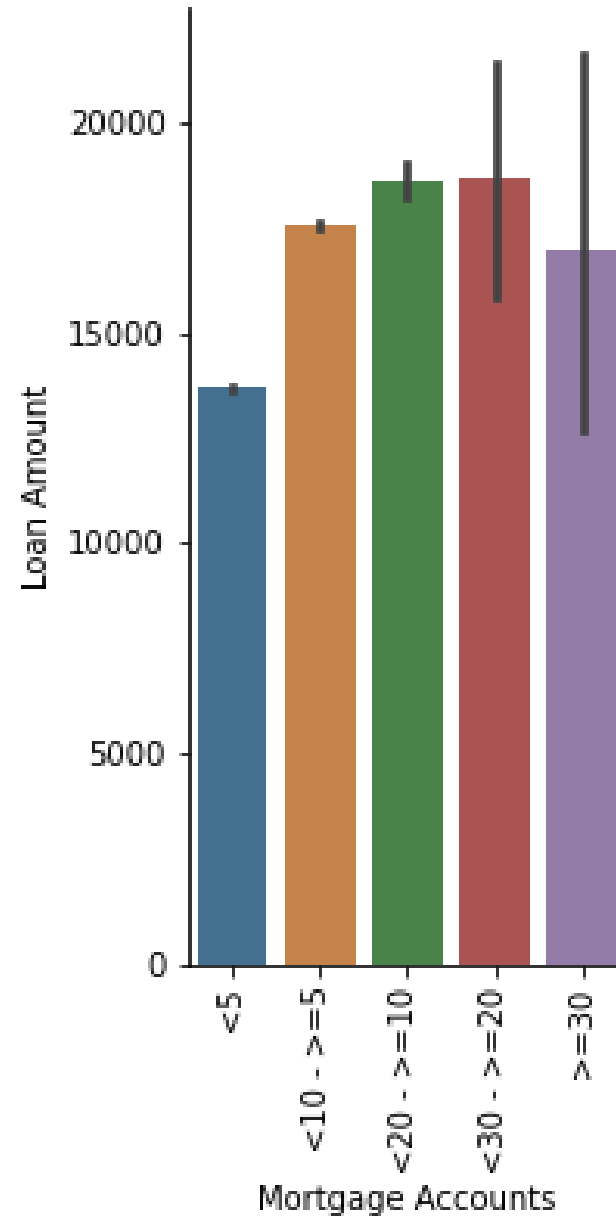People took out the most loans had a mortgage, followed by owning a house then renting.

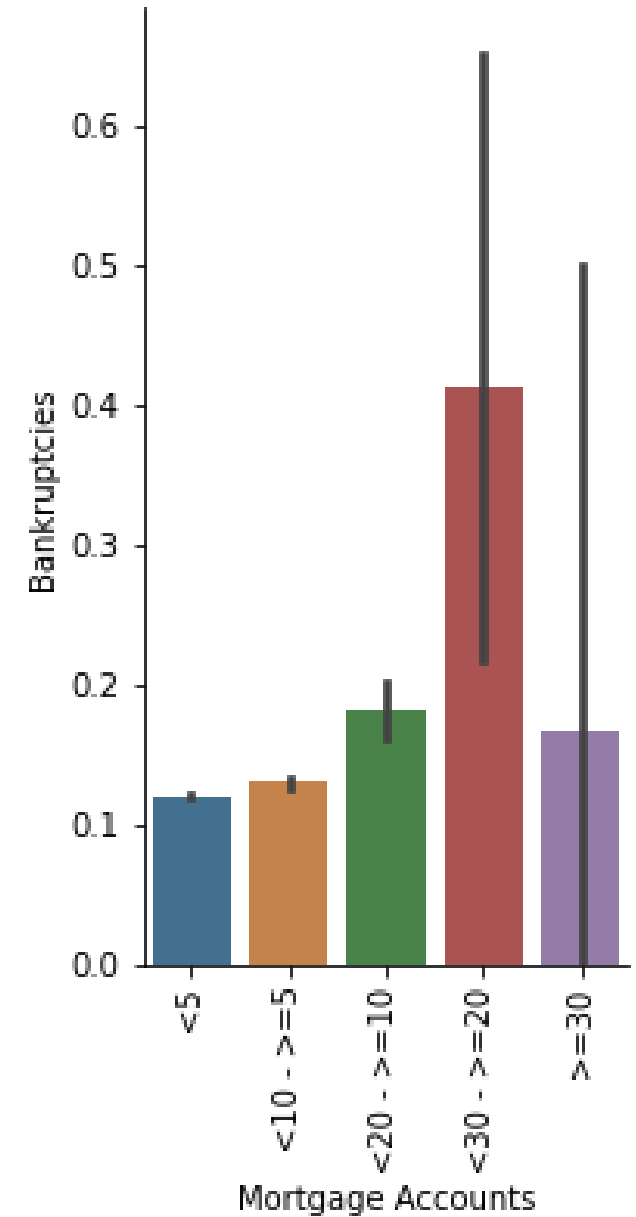-All 3 of these had nearly an equal amount of bankruptcies with people who rented highest.

Home Ownership vs Loan Amount

Home Ownership vs Bankruptcies
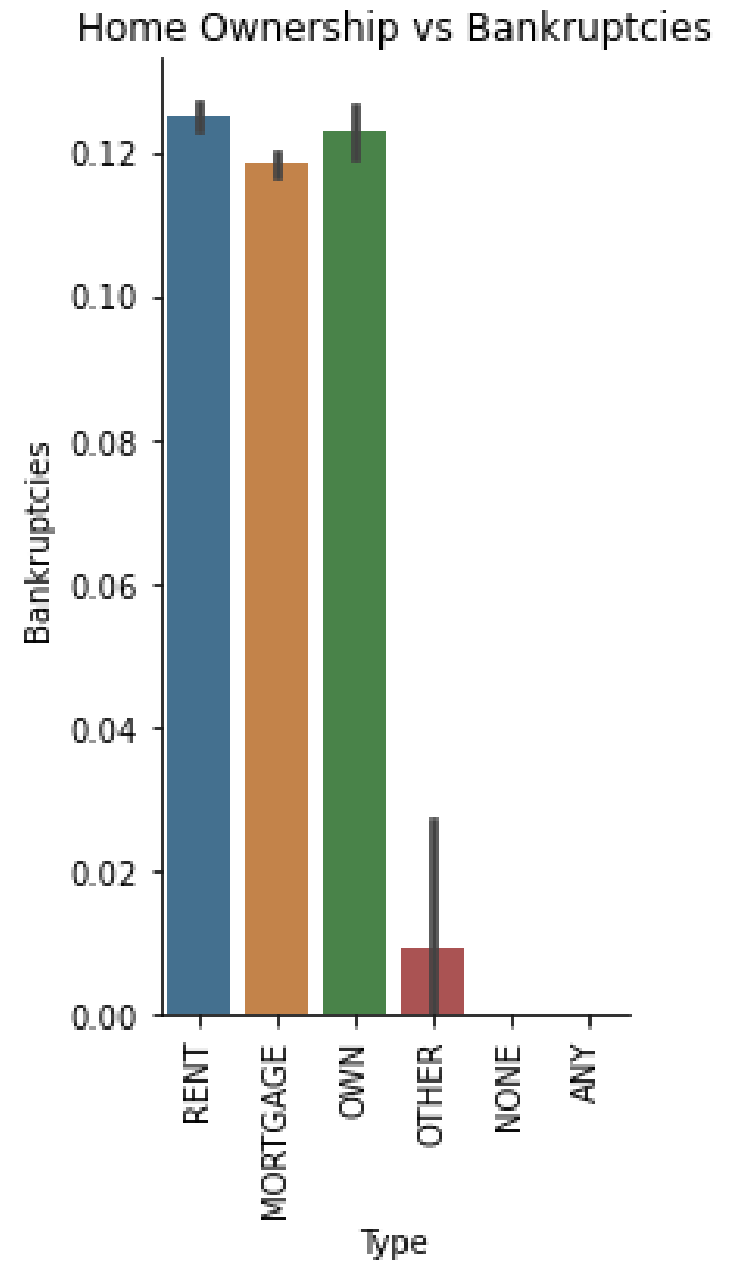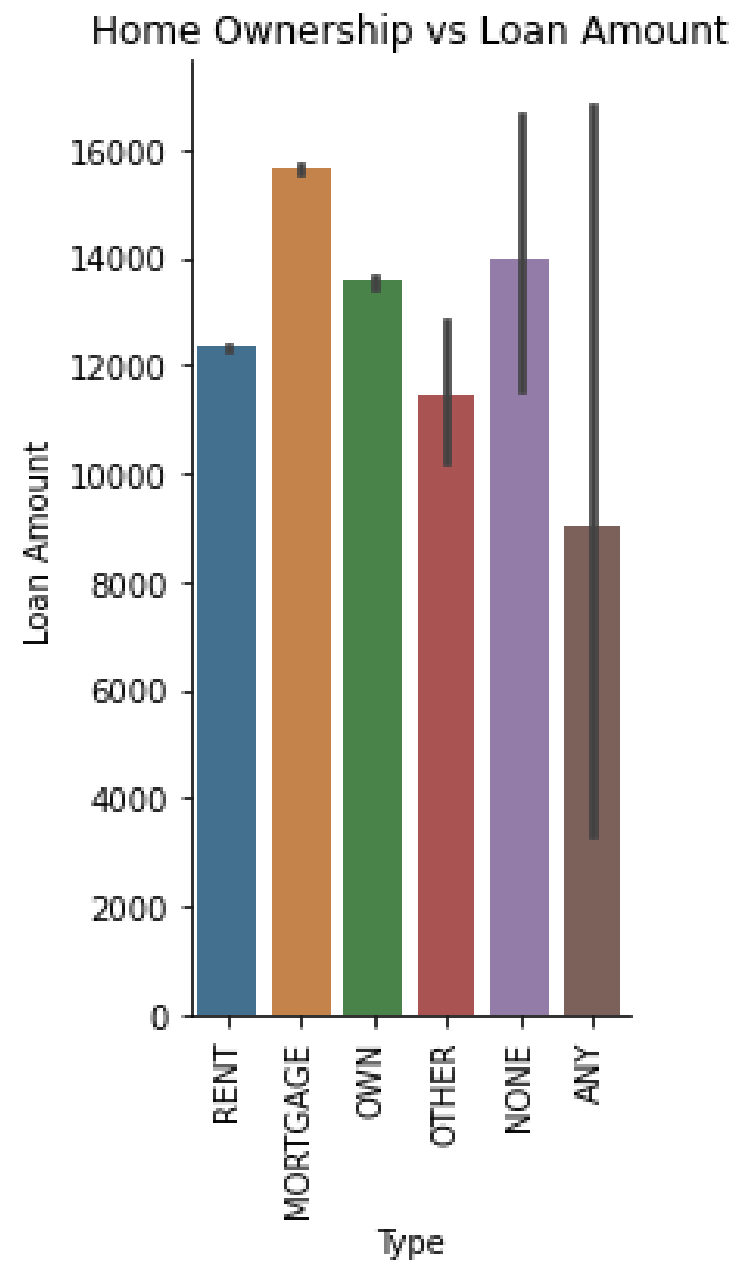
Number of Mortgage Accounts

-People who had <30->=20 accounts had the highest bankruptcies.

Term Length

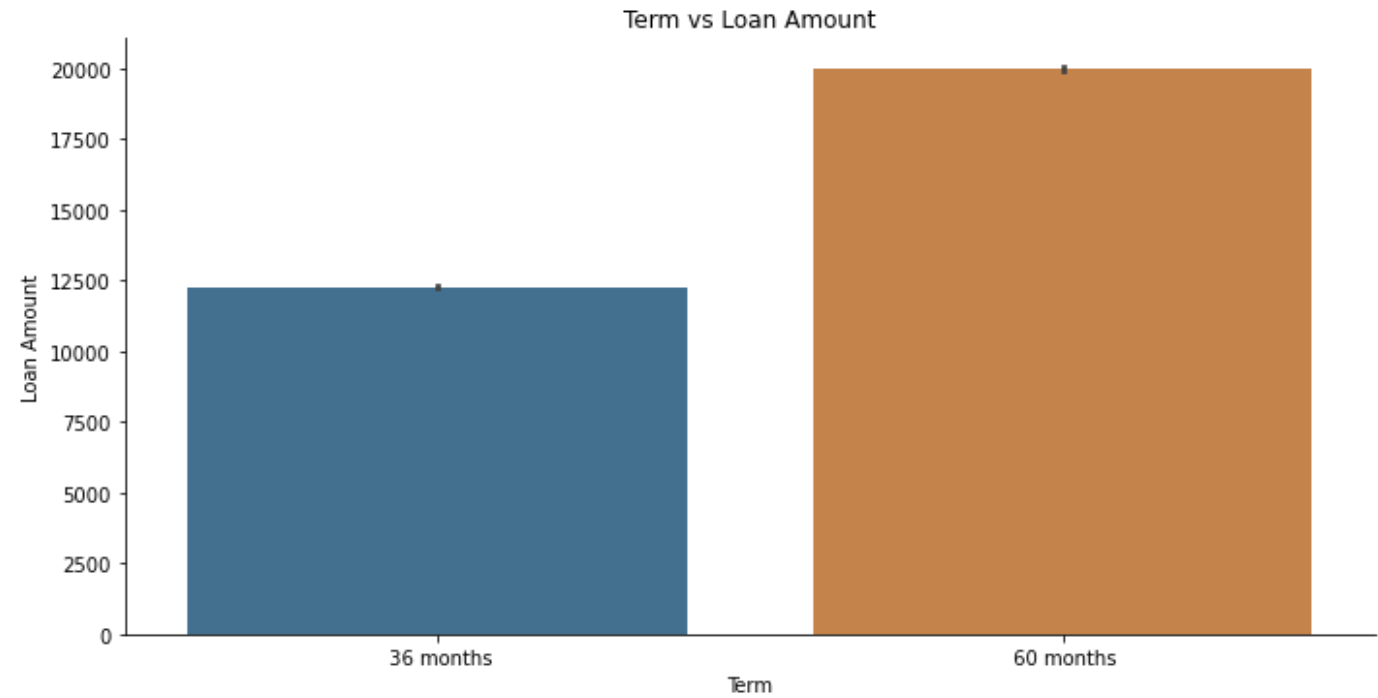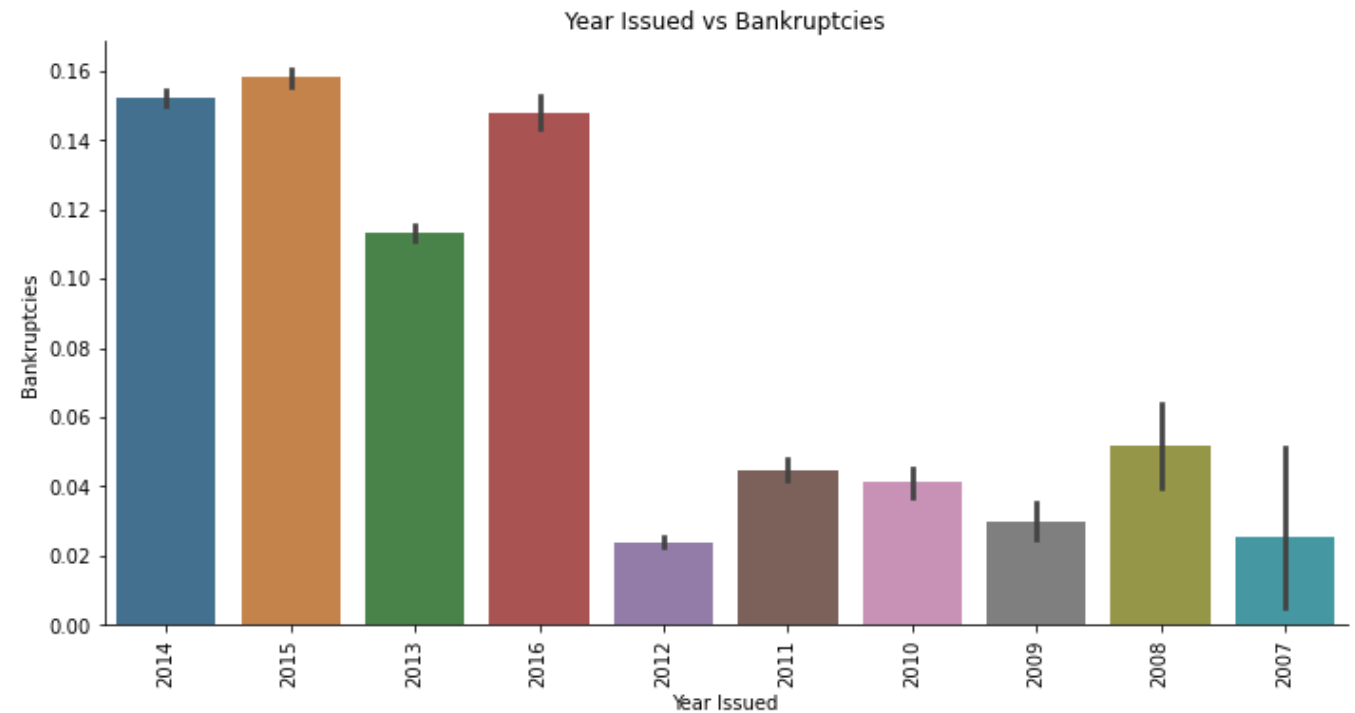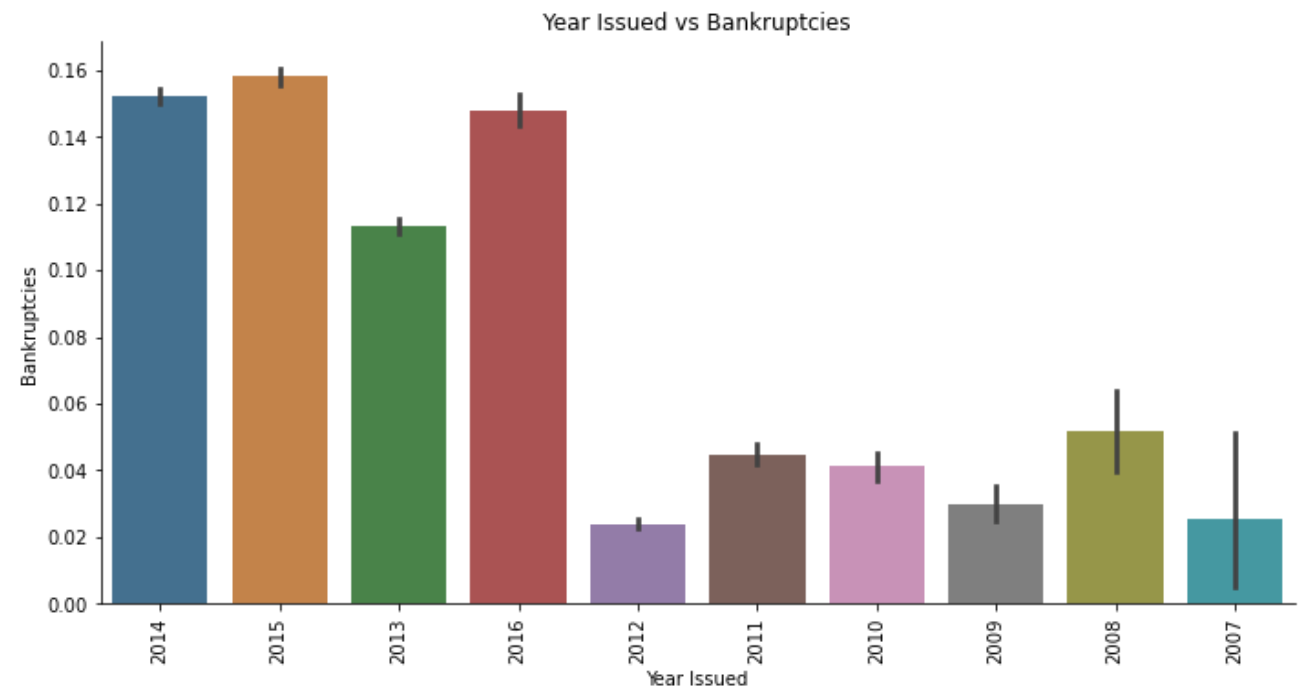More loans are taken out for 60 months but bankruptcies happen a bit more with 36 month plan types.
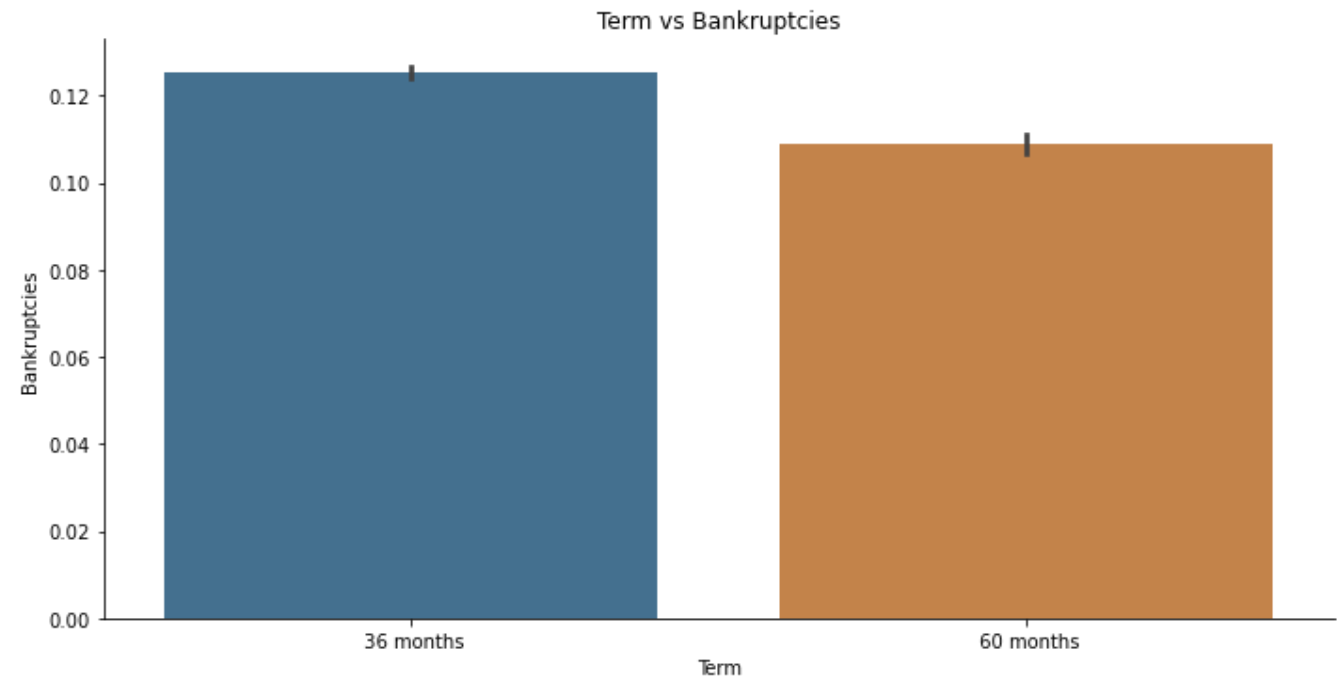
Issue Year

-Younger the loan, more bankruptcies exist.

-There were more bankruptcies starting in Year 2013 and highest in year 2015 and lowest in year 2012.
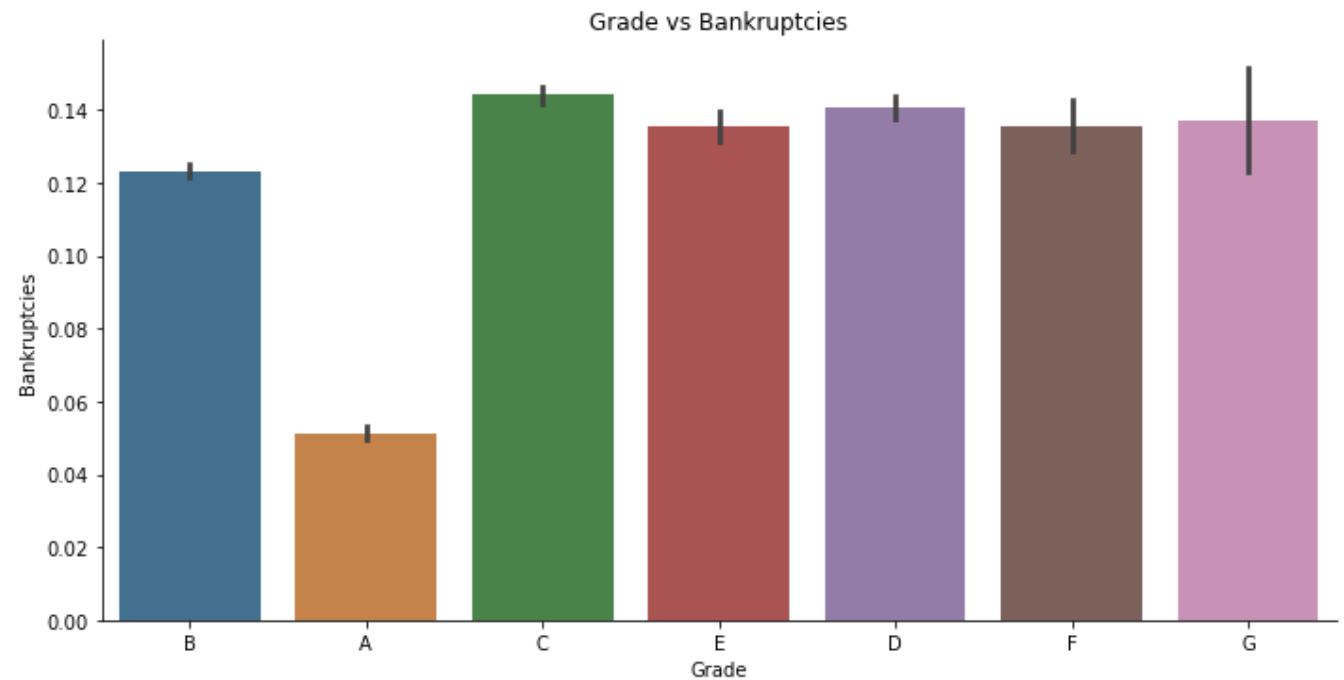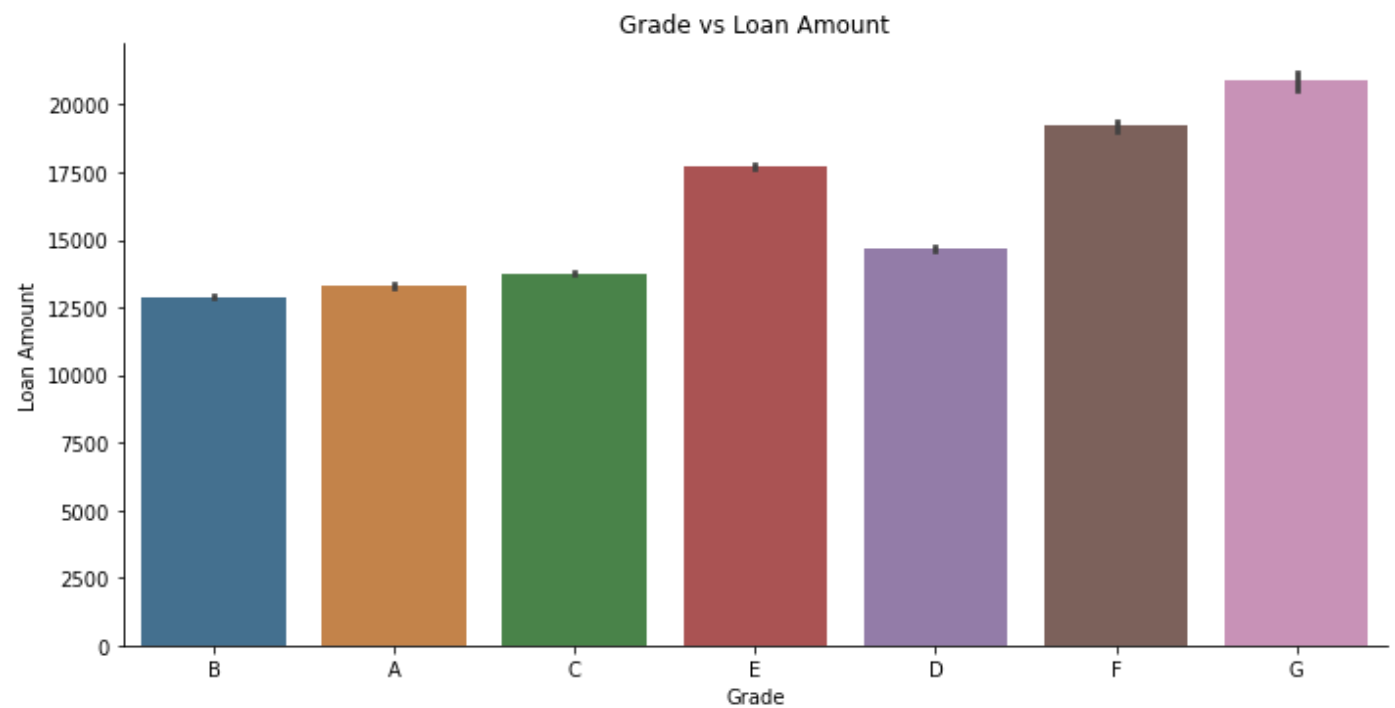
Grade

A-G
https://www.lendingclub.com/foliofn/rateDetail.action

Classification system that involves assigning a quality score to a loan based on a borrower's credit history, quality of the collateral, and the likelihood of repayment of the principal and interest.
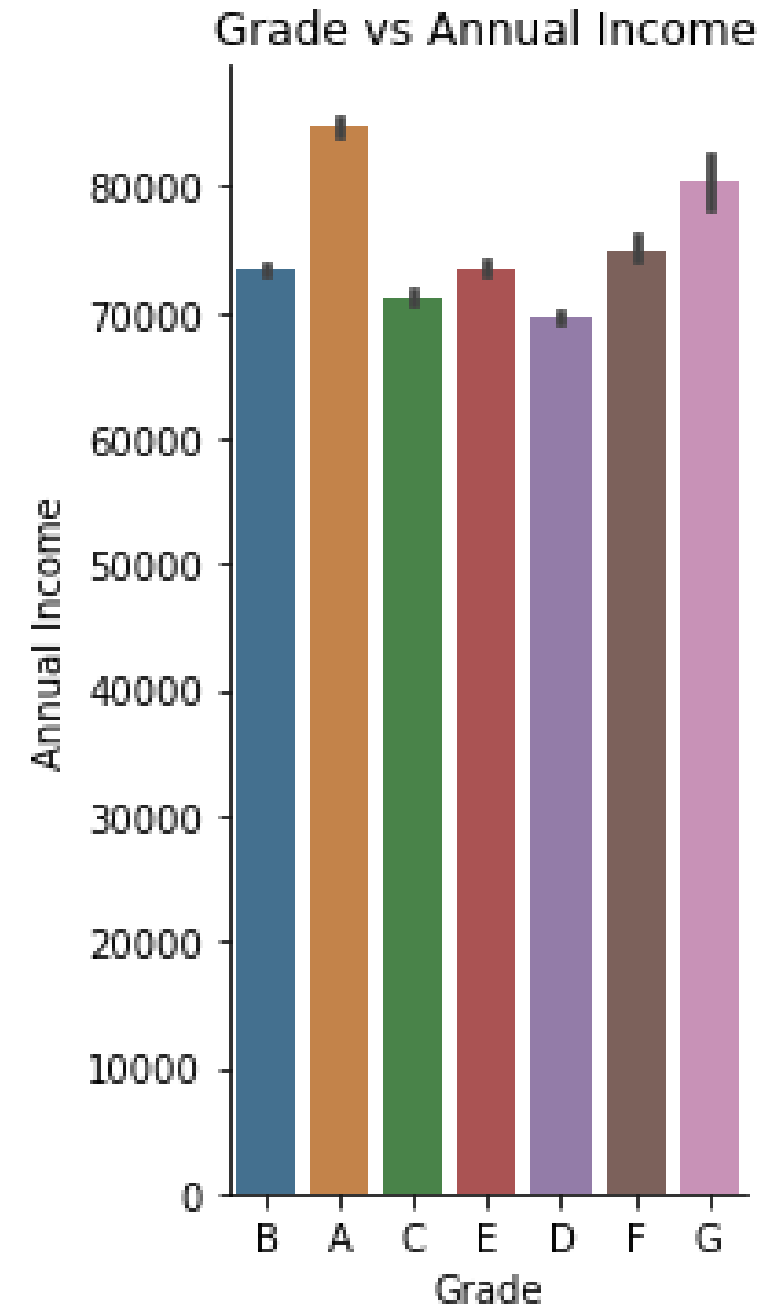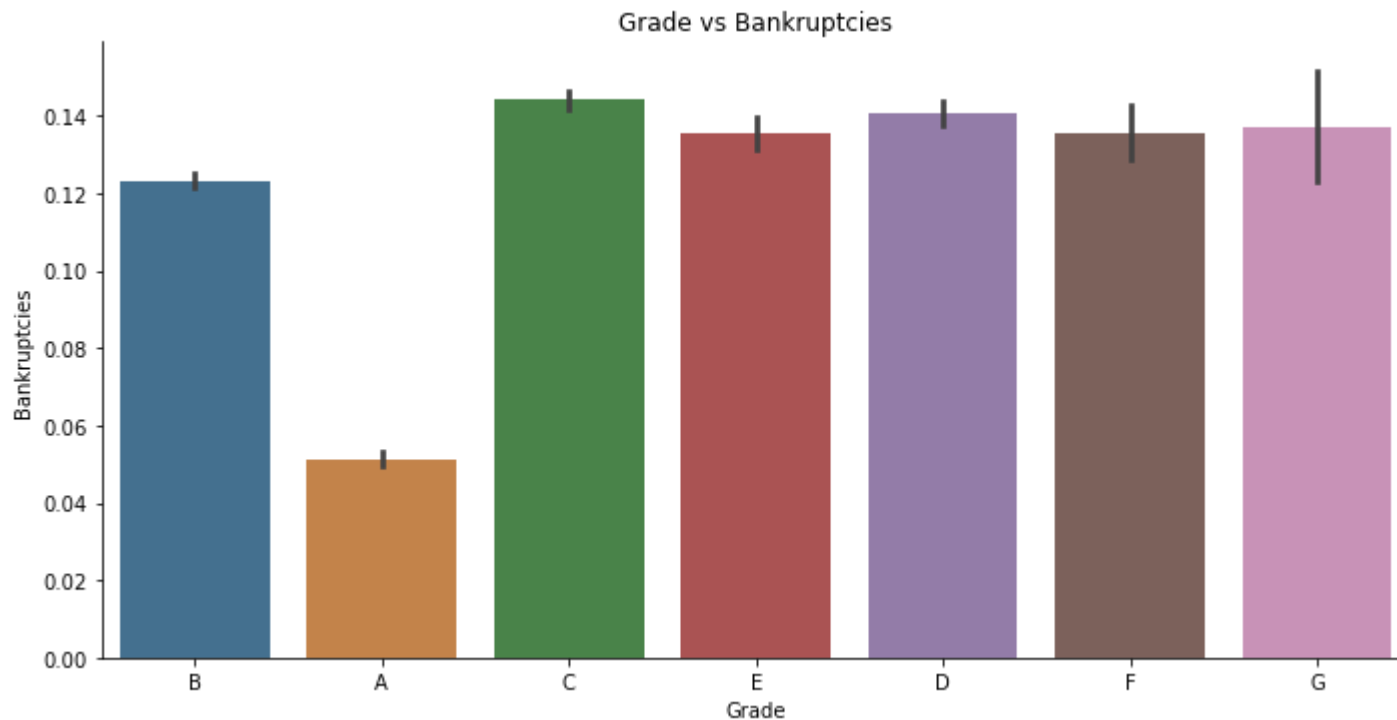
-Lower the grade, Higher the risk and Interest and risk.

Grade vs Loan Amount

Grade vs Bankruptcies

Grade Cont.

-Grade A had the least amount of defaulting (highest annual income).

-D and C and the lowest annual income. Maybe not give out loans to these people.

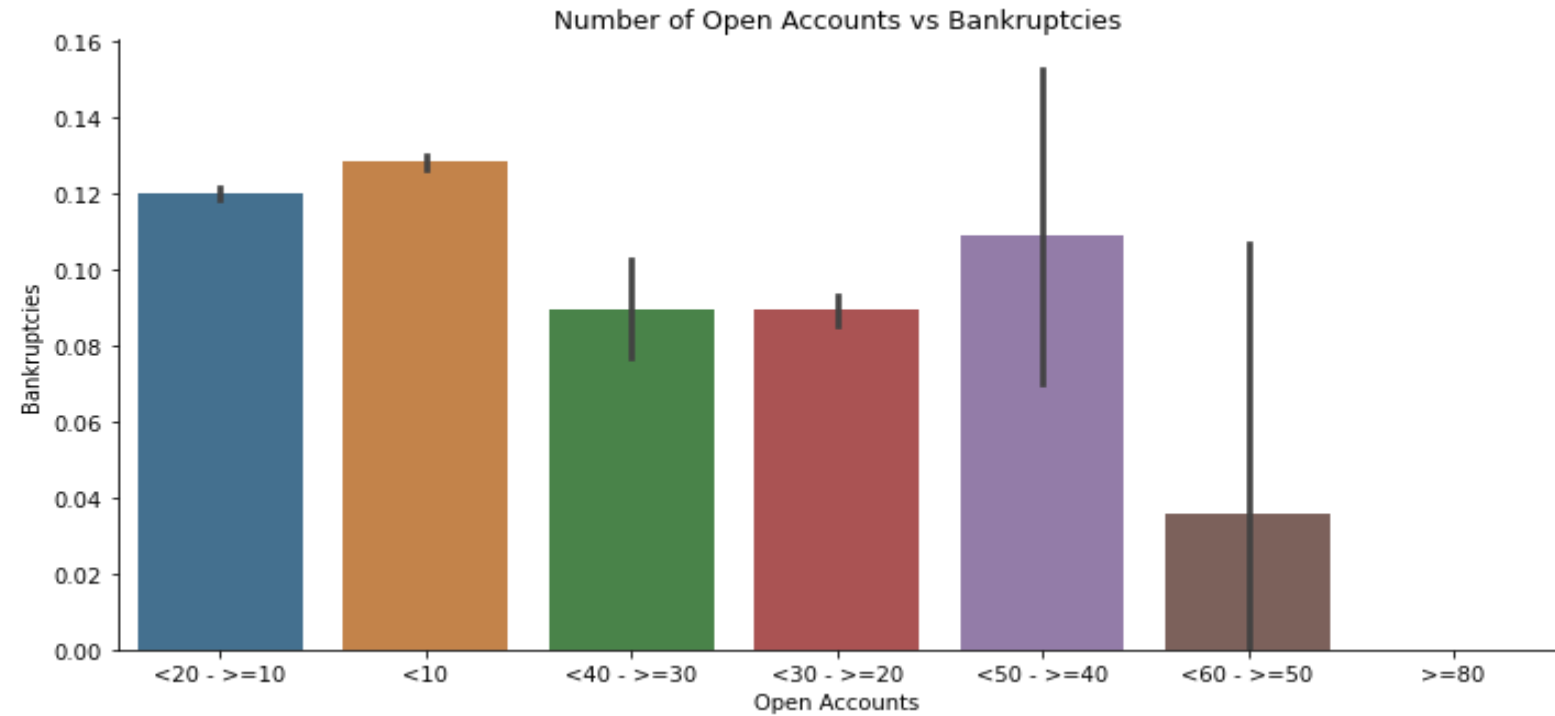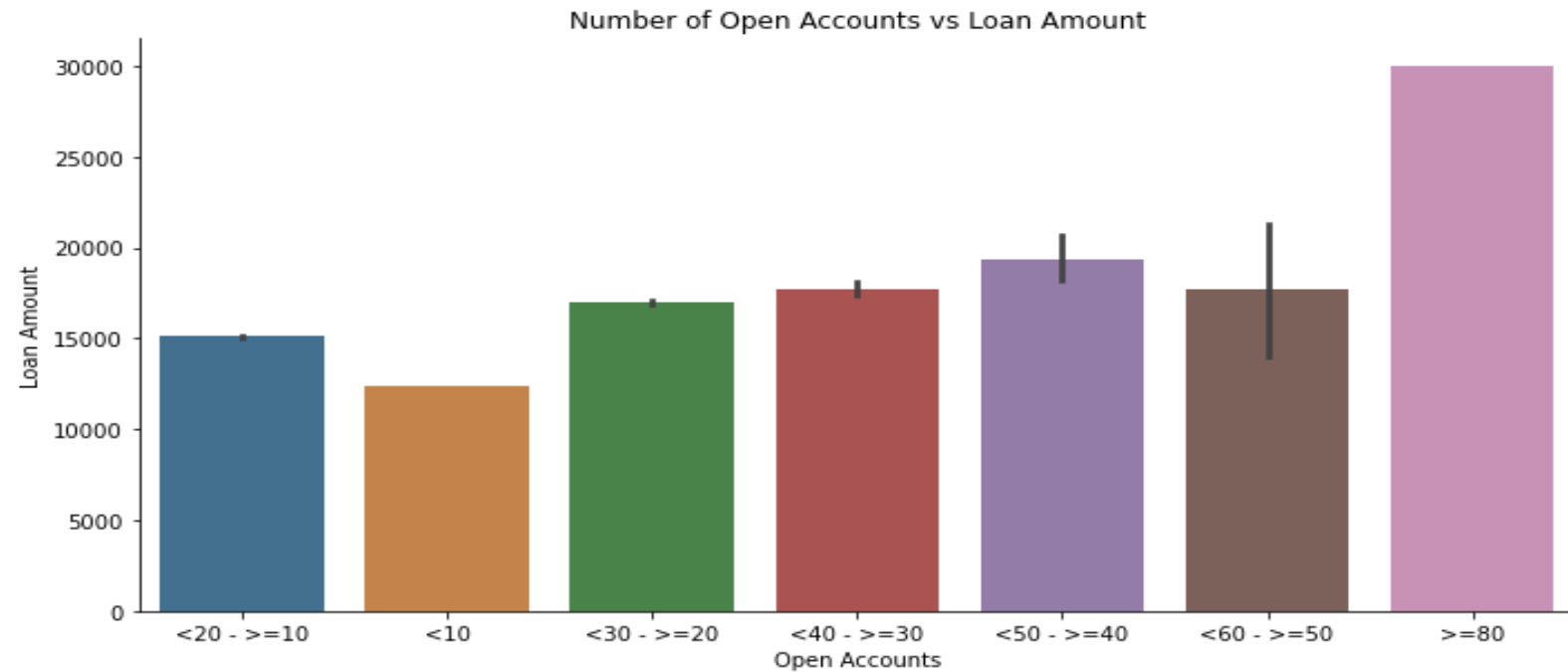Grade vs Bankruptcies

Grade vs Annual Income

DTI

- Debt-to-income ratio

- Percentage of your gross monthly income (before taxes) that goes towards payments for rent, mortgage, credit cards, or other debt.

- - People with DTI >=50% had less bankruptcies.
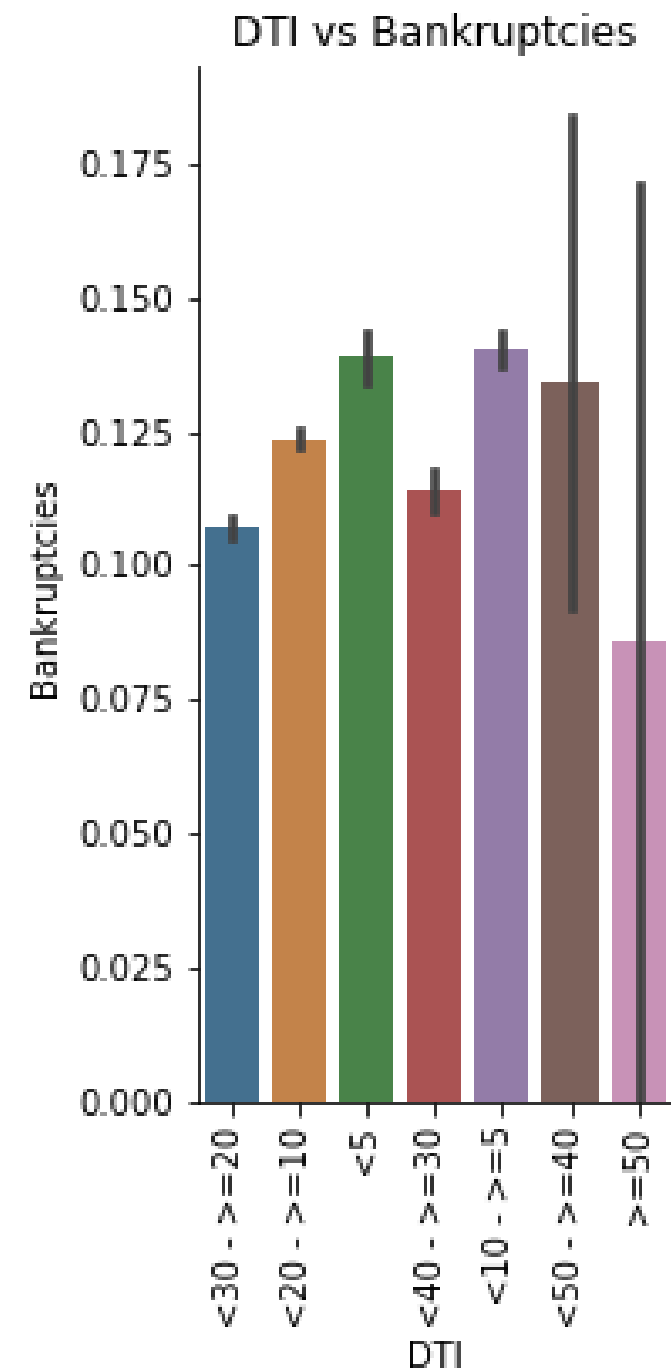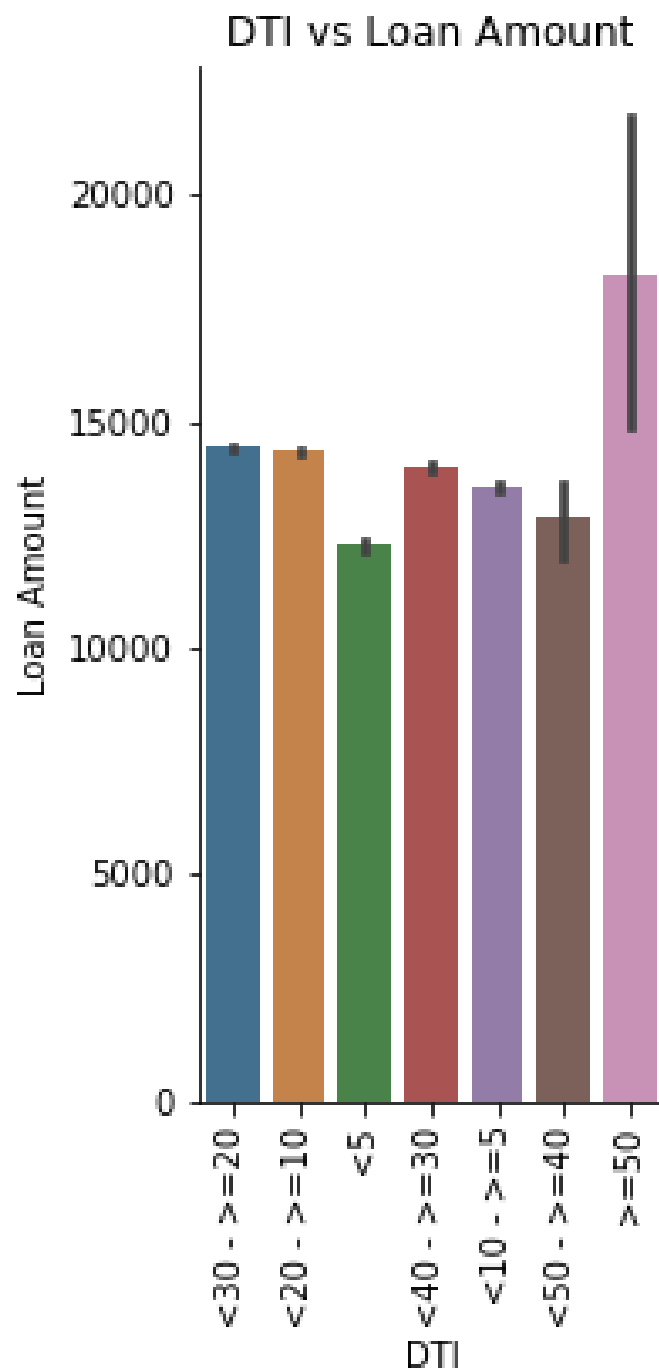
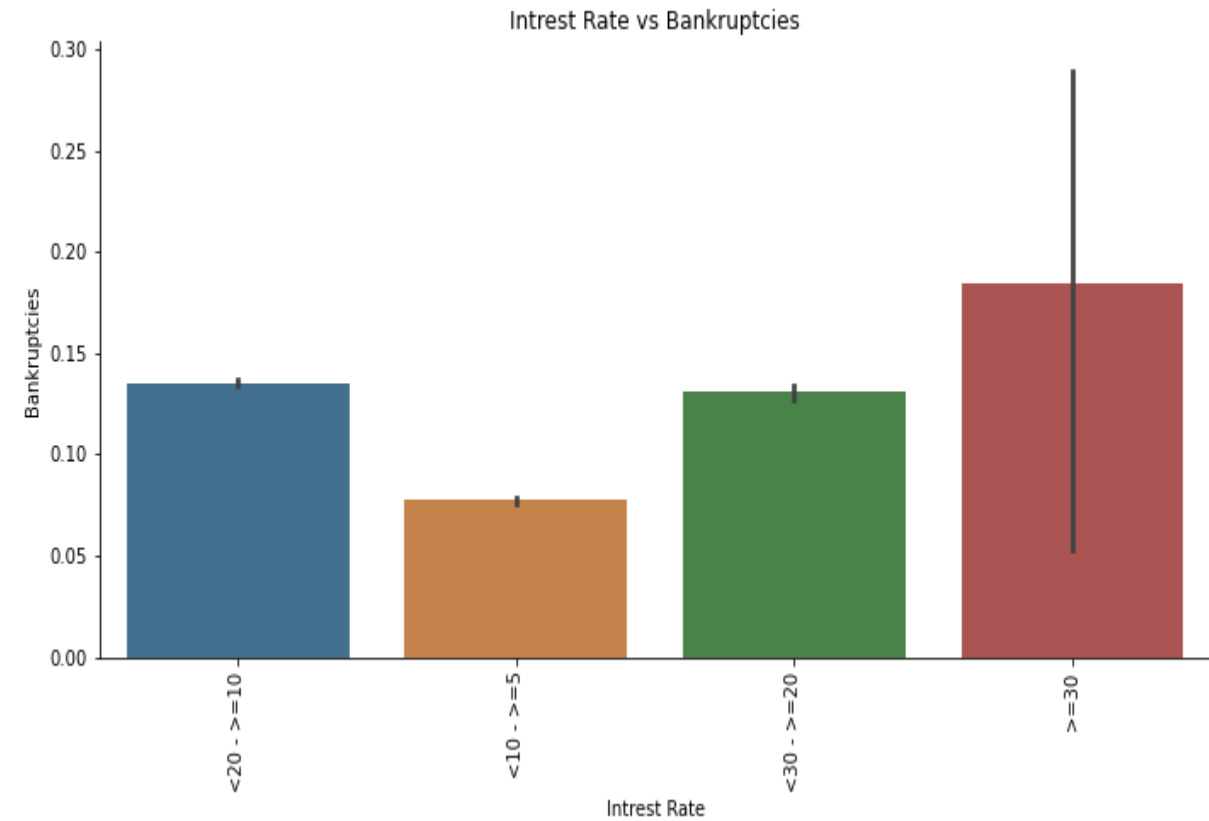# Number of Open Accounts

-Highest >=80 accounts
lowest <10
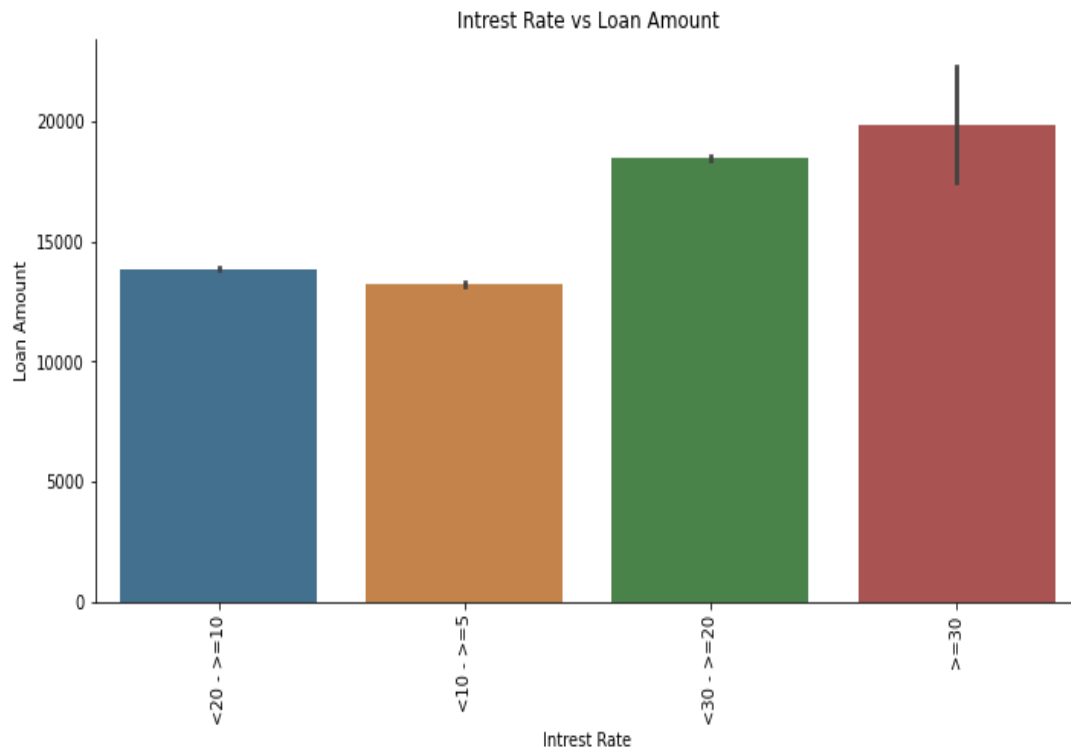
-Bankruptcies more likely with <10-
<20 and <50-40 accounts.

Interest Rate

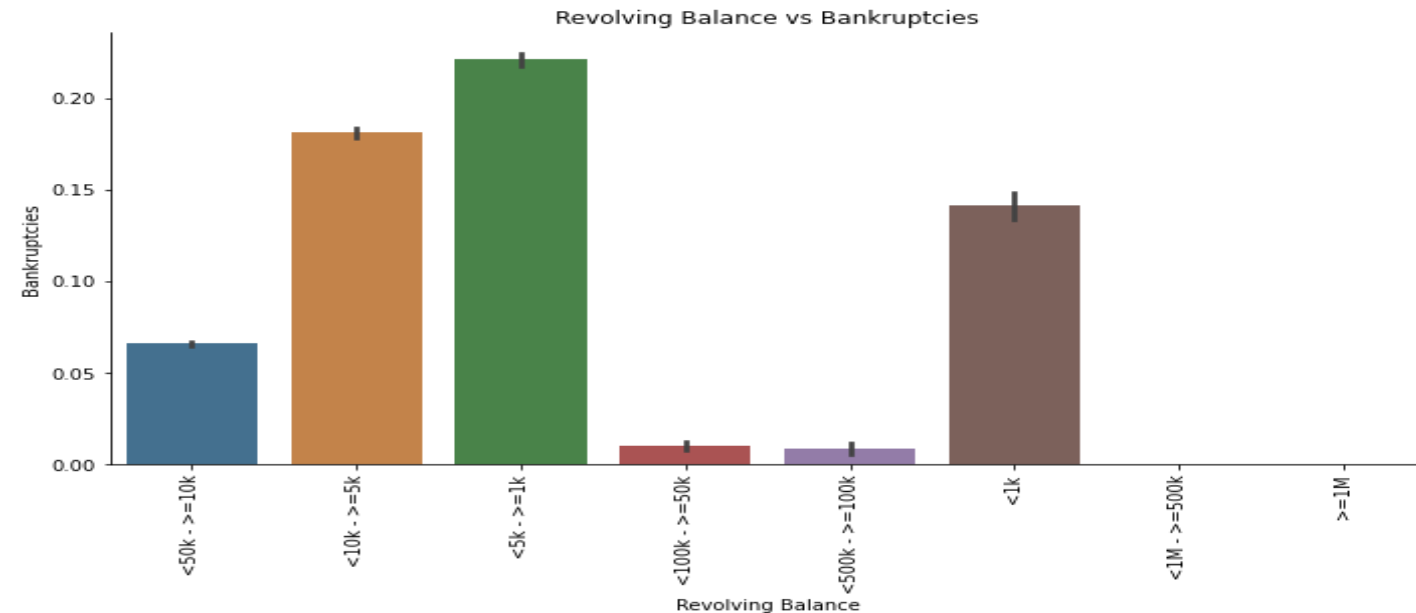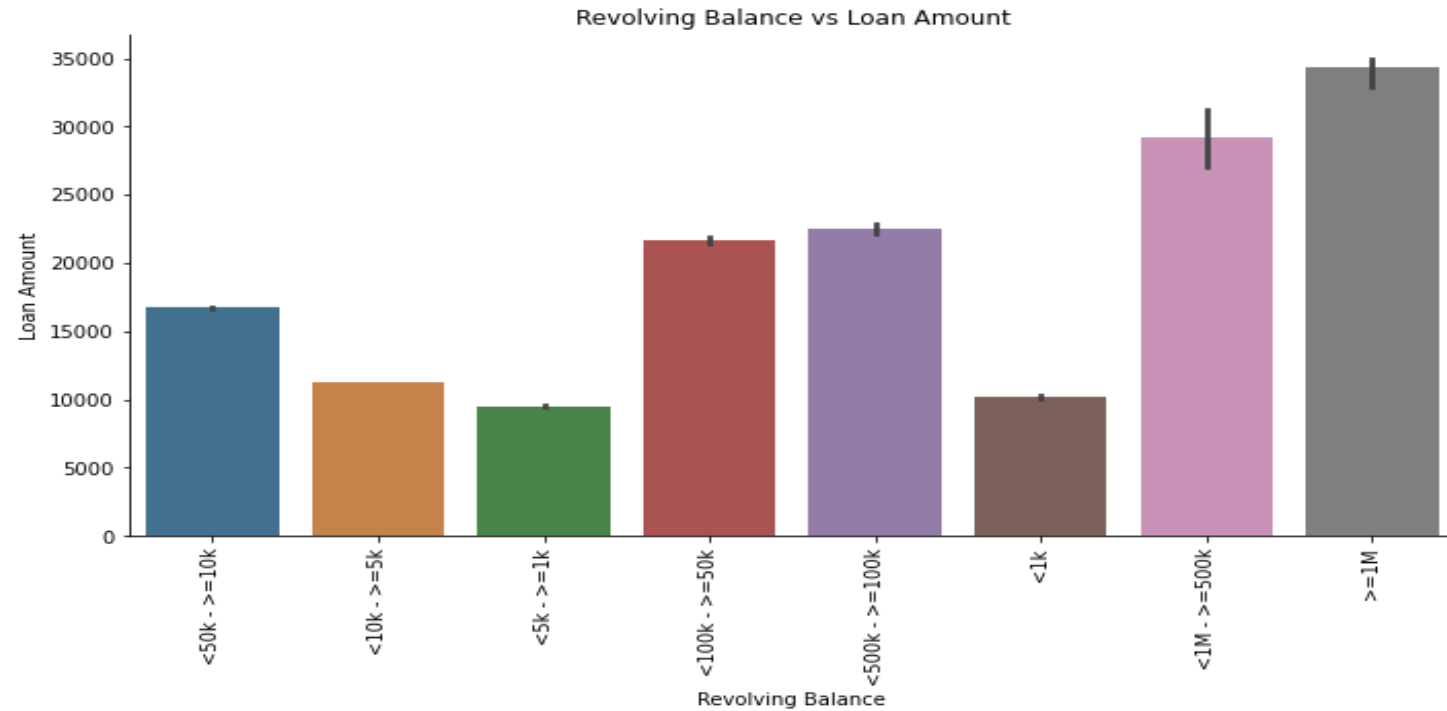-There were more loans that had an interest rate of >=20%.

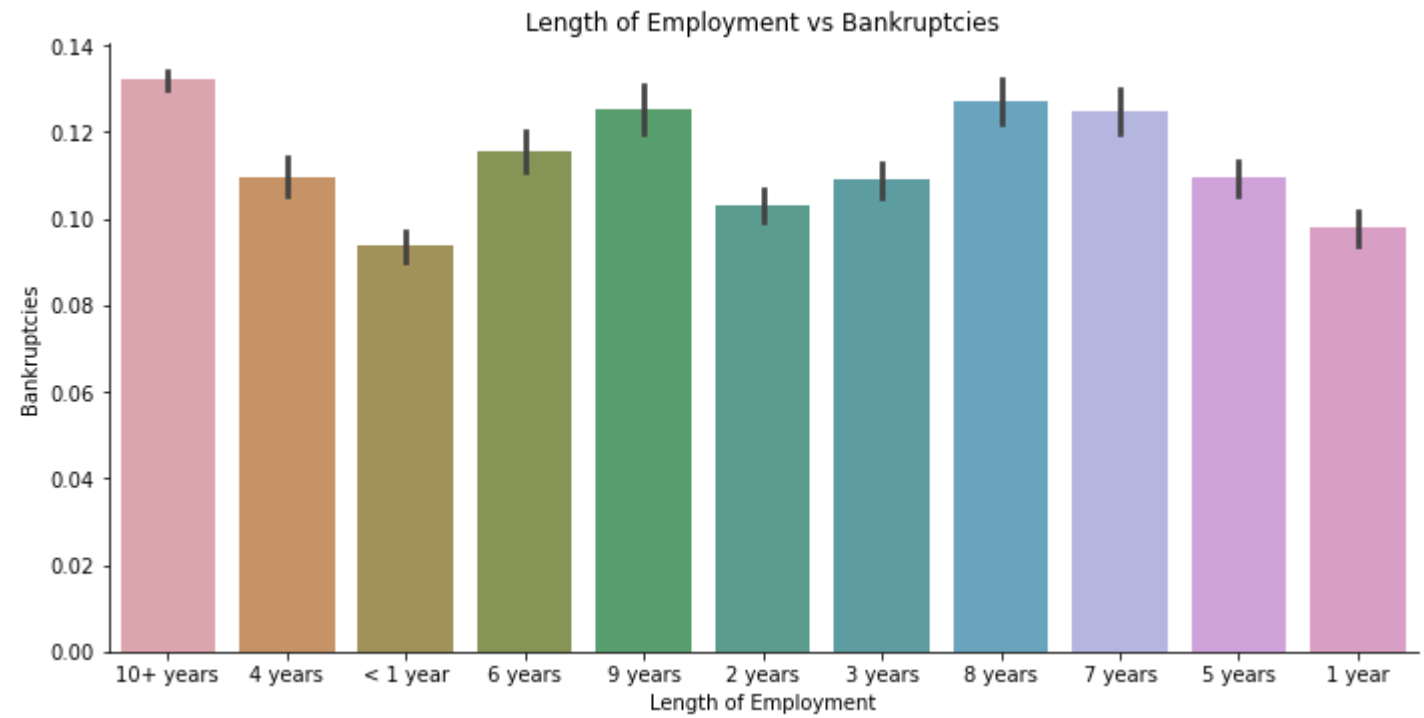-Higher the interest rate, higher the risk of defaulting.

Revolving Balance

-Unpaid portion carries over to the next month.

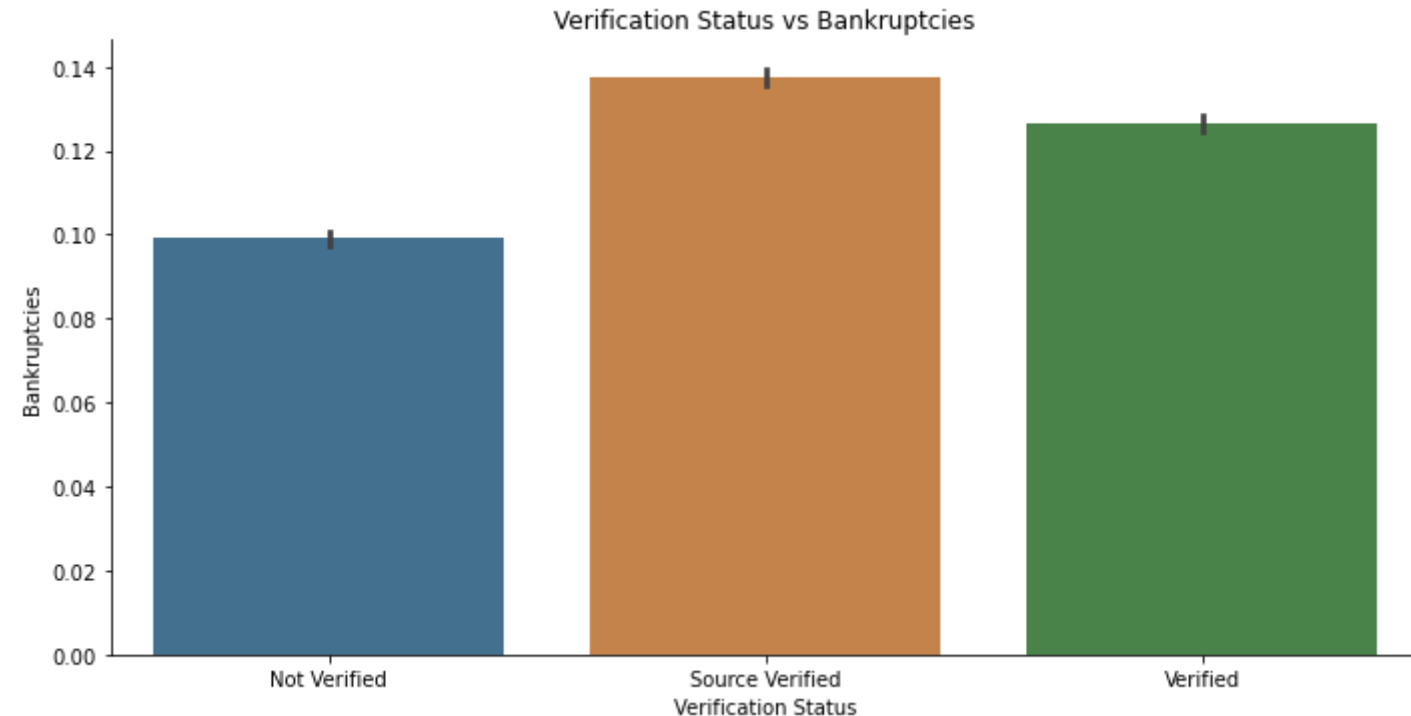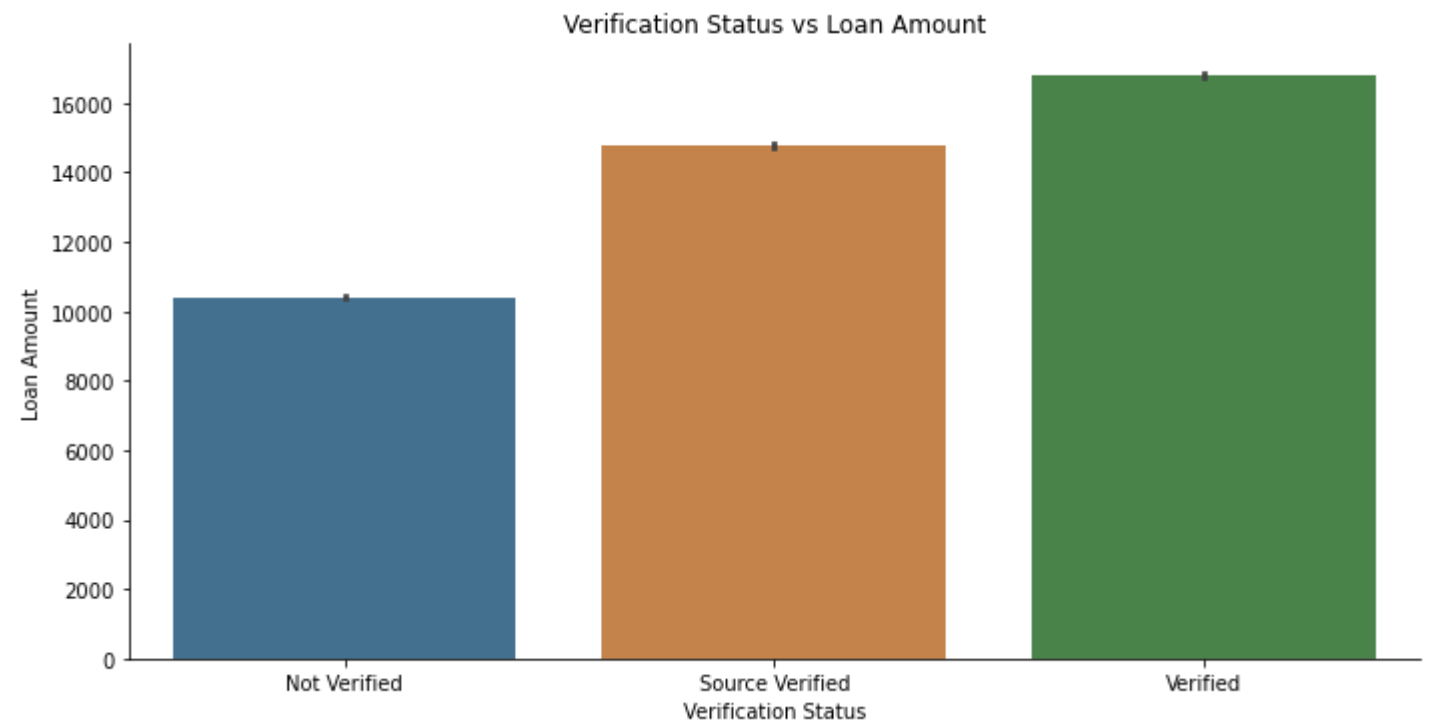<1k-<10k rage was the least amount given out, but the most amount that experienced bankruptcies.

Employment Length

-Length of Employment didn't affect defaulting

Verification

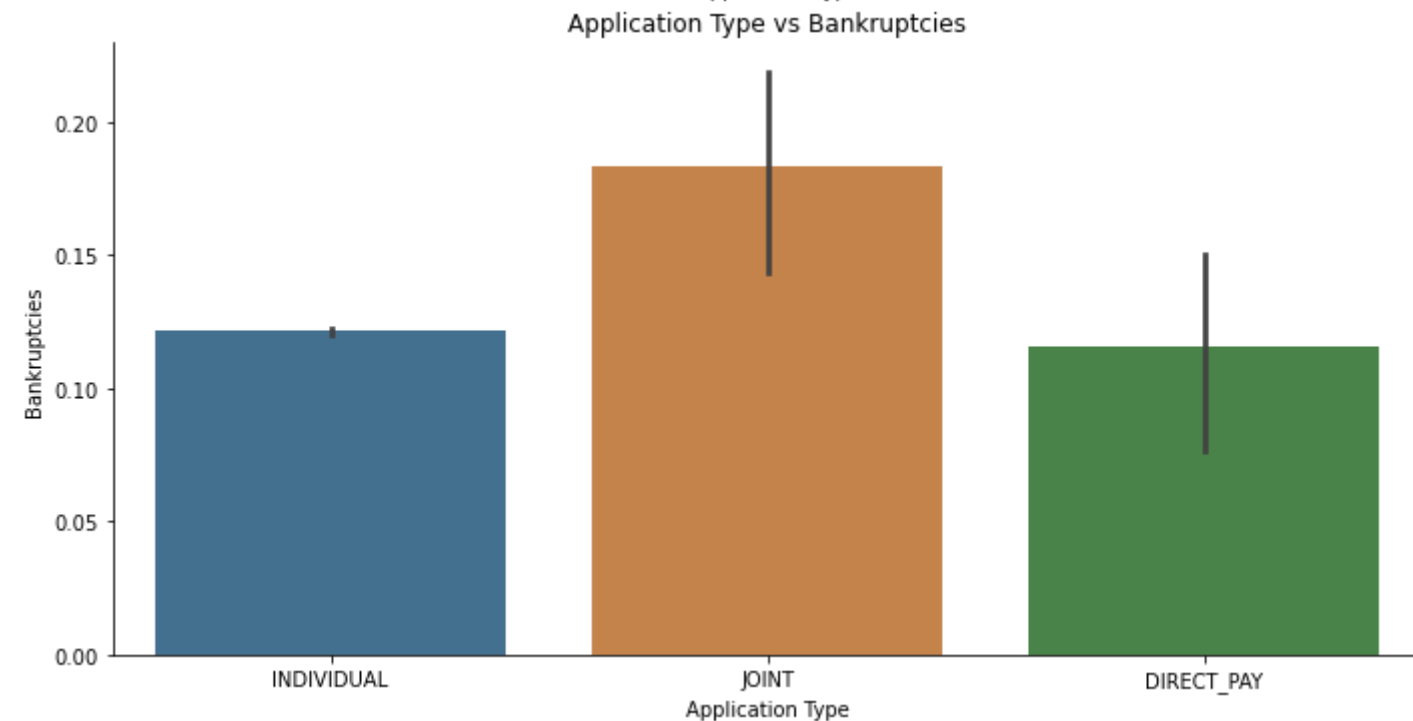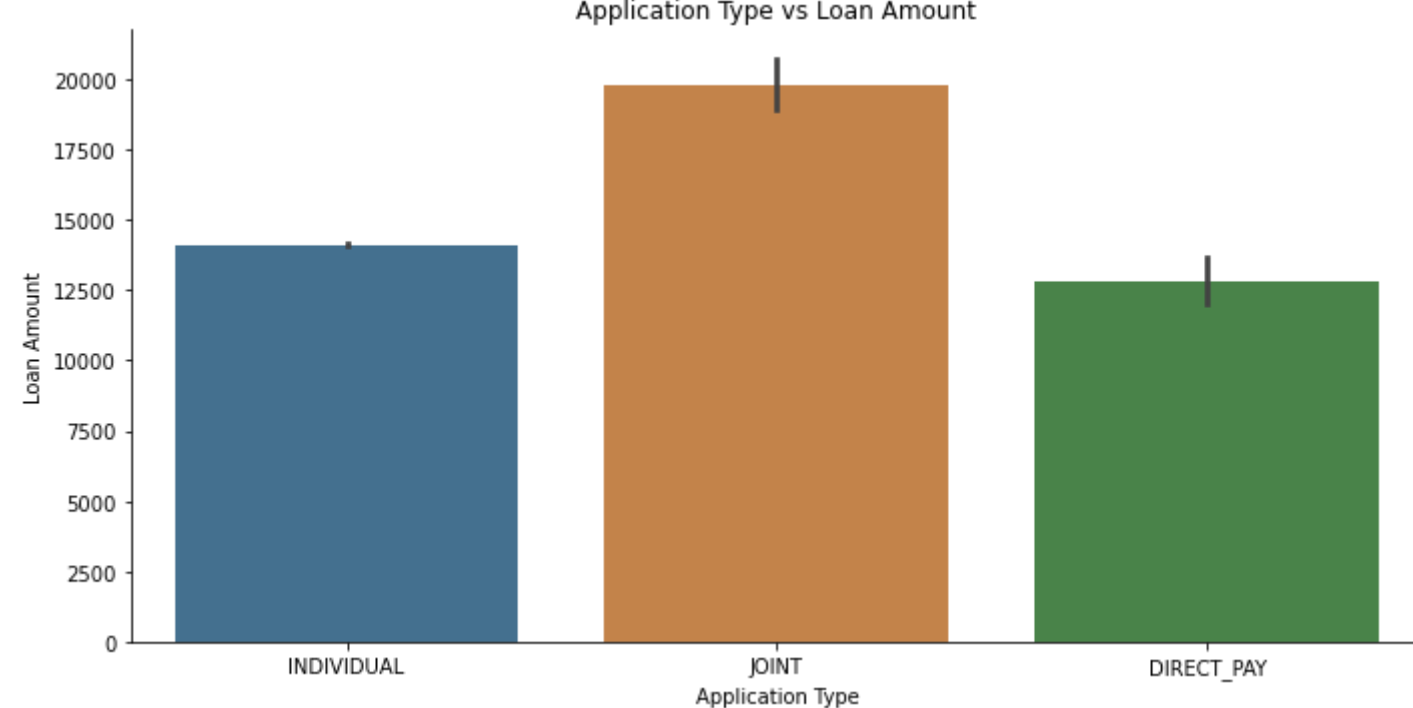-Verification does not affect defaulting much.

Application Type

-Application Type did not affect defaulting

Summary

- Employment Length, Verification, Application Type did not affect loan repayment.

- Purpose, Annual Income, Home Ownership, Number of Mortgage Accounts, Term Length, Issue Year, Grade, Number of Accounts Open, Interest Rate, DTI, Revolving Balance affected loan repayment

Summary Cont.

- Purpose- Avoid clients that request for home improvement, medical, renewable energy, vacation, and debt.

- Annual Income- Avoid clients who request loans with annual income of <50k- >=5k.

- Home Ownership- Avoid clients who request loans to Rent lodging.

- Mortgage Accounts- Avoid clients who had <30->=20 mortgage accounts

- Term Length – Give out more 60 month loans

- Issue Year- Not changeable.

Summary Cont.

- Grade- Offer more to clients of Grade A status and less to C-G.

- Open Accounts- Monitor more on accounts <10-<20 and <50-40 accounts.

- Interest Rate- Lower interest rate.

- Revolving Balance- Avoid people with range of <1k-<10k range revolving balance.

- DTI- market to people with DTI >=50% and avoid people with DTI of <5-<10.