

# Credit - EDA Assignment

*by*

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# Agenda

1. Introduction
2. Business Understanding
3. Business Objectives
  - Importing Required Libraries
  - Reading Application\_Data and Understanding the Dataset
  - Data checking and Missing values
  - Analysis
  - Reading Previous\_Application Dataset
4. Conclusion from the Analysis



# Introduction

- ❖ The case study is about using EDA (Exploratory Data Analysis) in a real business scenario.
- ❖ EDA techniques will be applied, and you will learn how to use them in this context.
- ❖ The case study involves risk analytics in banking and financial services, which means using data to reduce the risk of losing money while lending to customers.
- ❖ By completing the case study, you'll gain a basic understanding of risk analytics and how it relates to lending.





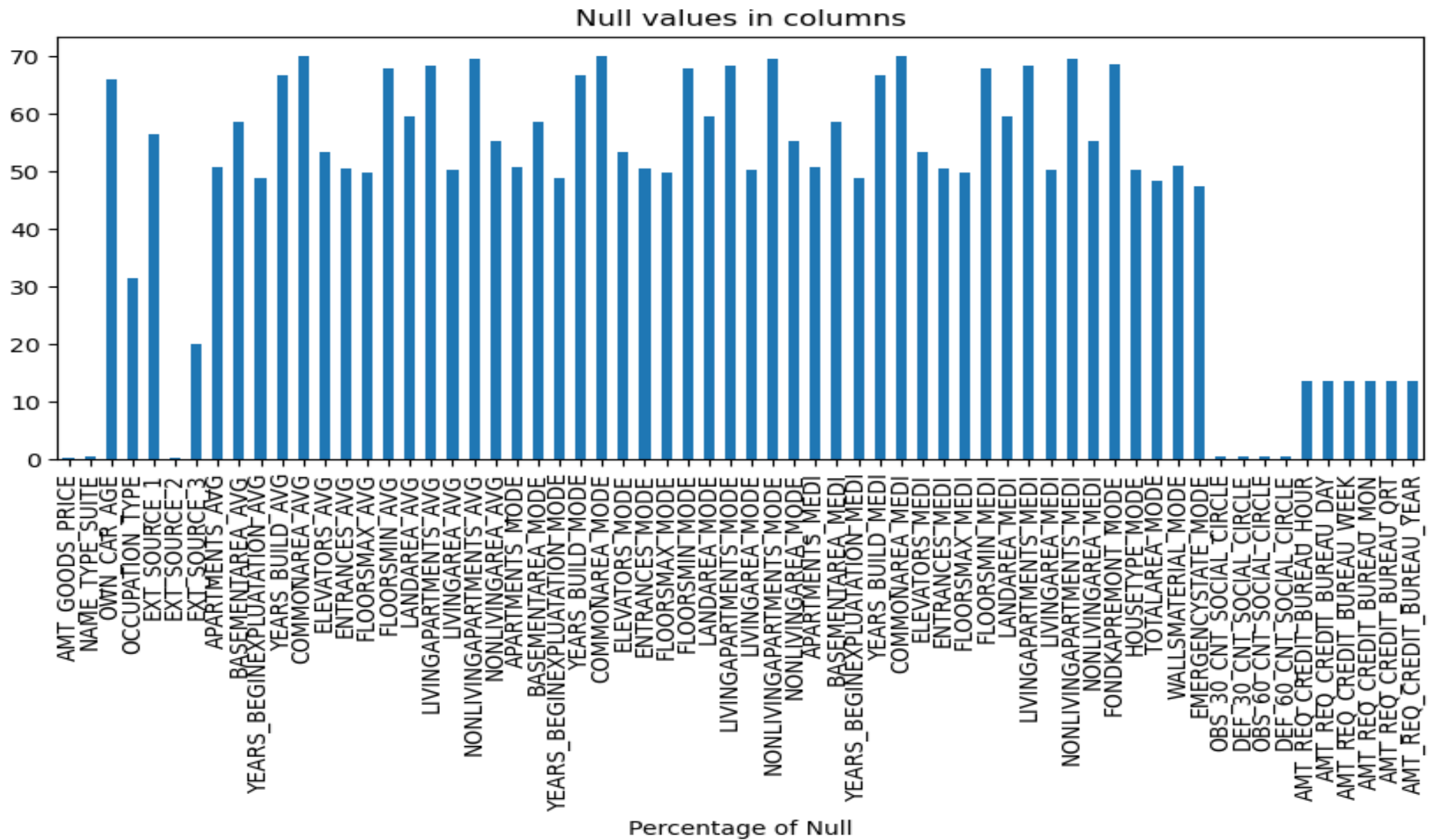
# Business Understanding

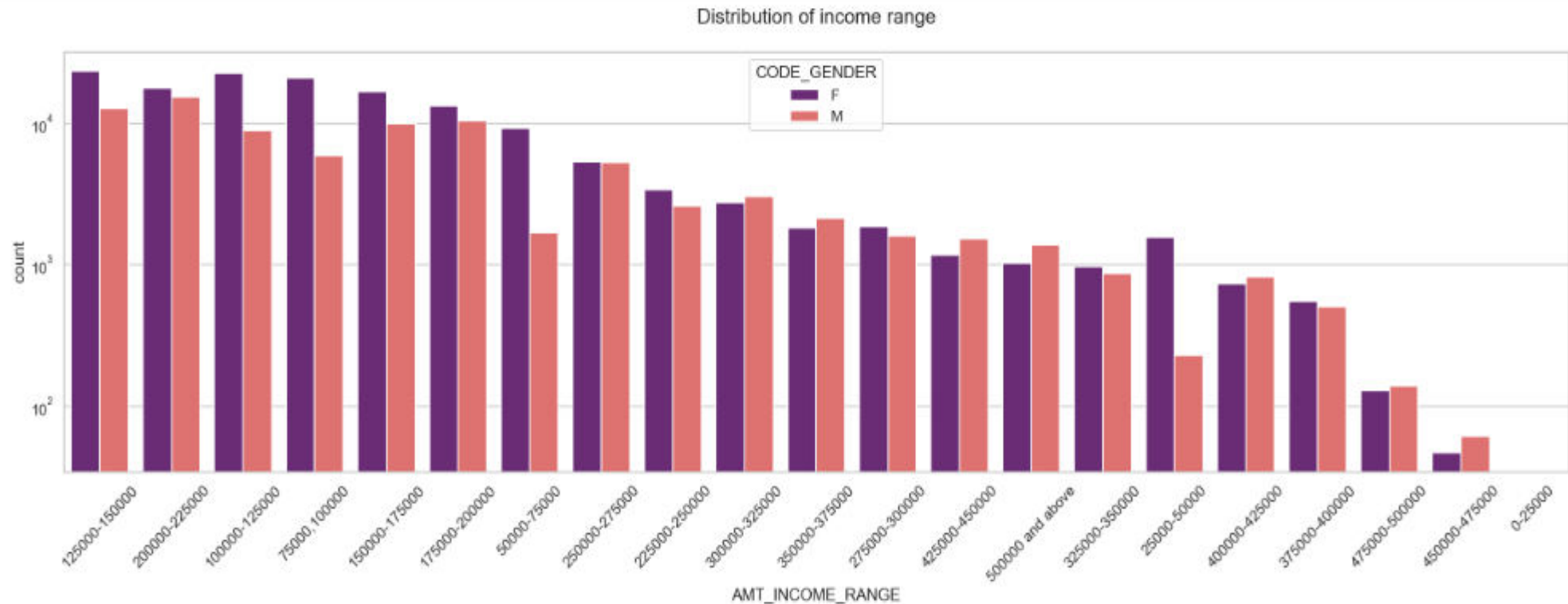
- The case study is about a consumer finance company that lends various types of loans to urban customers.
- The company needs to use EDA to analyse loan application patterns and make sure that only applicants who are likely to repay the loan are approved.
- Two types of risks are associated with loan approval: not approving a loan to someone who can repay it results in a loss of business, while approving a loan to someone who is likely to default results in a financial loss for the company.
- The loan application data contains information about clients who have had payment difficulties in the past, and those who have not.
- When a client applies for a loan, there are four possible decisions that could be made by the client or the company: Approved, Cancelled, Refused, and Unused offer.
- The goal of the EDA is to understand how different consumer and loan attributes affect the likelihood of default.



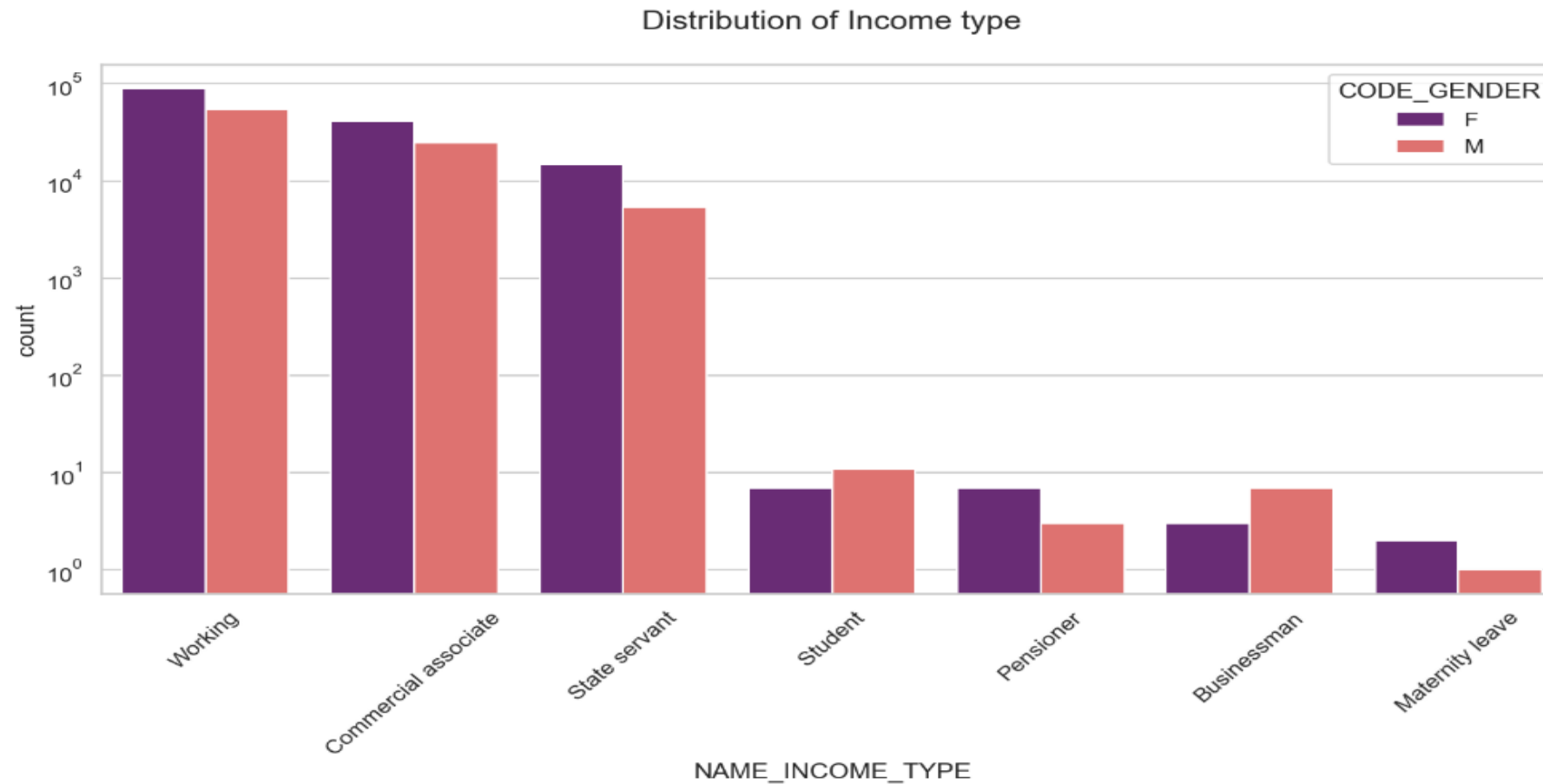
# Business Objectives

- The goal of this case study is to find out if a client may have trouble paying their loan installments, and to use this information to make decisions such as whether to deny the loan, reduce the loan amount, or charge a higher interest rate.
- The company wants to identify patterns that can help them distinguish between clients who are likely to pay back their loan and those who are not.
- By doing this, the company can make sure that they don't reject clients who are capable of repaying their loans while minimizing the risk of defaults.
- Risk analytics is an important tool for understanding the types of variables that are strong indicators of default and for assessing risk in a company's loan portfolio.





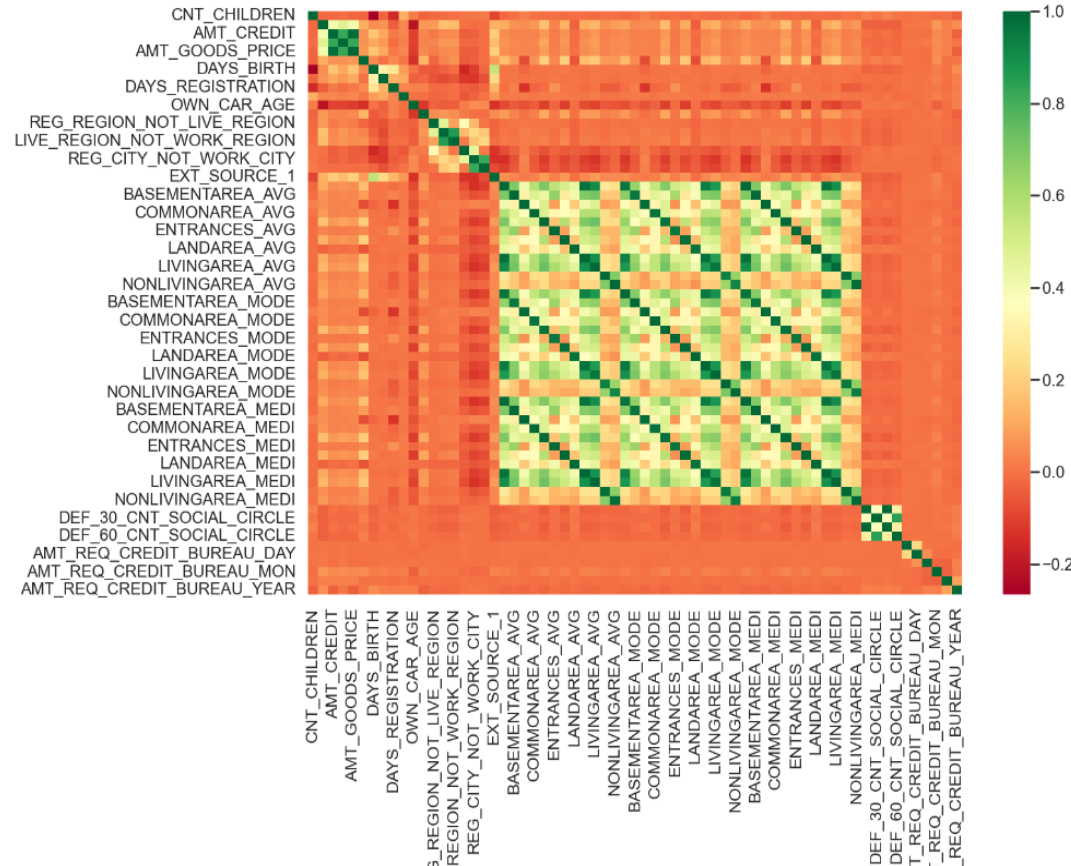
1. Female counts are higher than male.
2. Income range from 100000 to 200000 is having more number of credits.
3. This graph show that females are more than male in having credits for that range.
4. Very less count for income range 400000 and above.



1. For income type 'working', 'commercial associate', and 'State Servant' the number of credits are higher than others.
2. For this Females are having more number of credits than male.
3. Less number of credits for income type 'student', 'pensioner', 'Businessman' and 'Maternity leave'.

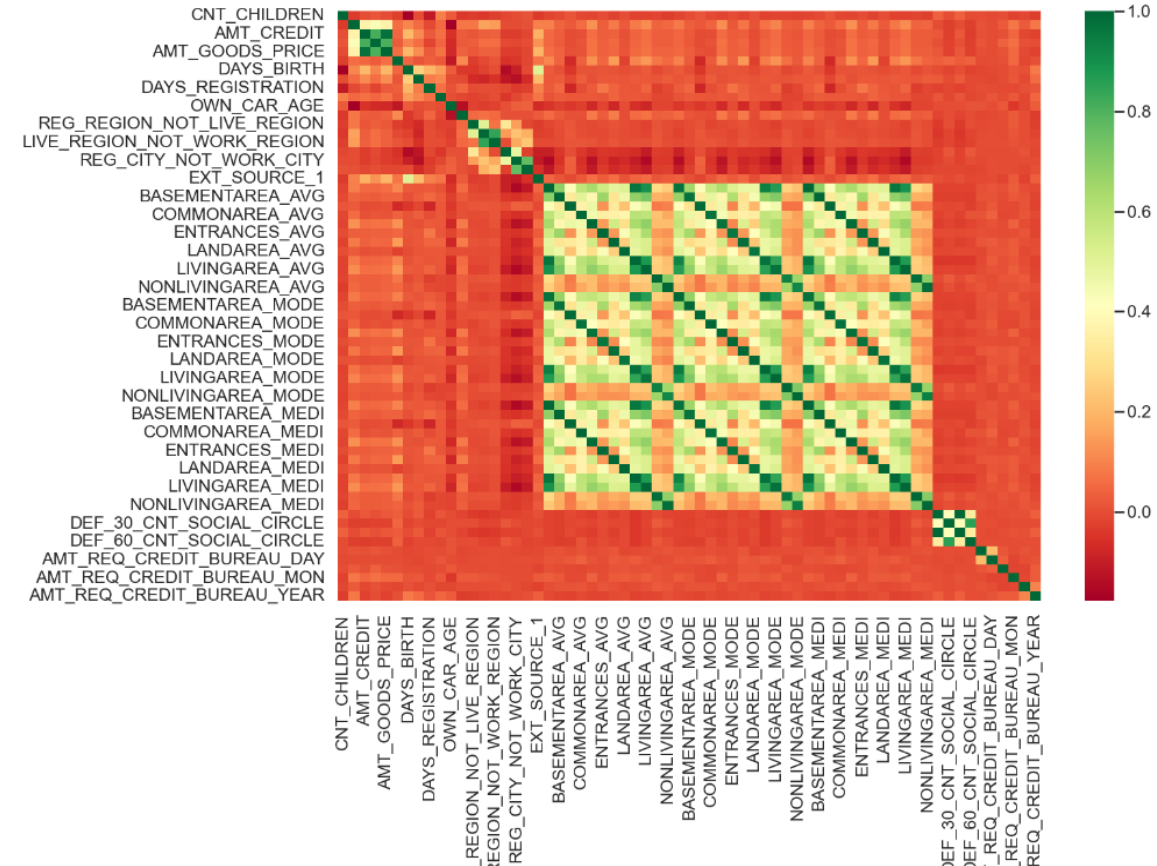


Correlation for target 0



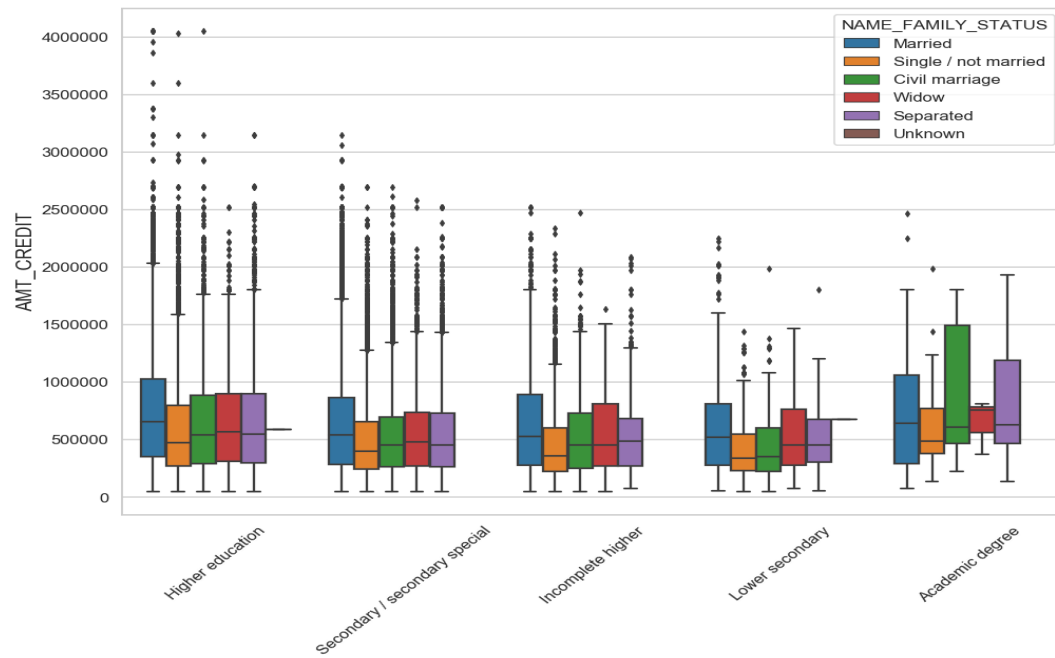
- Credit amount is inversely proportional to the date of birth, which means Credit amount is higher for low age and vice-versa.
- Credit amount is inversely proportional to the number of children client have, means Credit amount is higher for less children count client have and vice-versa.
- Income amount is inversely proportional to the number of children client have, means more income for less children client have and vice-versa.

Correlation for target 1

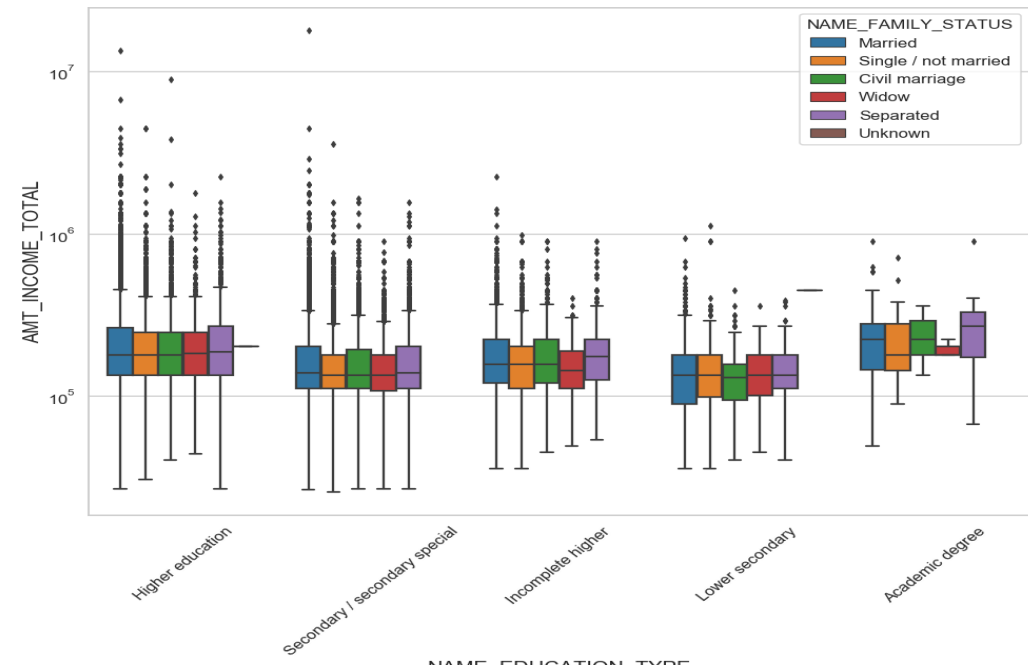


- The client's permanent address does not match contact address are having less children and vice-versa
- the client's permanent address does not match work address are having less children and vice-versa

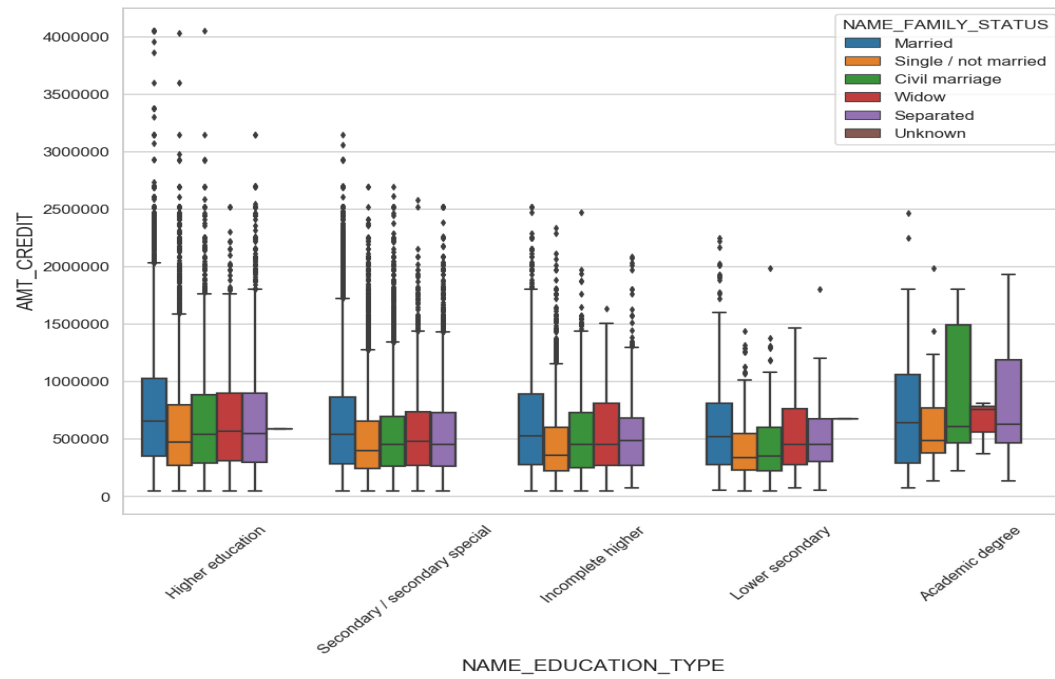
Credit amount vs Education Status



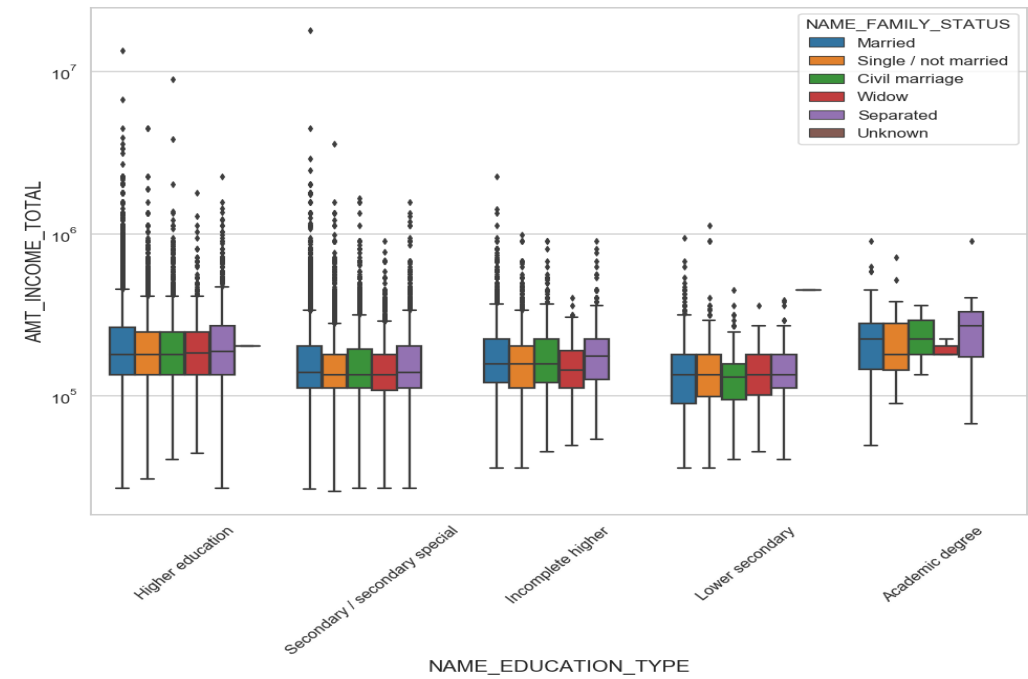
Income amount vs Education Status

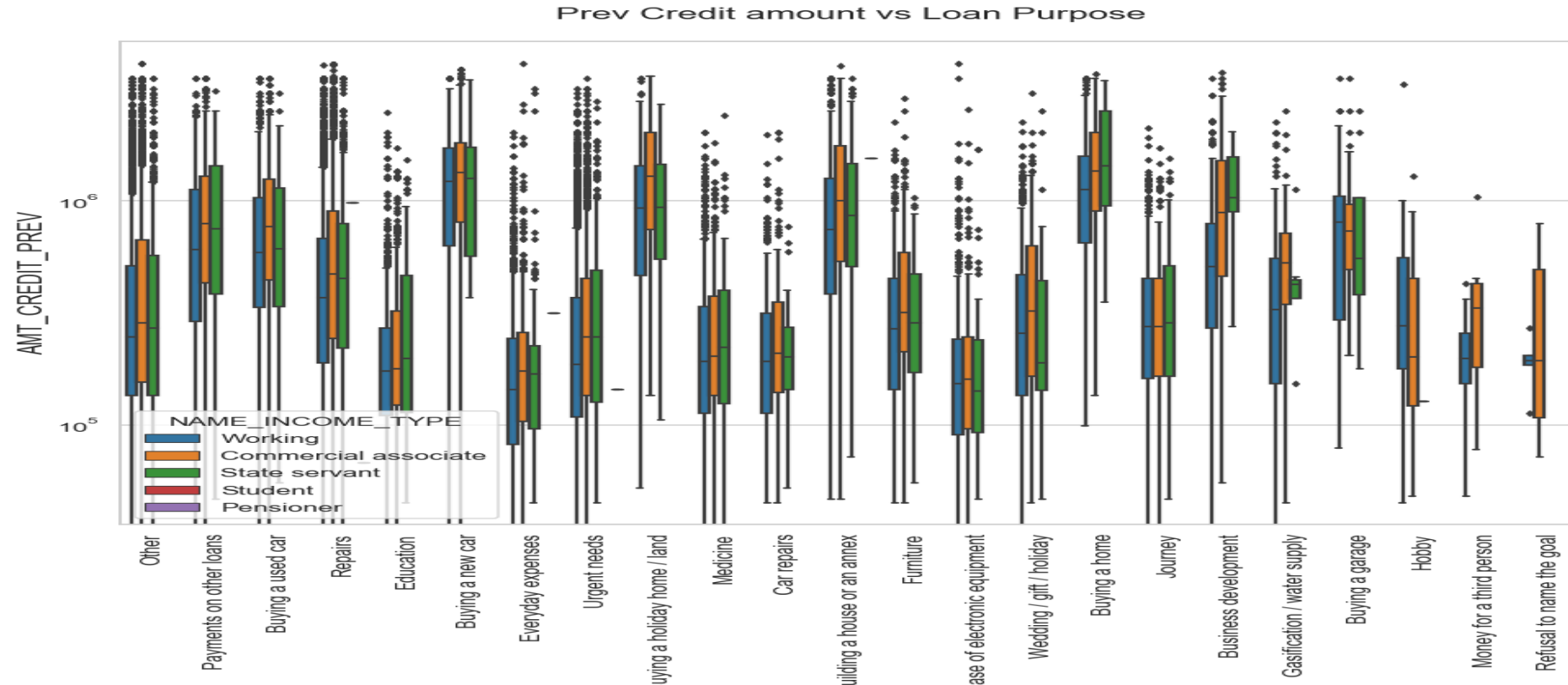


Credit Amount vs Education Status



Income amount vs Education Status

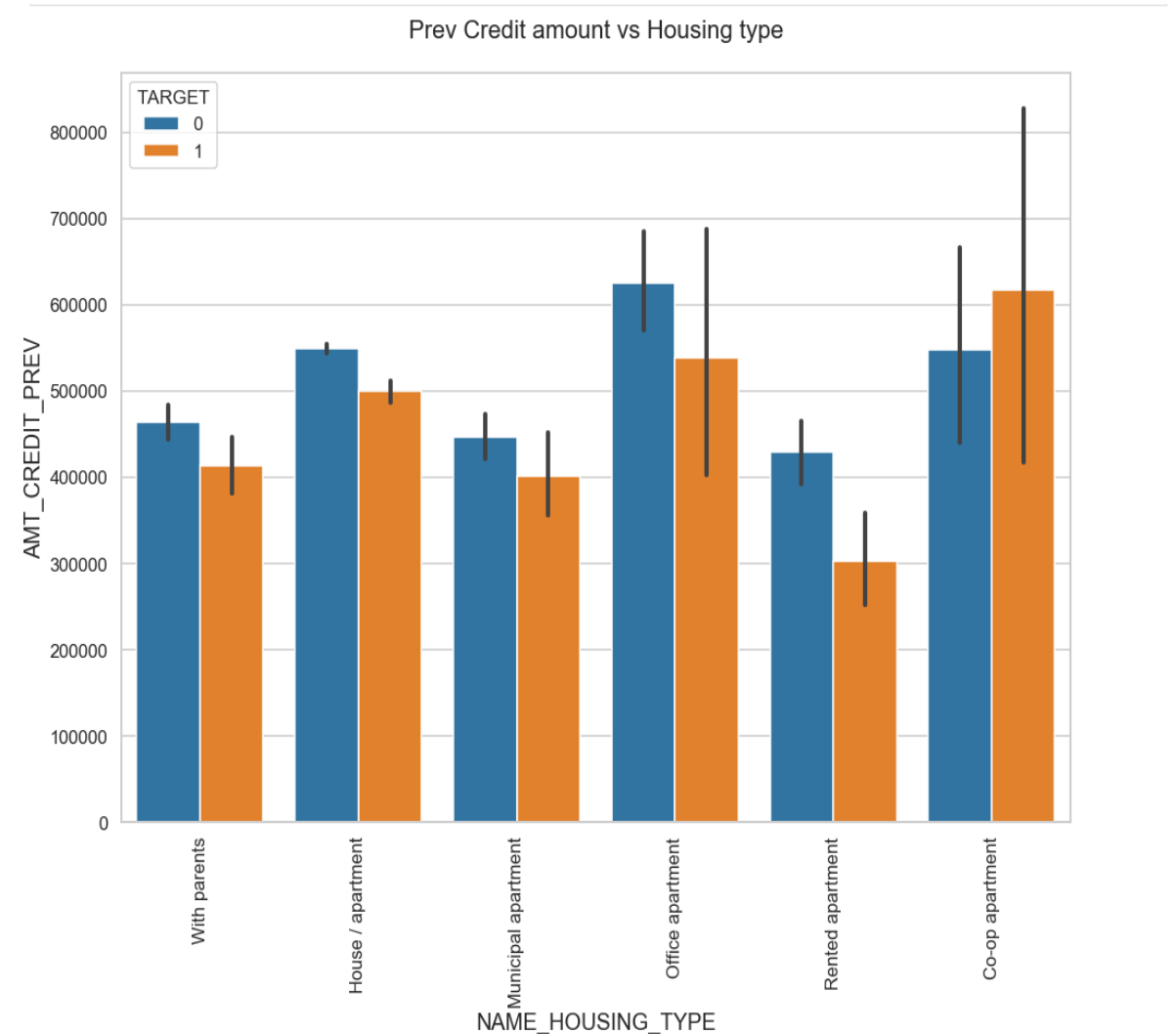




- The credit amount of Loan purposes like 'Buying a home', 'Buying a land', 'Buying a new car' and 'Building a house' is higher.
- Income type of state servants have a significant amount of credit applied
- Money for third person or a Hobby is having less credits applied for.

# Summary

- ❖ Here for Housing type, office apartment is having higher credit of target 0 and co-op apartment is having higher credit of target 1.
- ❖ So, we can conclude that bank should avoid giving loans to the housing type of co-op apartment as they are having difficulties in payment.
- ❖ Bank can focus mostly on housing type with parents or House\apartment or municipal apartment for successful payments



# Conclusion

- 1. Banks should focus more on contract type 'Student' , 'pensioner' and 'Businessman' with housing 'type other than 'Co-op apartment' for successful payments.*
- 2. Banks should focus less on income type 'Working' as they are having most number of unsuccessful payments.*
- 3. Also with loan purpose 'Repair' is having higher number of unsuccessful payments on time.*
- 4. Get as much as clients from housing type 'With parents' as they are having least number of unsuccessful payments.*

# Thankyou

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