



CREDIT EDA ASSIGNMENT

SUBMITTED BY
HARSHAL M TIPARE

Introduction

- ▶ This assignment aims to give an idea of applying EDA in a real business scenario. In this assignment, apart from applying the techniques that you have learnt in the EDA module, will also develop a basic understanding of risk analytics in banking and financial services and understand how data is used to minimize the risk of losing money while lending to customers.

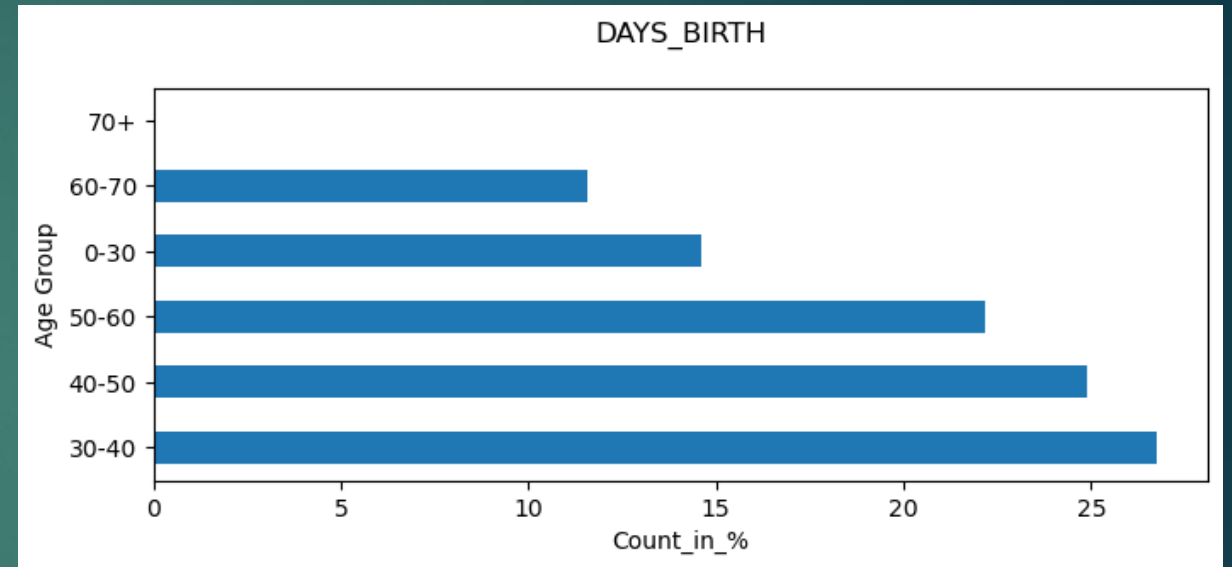
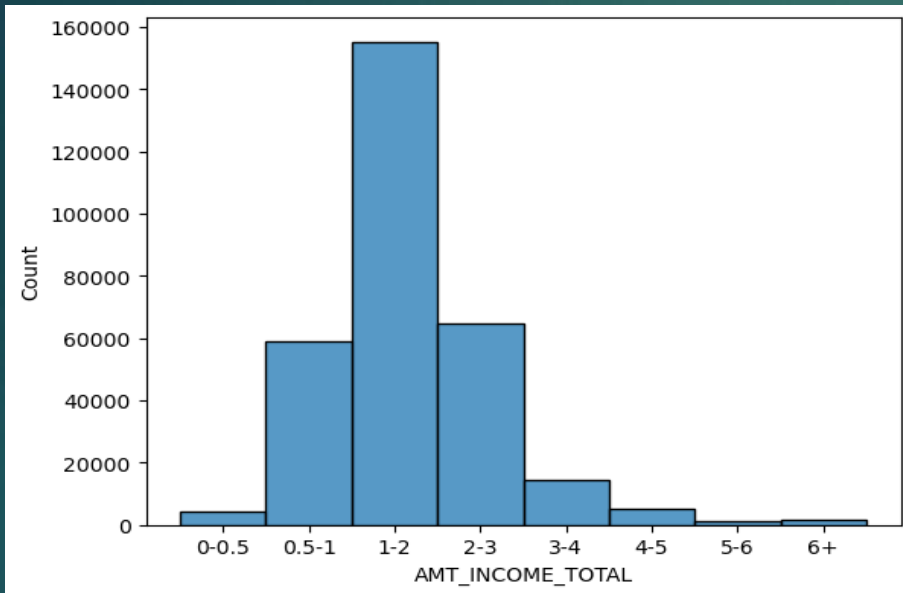
Business Understanding

- ▶ The loan providing companies find it hard to give loans to the people due to their insufficient or non-existent credit history. Because of that, some consumers use it to their advantage by becoming a defaulter. Suppose you work for a consumer finance company which specialises in lending various types of loans to urban customers. We have to use EDA to analyse the patterns present in the data. This will ensure that the applicants capable of repaying the loan are not rejected.

Business Objectives

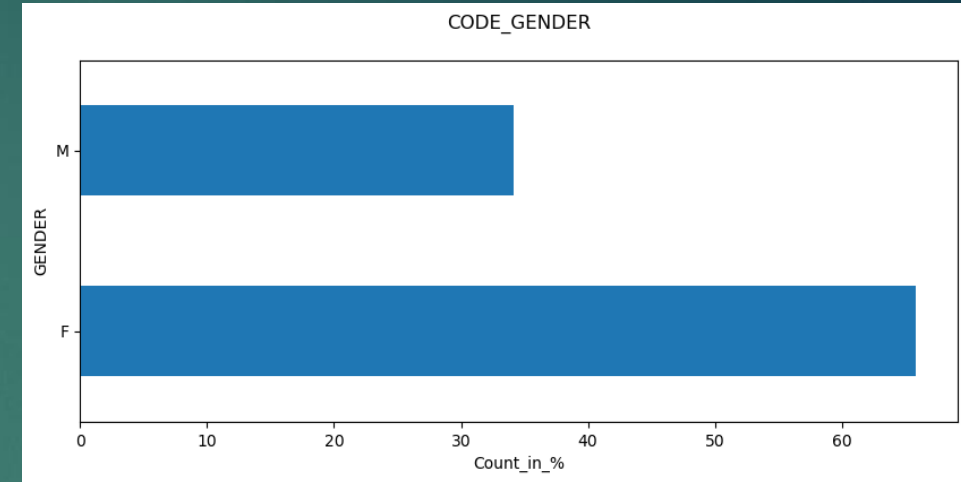
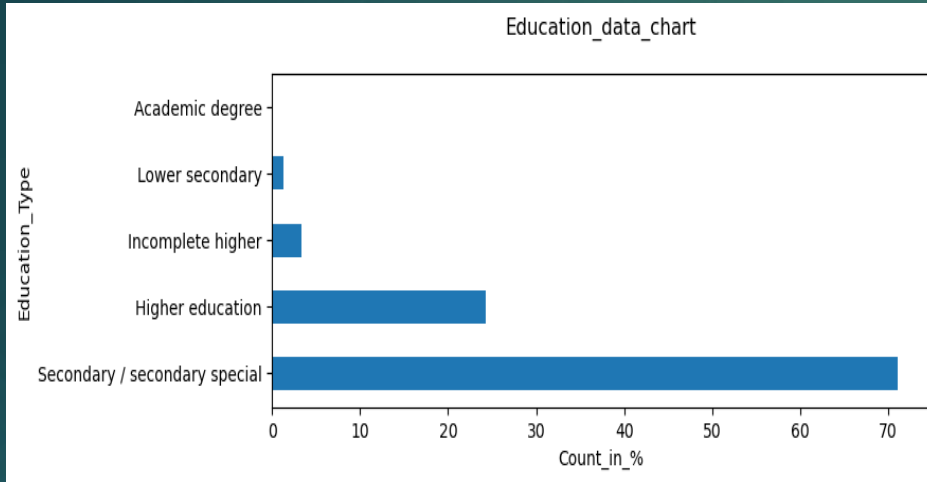
- ▶ This case study aims to identify patterns which indicate if a client has difficulty paying their instalments which may be used for taking actions such as denying the loan, reducing the amount of loan, lending (to risky applicants) at a higher interest rate, etc. This will ensure that the consumers capable of repaying the loan are not rejected. Identification of such applicants using EDA is the aim of this case study.

Univariate Analysis



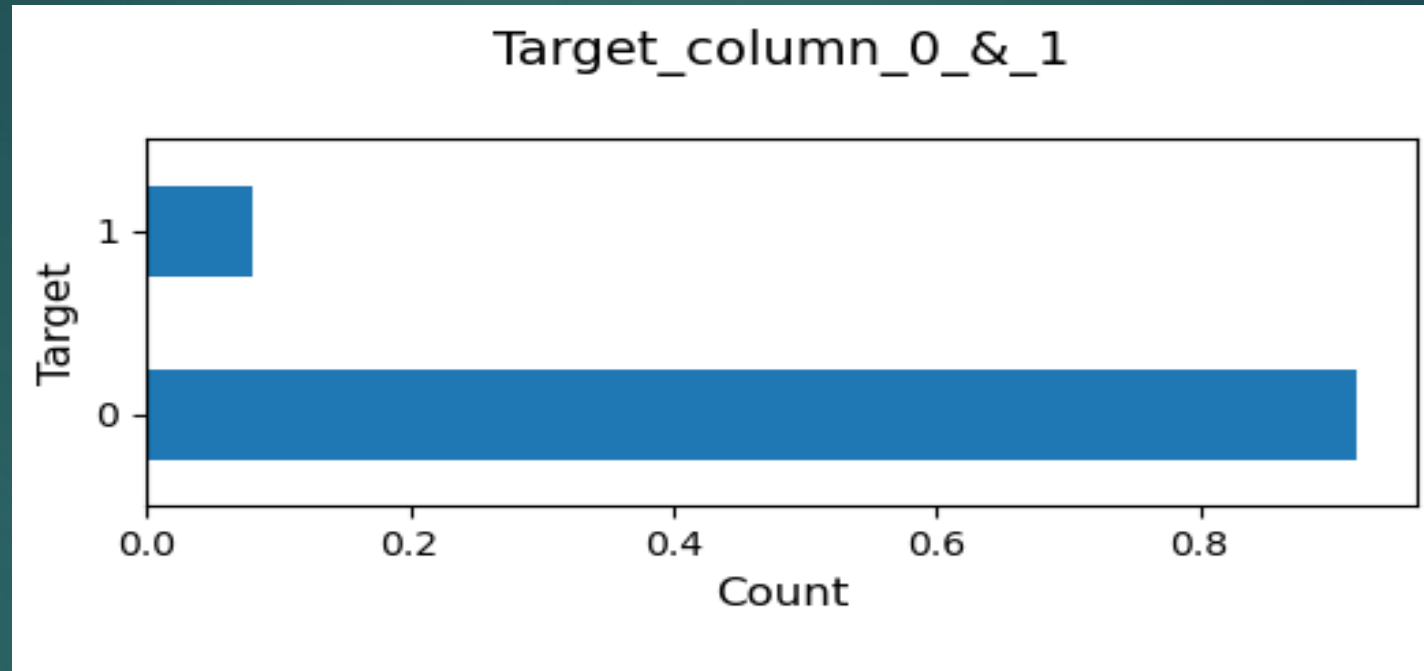
- Applicants have larger counts Between Income Group 1-2
 - 30-40 & 40-50 age group applicants have more count.

Univariate Analysis



- Almost 70% applicants have Secondary Education
 - More than 65% are Female applicants.

Data Imbalance

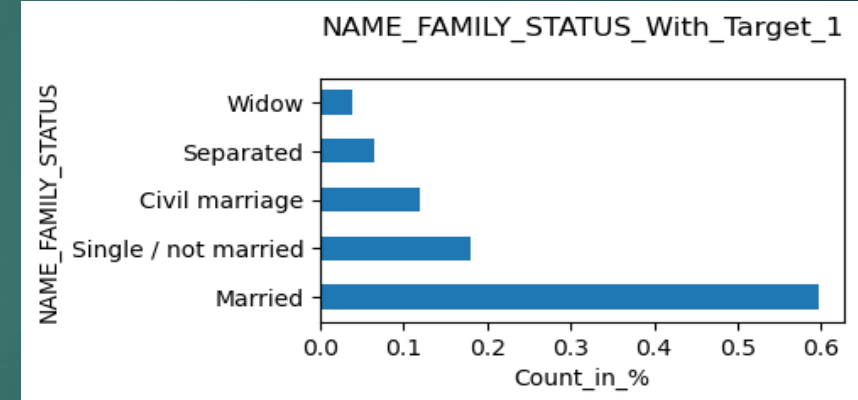
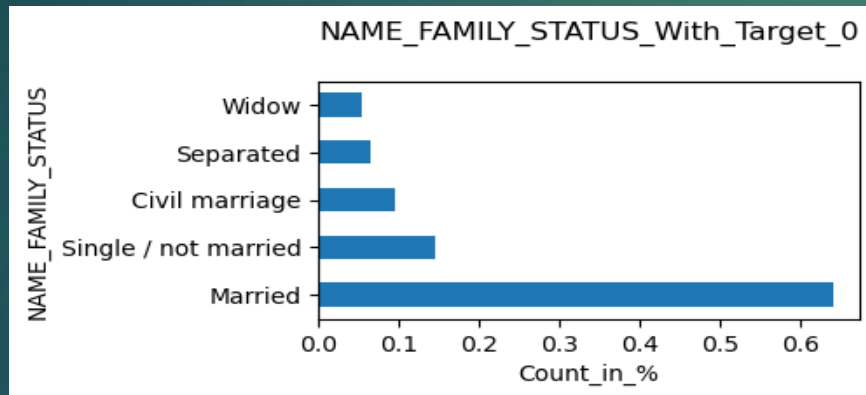
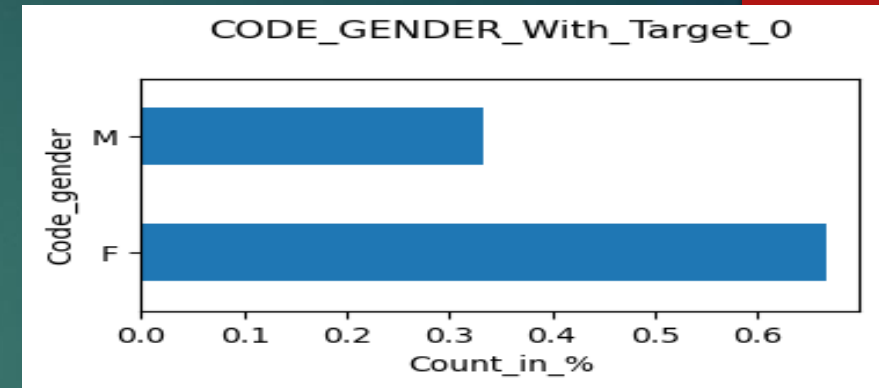
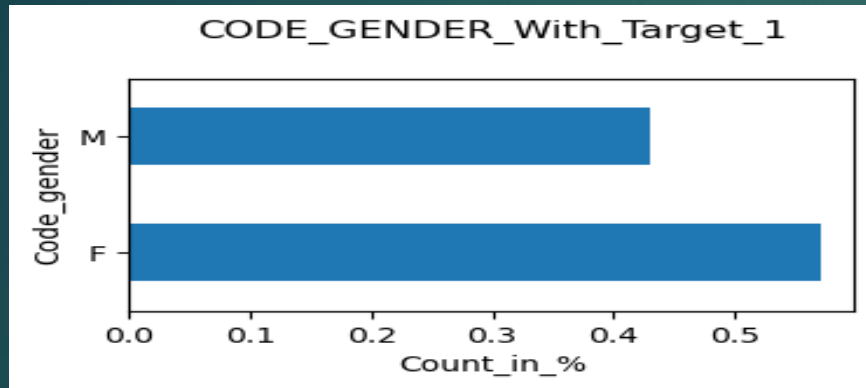


Data Imbalance is detected. Target_0 for non Defaulters & target_1 for Defaulters.

Target_0 count is 92%

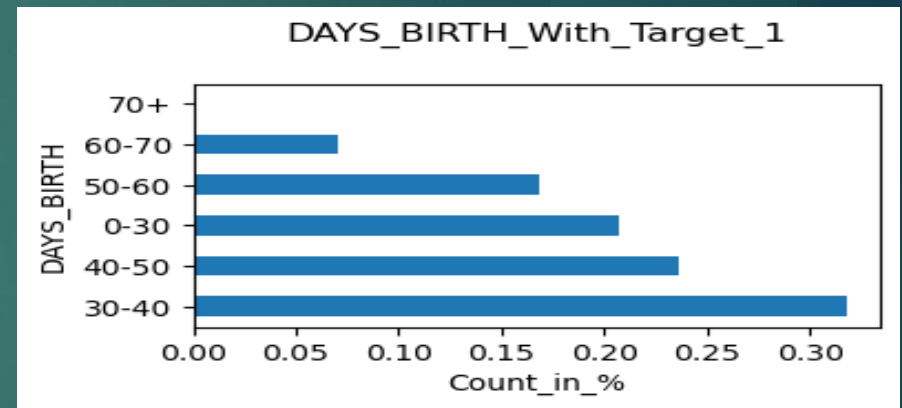
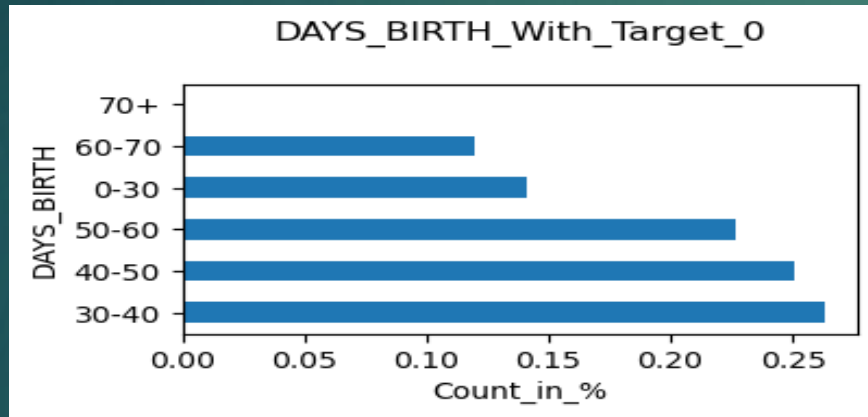
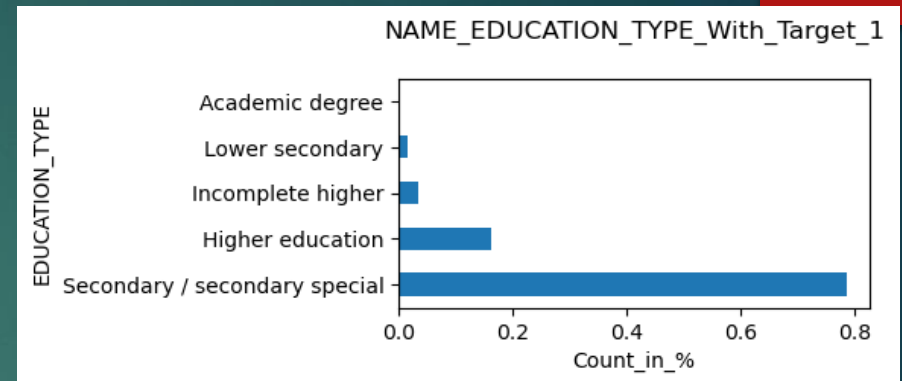
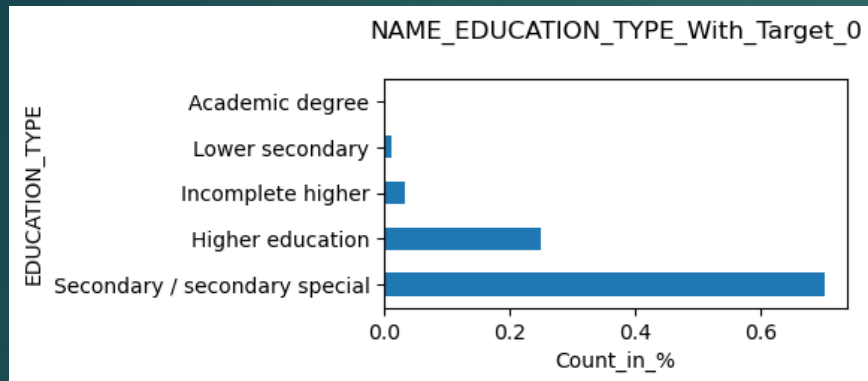
Target_1 count is 8%

Segmented Univariate Analysis



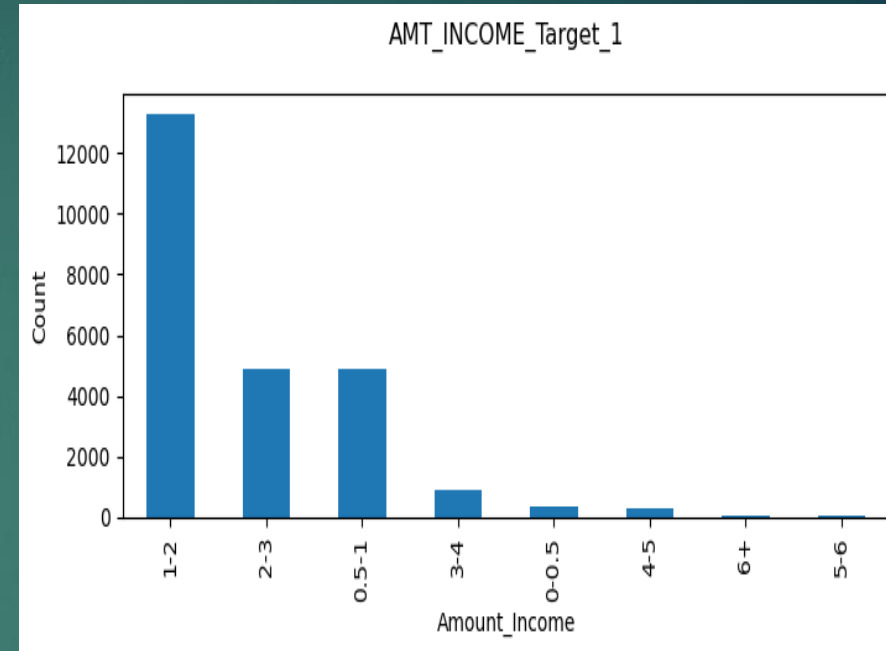
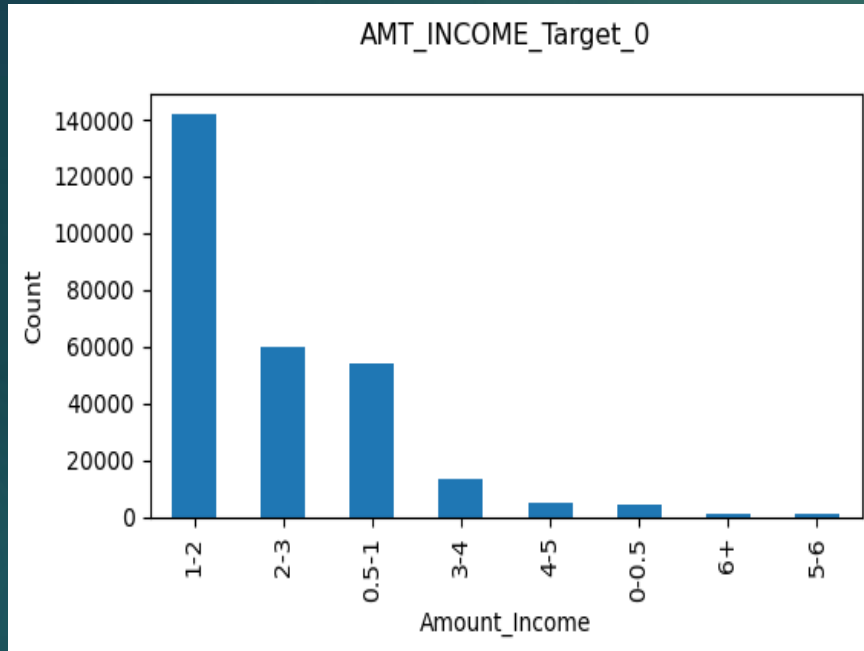
- Almost 70% applicants have Secondary Education
 - More than 65% are Female applicants.

Segmented Univariate Analysis



- Age Group 30-40 are likely to be defaulter
- Secondary applicants have higher counts on both defaulter & Non Defaulters..

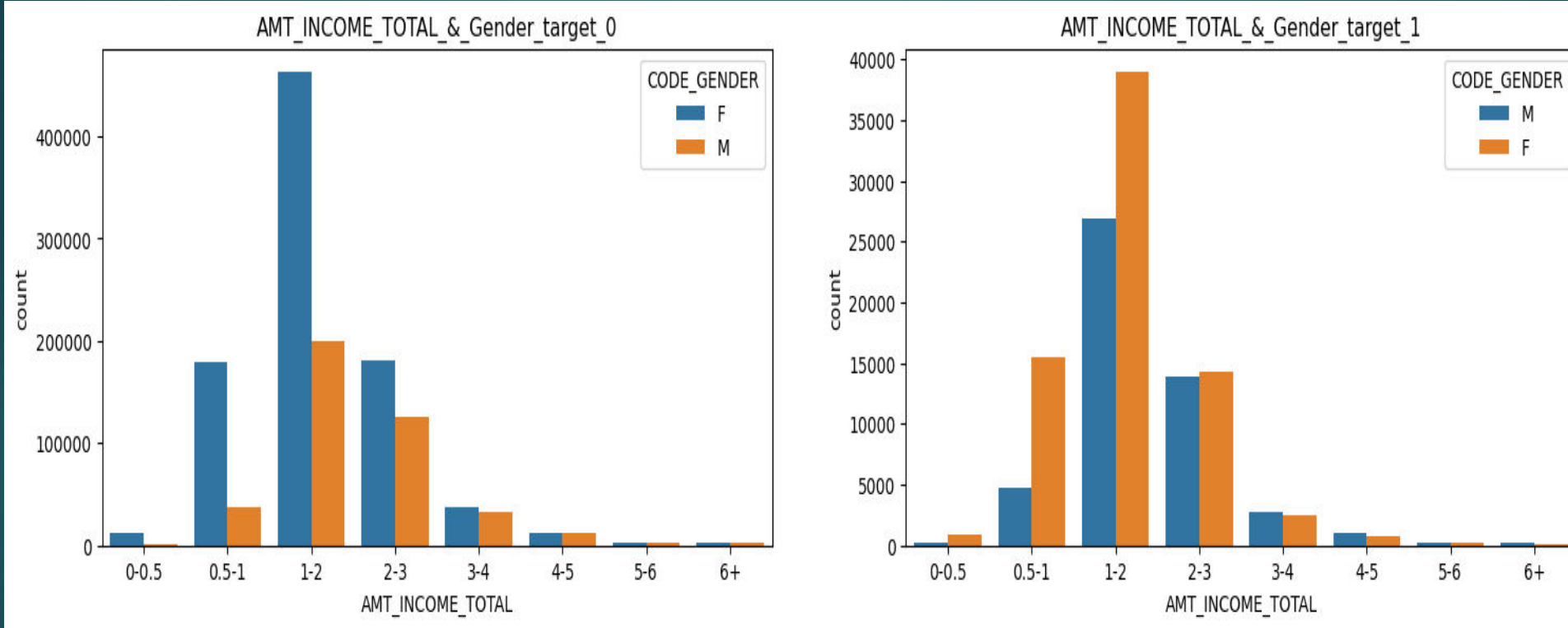
Segmented Univariate Analysis



- Income group 1-2 applicants have higher counts on both defaulter & Non Defaulters..

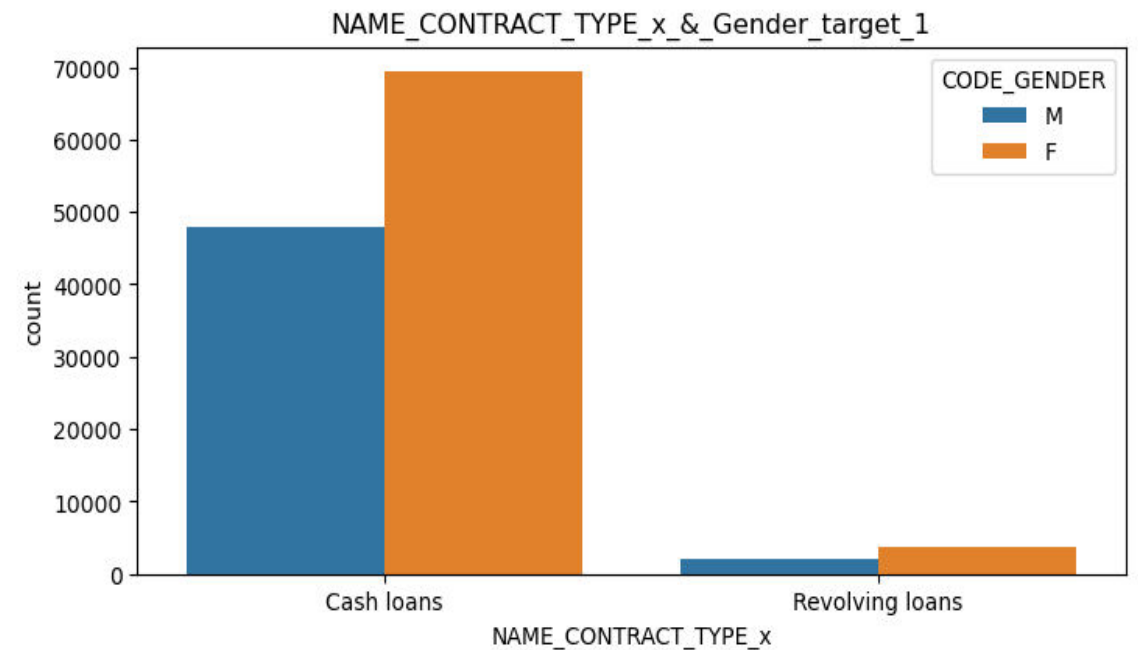
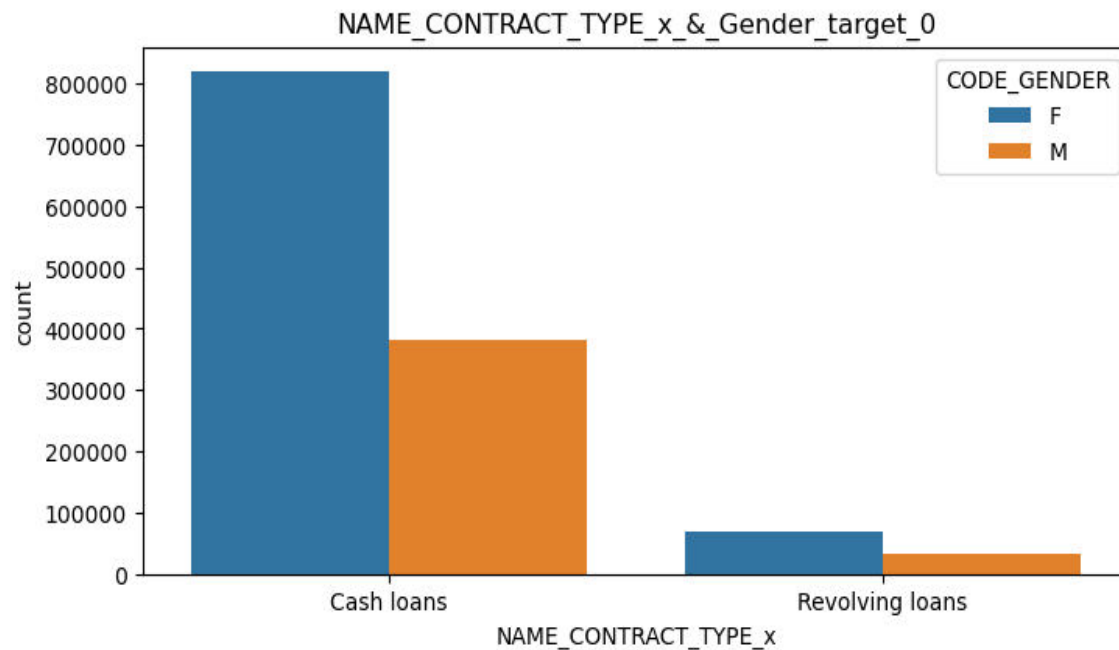
Bivariate Analysis

Income vs. Gender With Target



Bivariate Analysis

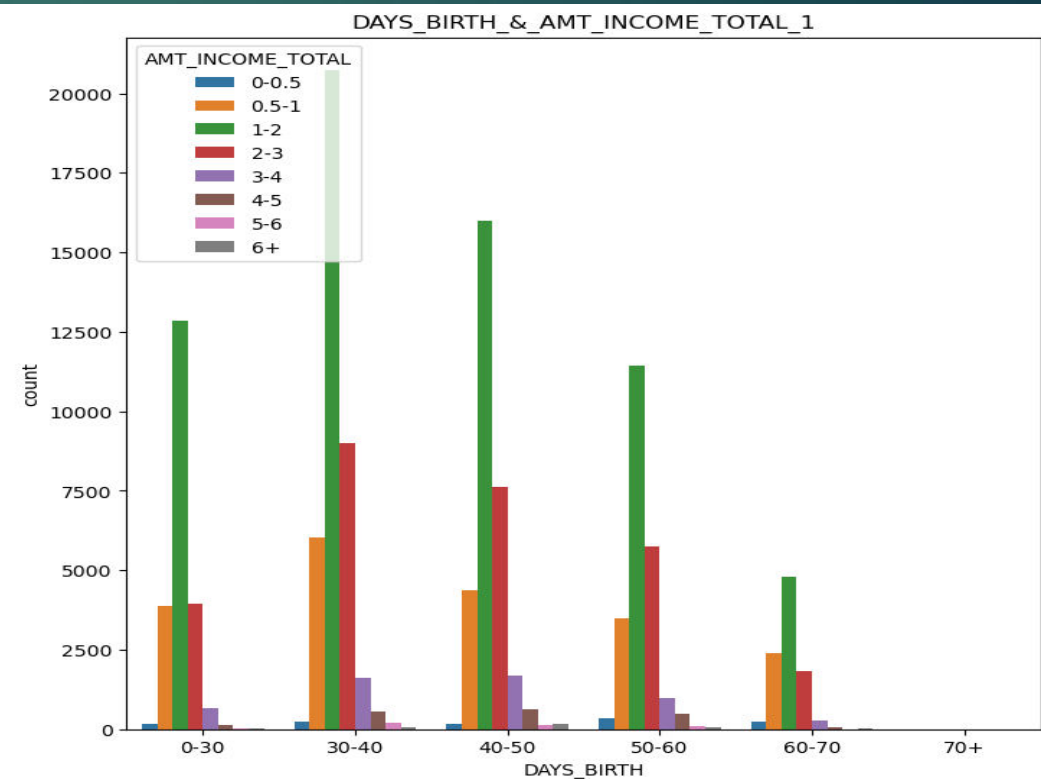
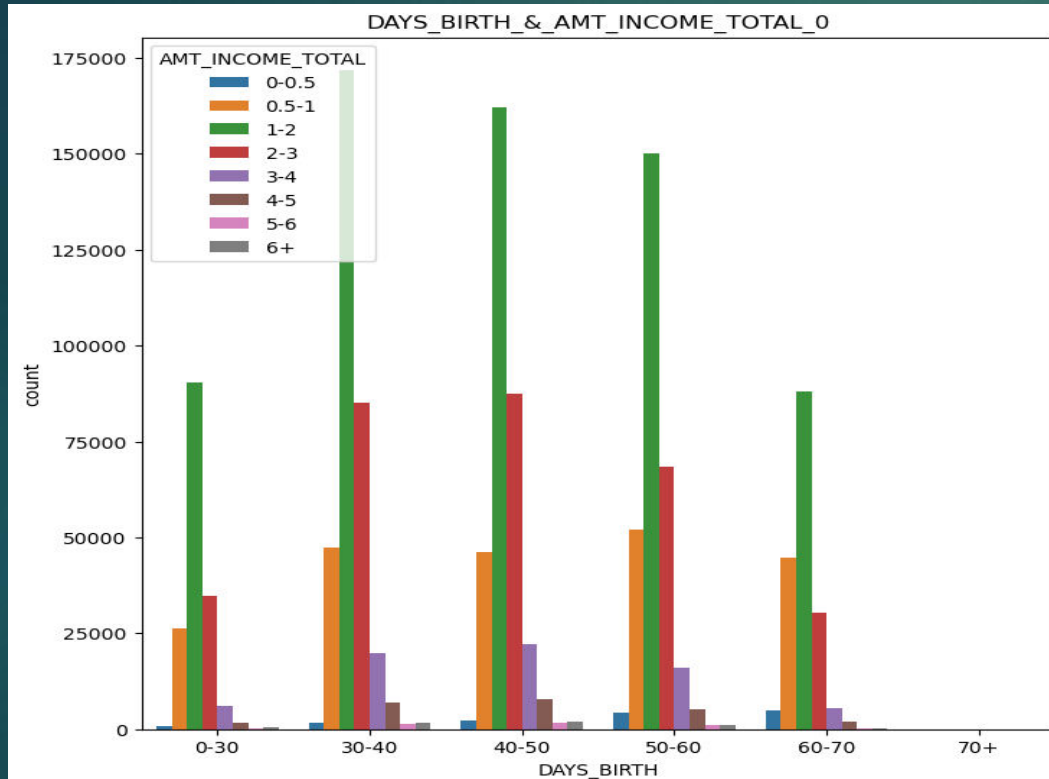
Contract Type Vs. Gender With target



Male has more defaulters than females as compare to ration count.

Bivariate Analysis

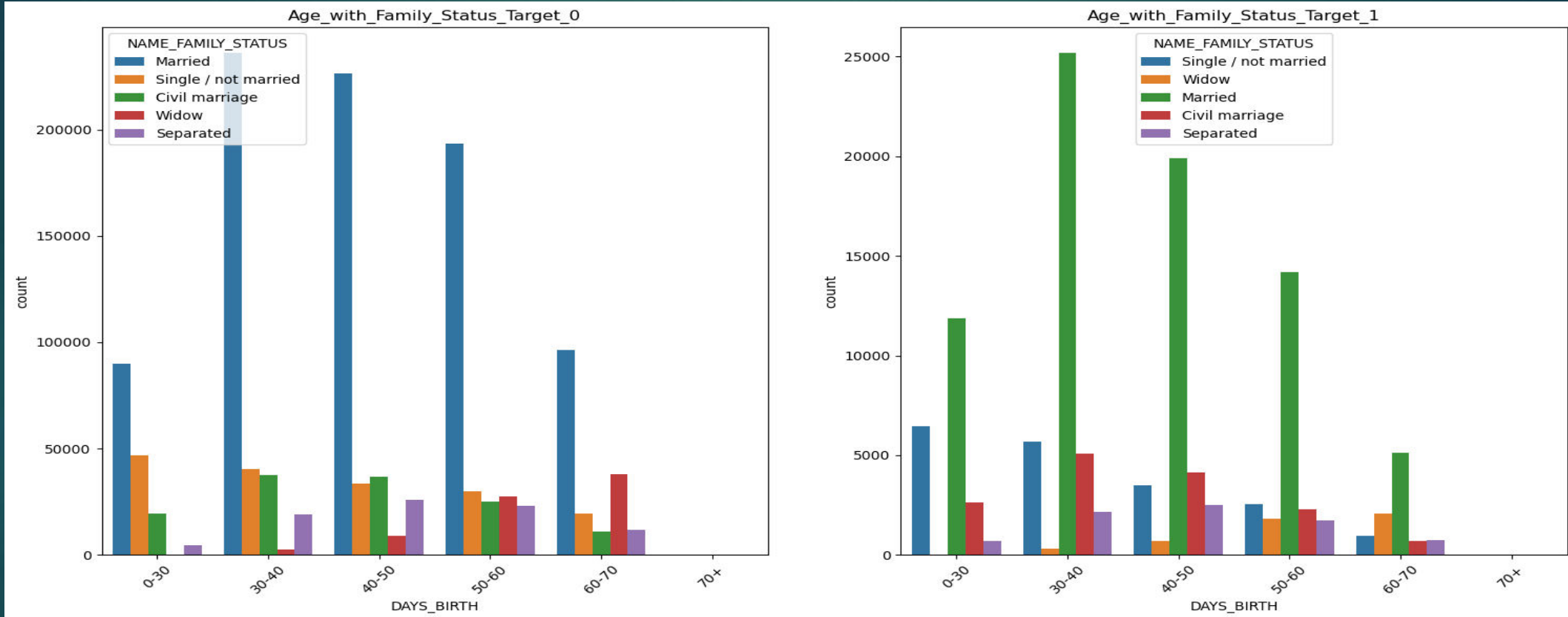
Age Vs. Income With Target



Income Group group of 1-2 & Age category 30-40 are more likely to defaulters.
Their count of applying for loan is also high.

Bivariate Analysis

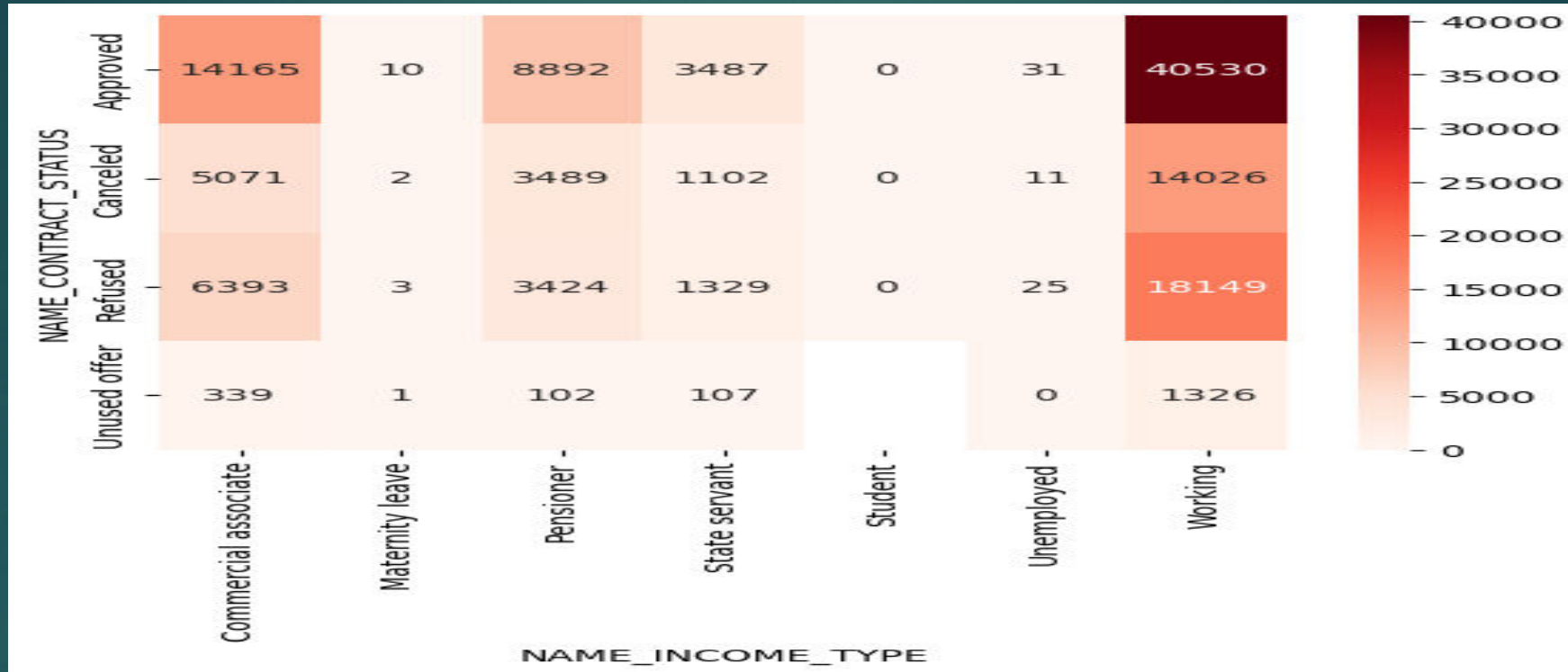
Age Group vs. Family Status with Target



- Married applicants with 30-40 & 40-50 are high numbers of defaulter.
- Single applicants with age group are of 0-30 have defaulting ratio very high

Correlation Using heatmap

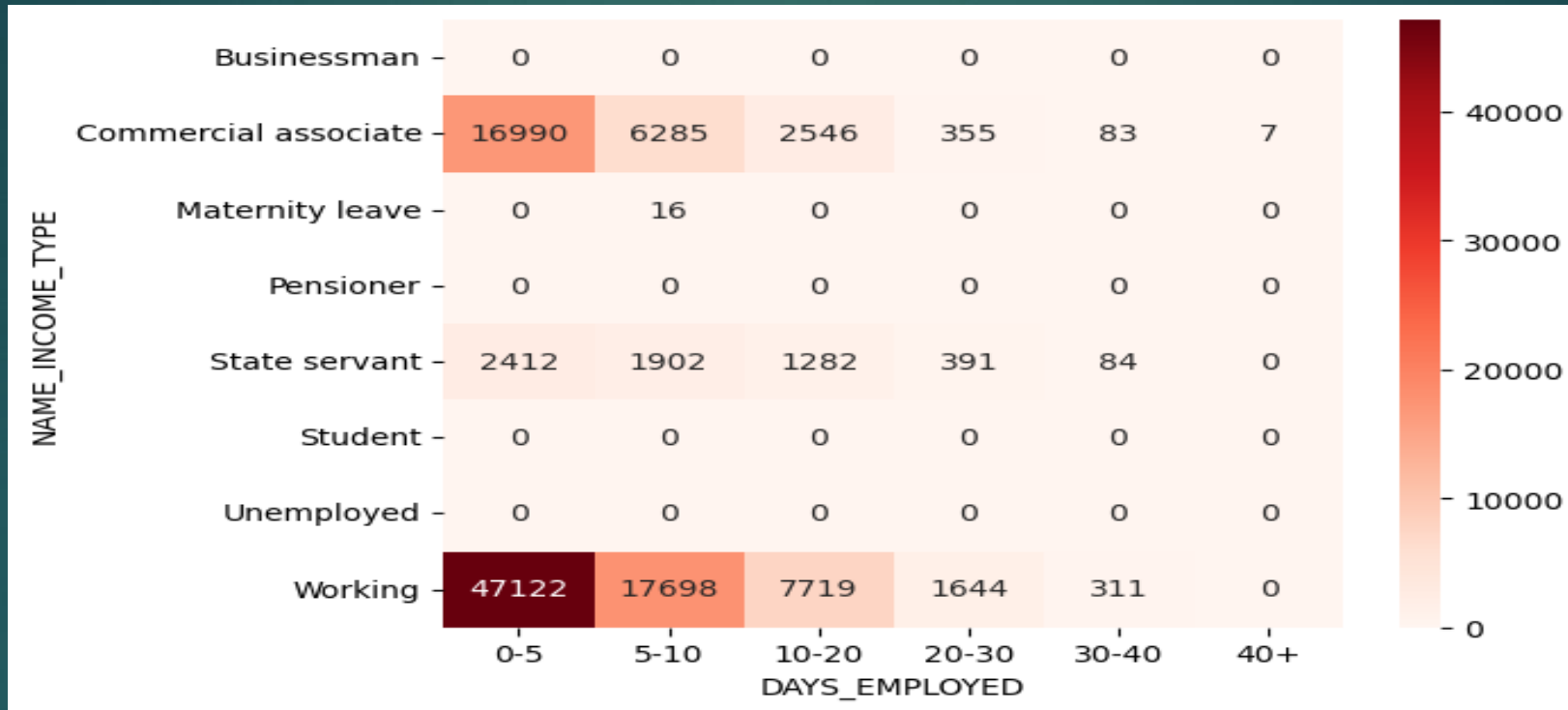
Income Type Vs. Family Status vs. Target



- Working people with approved loans has highest numbers of defaulters.
- Commercial associate with approved loan are defaulted
- Previous application rejected applicant like refused, Cancelled have defaulted in current applicants.

Correlation Using heatmap

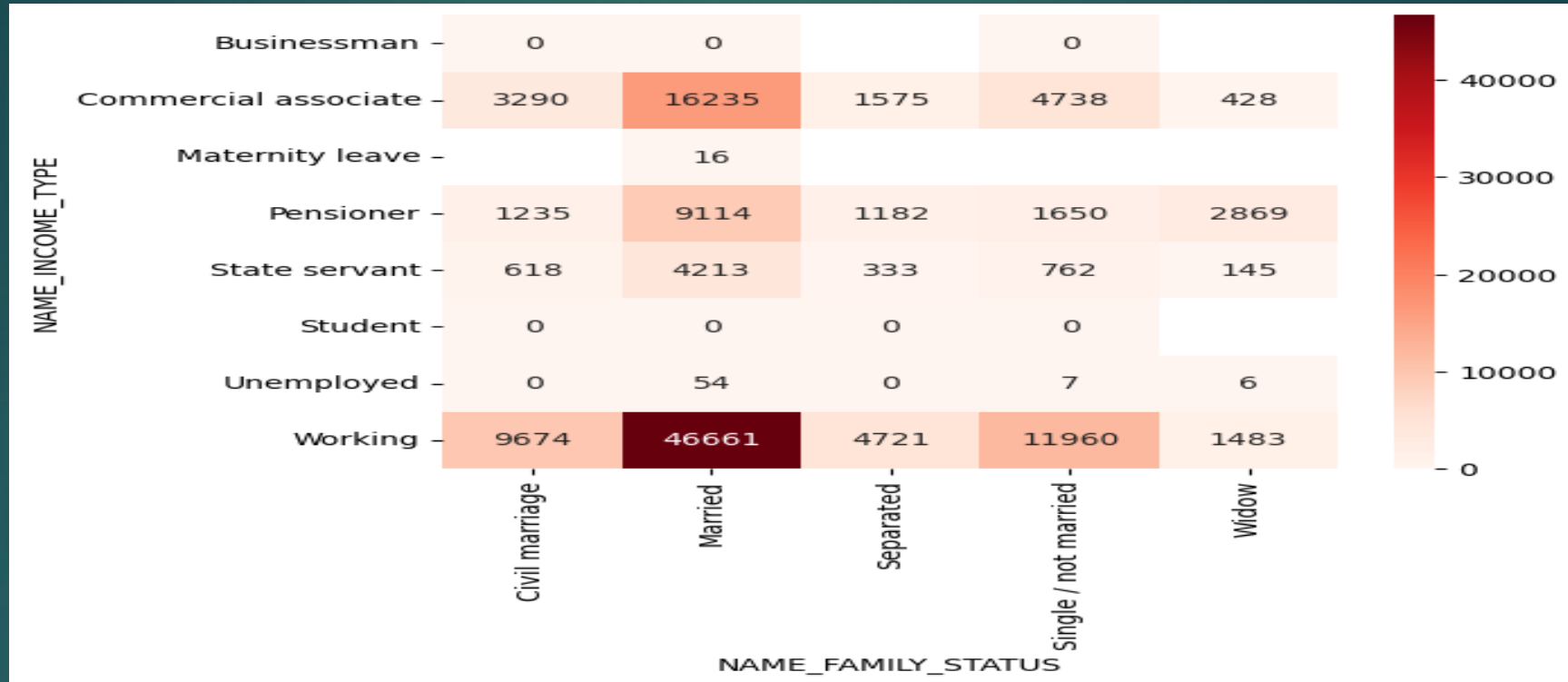
Income Type Vs. Days Employed Vs. Target



- Working class with 0-5 working experience are most number of defaulters.
- After that working class with 5-10 years working experience & Commercial associate with 0-5 years experience applicants have been defaulted.

Correlation Using heatmap

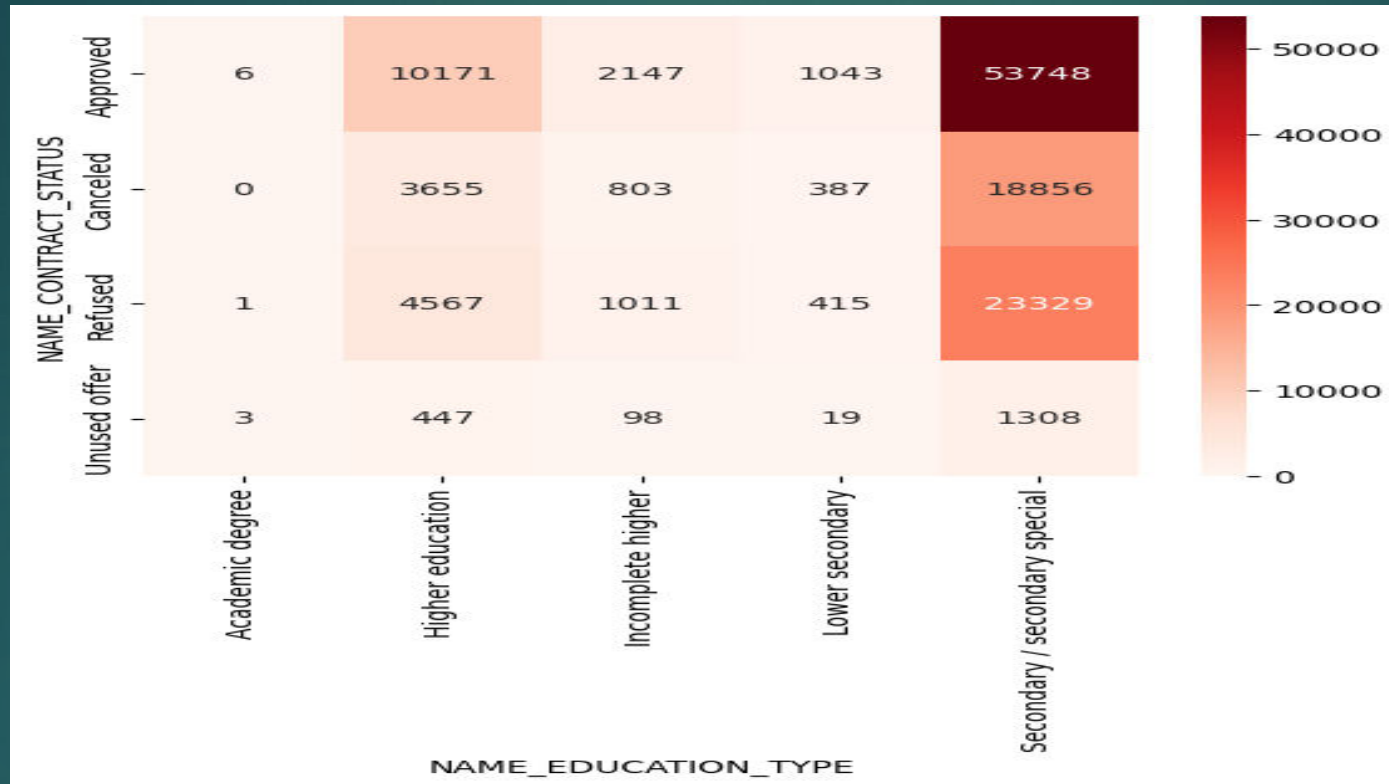
Income Type Vs. Family Status vs. Target



- Married People with class Working is highest number of defaulted
- After that Commercial associate with Married applicants & Working class with Single & Civil Marriage applicants have been defaulted.
- Unemployed applicants have least number of defaulters.
- Business class with Civil Marriage , Married, Single applicants are not defaulted.

Correlation Using heatmap

Contract Type Vs. Education Vs. Target



- Working class with 0-5 working experience are most number of defaulters.
- After that working class with 5-10 years working experience & Commercial associate with 0-5 years experience applicants have been defaulted.

Conclusion

All Following variable we found defaulters while analyzing:

- Working class has more defaulters.
- Income group of 1-2
- Age group 30-40 & 40-50
- Male
- Working class with 0-5 years experience
- Commercial associate
- Previous applicants with Refused, Cancelled, Unused offer.
-

All Following variable we found Non defaulters while analyzing:

- Female
- Higher education
- Businessman & State Servant
- 30-40 years work experience employee
- Old people