Project 6
Bank loan case study

Introduction

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 as 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. You 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.
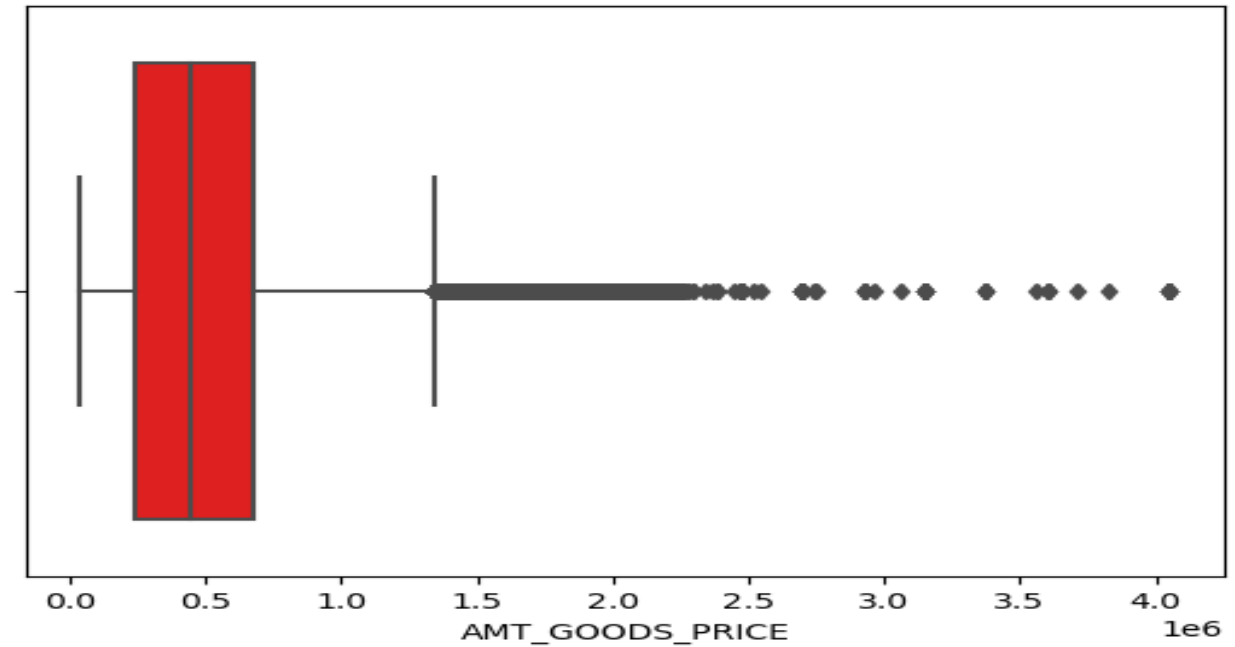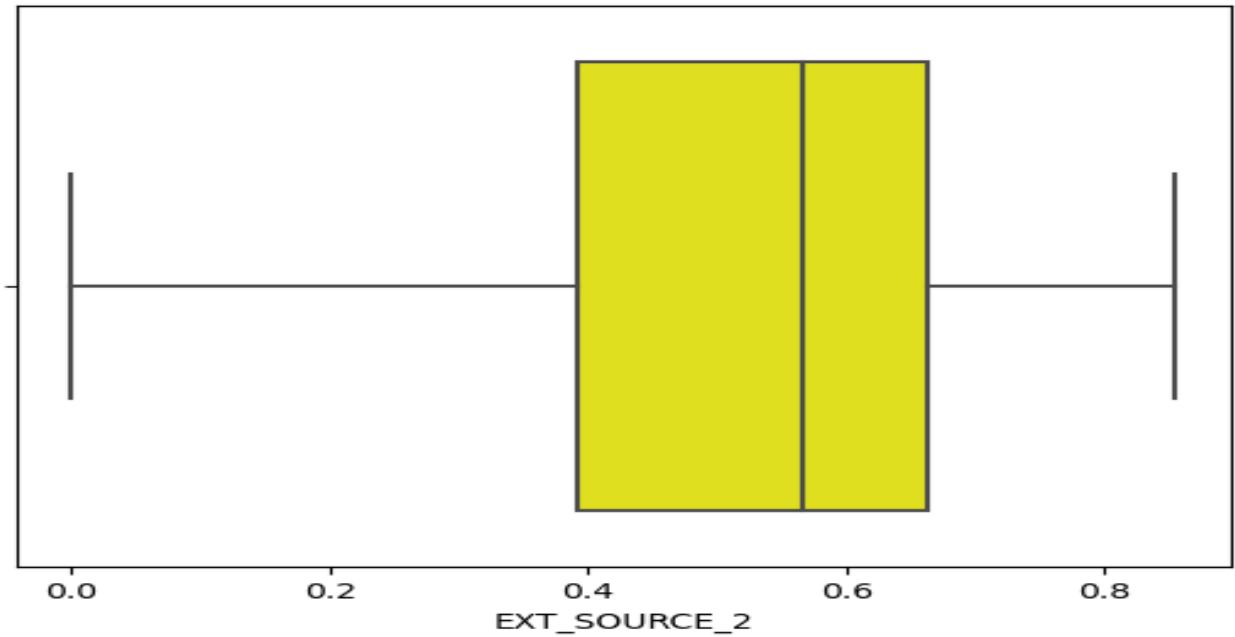
Approach

- Understood the given data set
- Converted given data set in data frames
- Used pandas ,numpy for data analysis
- Used matplotlib, seaborn for visualization
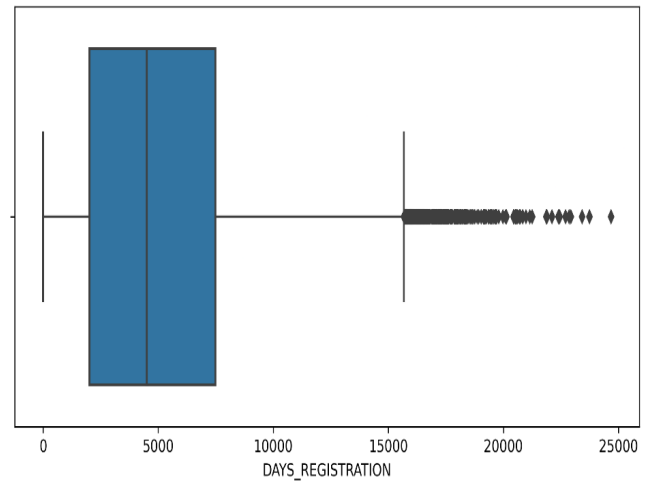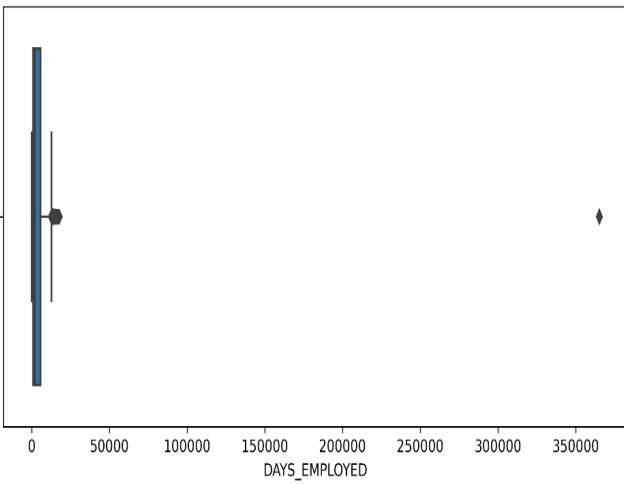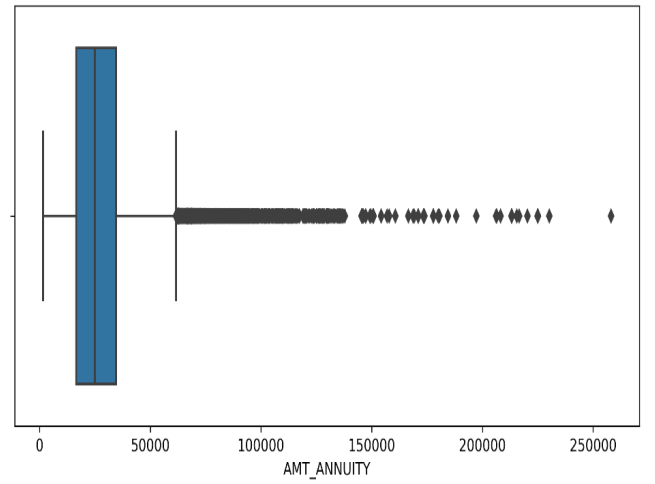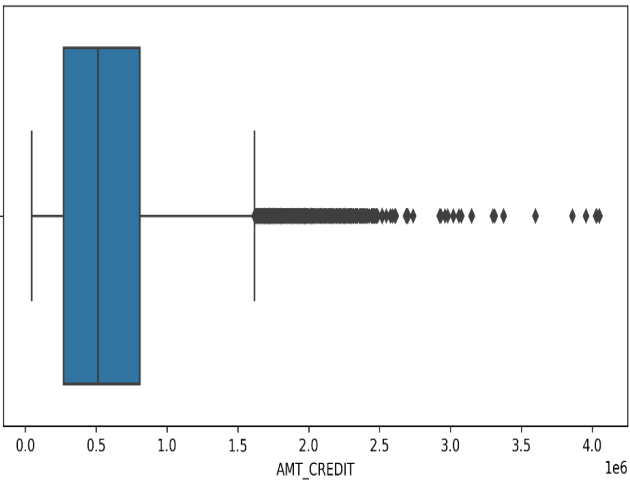- Performed EDA

Tech stack used

1. Jupyter notebook
2. Pandas
3. Numpy
4. Matplotlib
5. seaborn

Insights

1.outliners

Credit Amount vs Education Status

Credit Amount vs Education Status
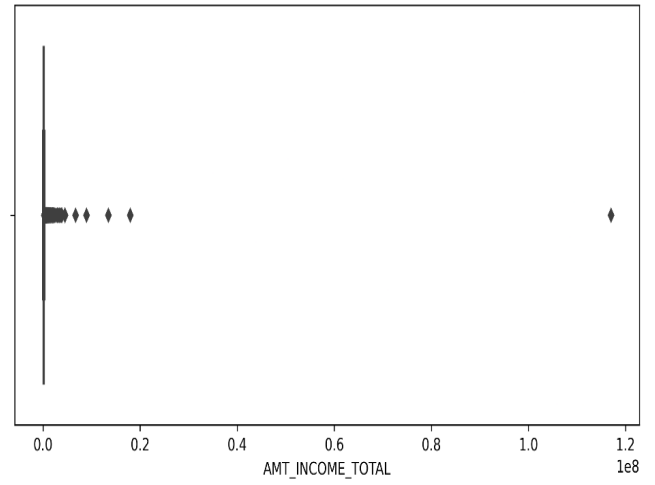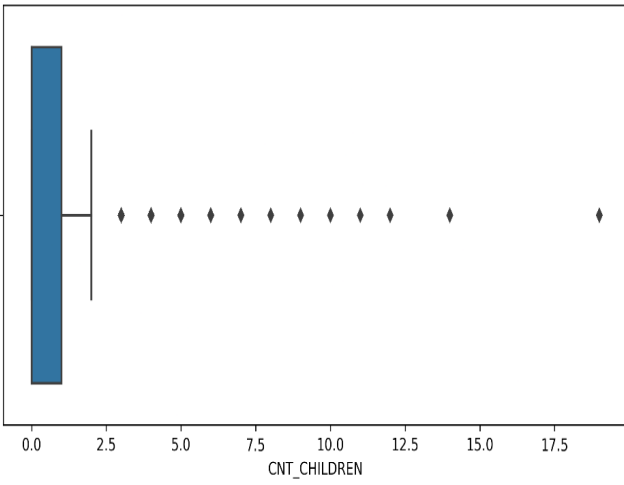
3. Imbalance ratio :11.39

4 . Univariate

- **Catogorical variables**

Credit Amount vs Education Status

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● Continous variable

Credit Amount vs Education Status

Bivarient for target 0 &1

Income amount vs Education Status

Credit amount vs Education Status

Credit Amount vs Education Status
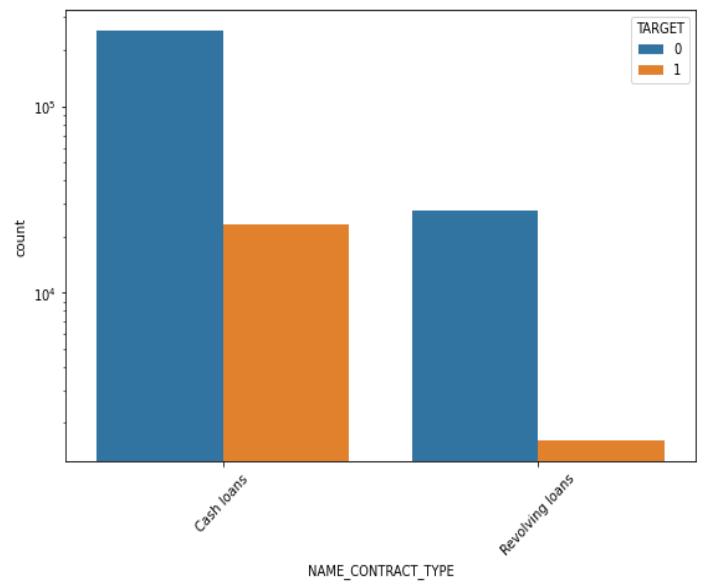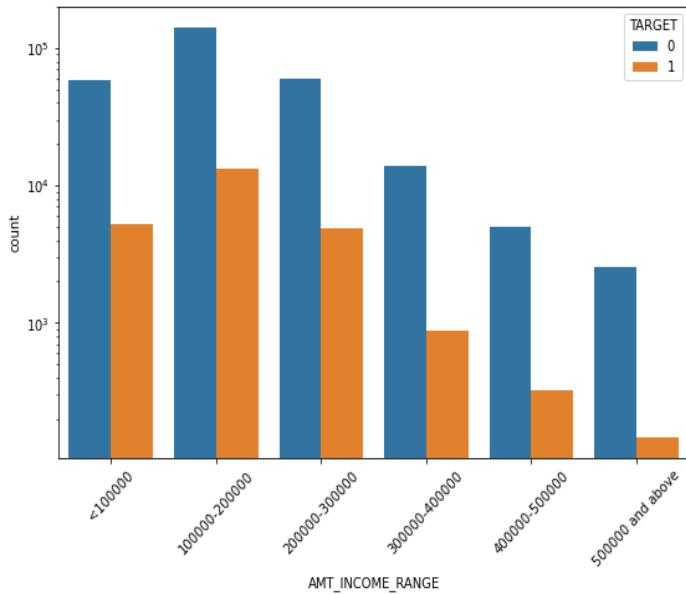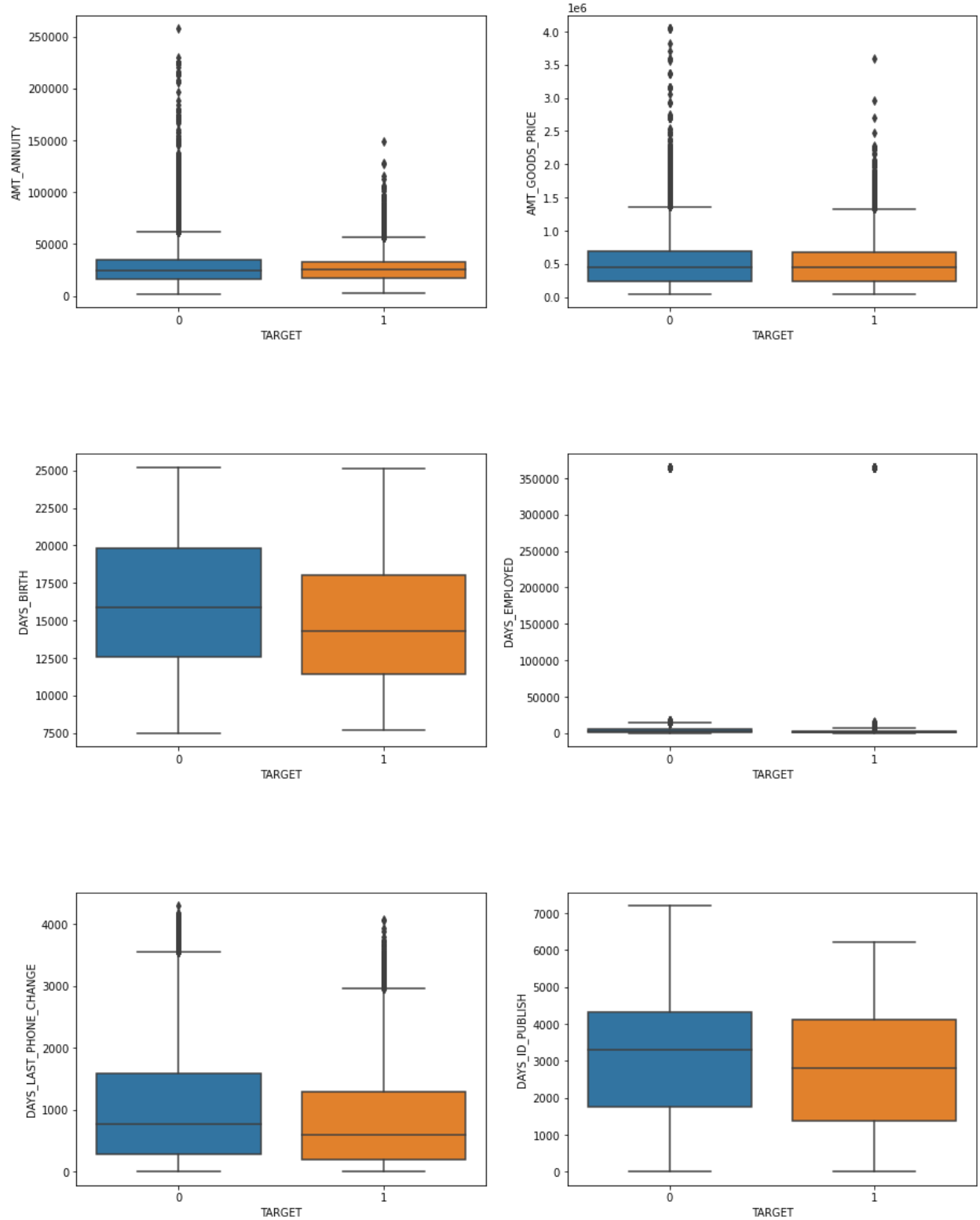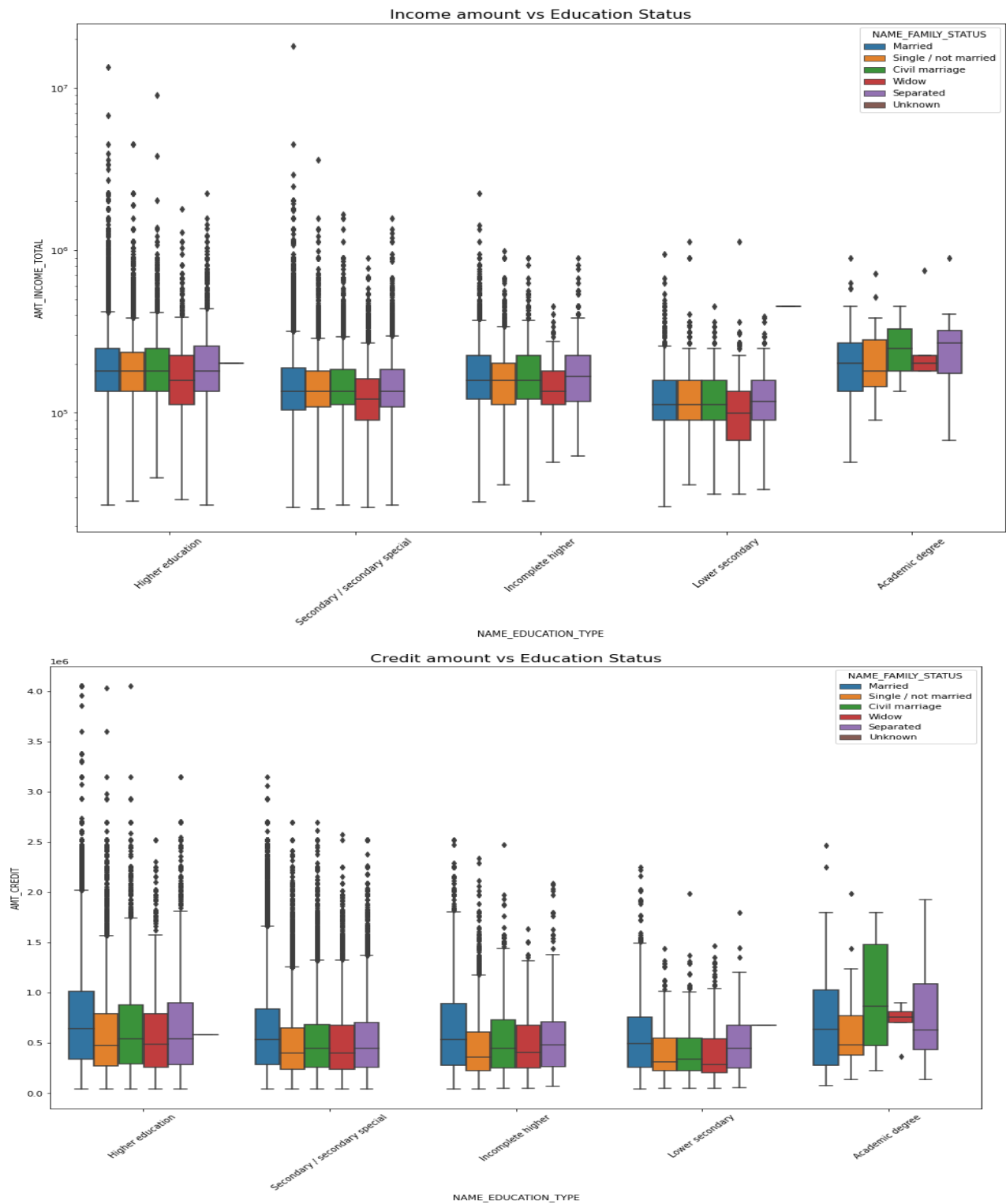
Correlation

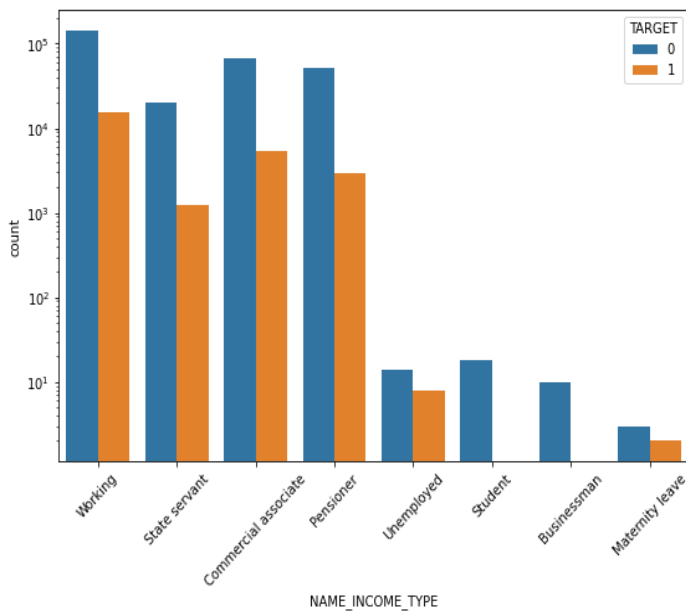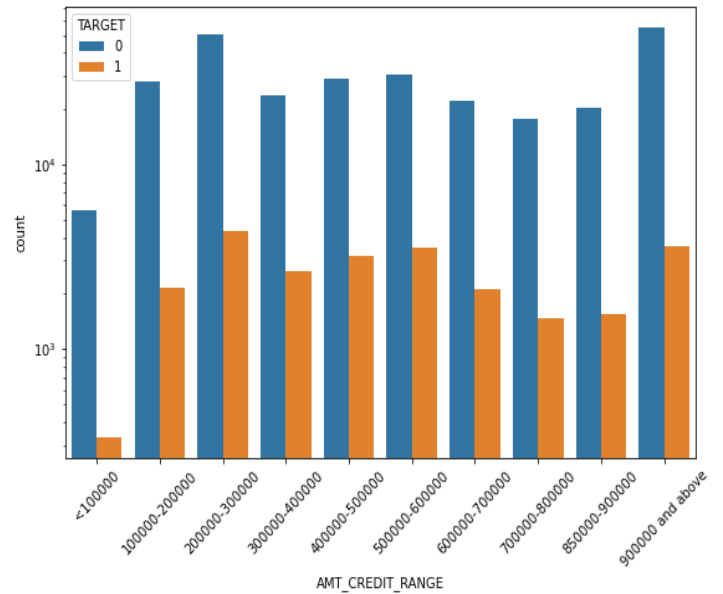|	Var1	va2	Correlation
649	OBS_60_CNT_SOCIAL_CIRCLE	OBS_30_CNT_SOCIAL_CIRCLE	1.0000
184	AMT_GOODS_PRICE	AMT_CREDIT	0.9900
680	DEF_60_CNT_SOCIAL_CIRCLE	DEF_30_CNT_SOCIAL_CIRCLE	0.8600
464	LIVE_REGION_NOT_WORK_REGION	REG_REGION_NOT_WORK_REGION	0.8600
557	LIVE_CITY_NOT_WORK_CITY	REG_CITY_NOT_WORK_CITY	0.8300
185	AMT_GOODS_PRICE	AMT_ANNUITY	0.7800
154	AMT_ANNUITY	AMT_CREDIT	0.7700
278	DAYS_EMPLOYED	DAYS_BIRTH	0.6300
433	REG_REGION_NOT_WORK_REGION	REG_REGION_NOT_LIVE_REGION	0.4500
526	REG_CITY_NOT_WORK_CITY	REG_CITY_NOT_LIVE_CITY	0.4400

1e6

Credit Amount vs Education Status

NAME_FAMILY_STATUS

	Var1	var2	Correlation
649	OBS_60_CNT_SOCIAL_CIRCLE	OBS_30_CNT_SOCIAL_CIRCLE	1.0000
184	AMT_GOODS_PRICE	AMT_CREDIT	0.9800
680	DEF_60_CNT_SOCIAL_CIRCLE	DEF_30_CNT_SOCIAL_CIRCLE	0.8700
464	LIVE_REGION_NOT_WORK_REGION	REG_REGION_NOT_WORK_REGION	0.8500
557	LIVE_CITY_NOT_WORK_CITY	REG_CITY_NOT_WORK_CITY	0.7800
185	AMT_GOODS_PRICE	AMT_ANNUITY	0.7500
154	AMT_ANNUITY	AMT_CREDIT	0.7500
278	DAYS_EMPLOYED	DAYS_BIRTH	0.5800
433	REG_REGION_NOT_WORK_REGION	REG_REGION_NOT_LIVE_REGION	0.5000
526	REG_CITY_NOT_WORK_CITY	REG_CITY_NOT_LIVE_CITY	0.4700

Credit Amount vs Education Status

1e6

Distribution of contract status with purposes

NAME_CONTRACT_STATUS
- Approved
- Canceled
- Refused
- Unused offer

count

NAME_CASH_LOAN_PURPOSE

XAP, XNA, Repairs, Other, Urgent needs, Buying a used car, Building a house or an annex, Everyday expenses, Medicine, Payments on other loans, Education, Journey, Purchase of electronic equipment, Buying a new car, Wedding / gift / holiday, Buying a home, Car repairs, Furniture, Buying a holiday home / land, Business development, Gasification / water supply, Buying a garage, Hobby, Money for a third person, Refusal to name the goal

Credit Amount vs Education Status

1e6

Distribution of purposes with target

Credit Amount vs Education Status

Prev Credit amount vs Housing type

Credit Amount vs Education Status

Conclusion:

The above mentioned insights will help banks to prioritize the loan providing issues ang help them to reduce the risk.

Credit Amount vs Education Status