GRADED EDA BANK LOAN ASSIGNMENT

Analysis Approach

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┌─────────────────────┐     ┌─────────────────────┐     ┌─────────────────────┐
│ Understanding       │ ──▶ │ Understanding data  │ ──▶ │ Data Imputation     │
│ Problem Statement   │     │                     │     │                     │
└─────────────────────┘     └─────────────────────┘     └─────────────────────┘
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┌─────────────────────┐     ┌─────────────────────┐     ┌─────────────────────┐
│ Data Analysis       │ ◀── │ Outlier Analysis    │ ◀── │ Data Cleaning       │
└─────────────────────┘     └─────────────────────┘     └─────────────────────┘
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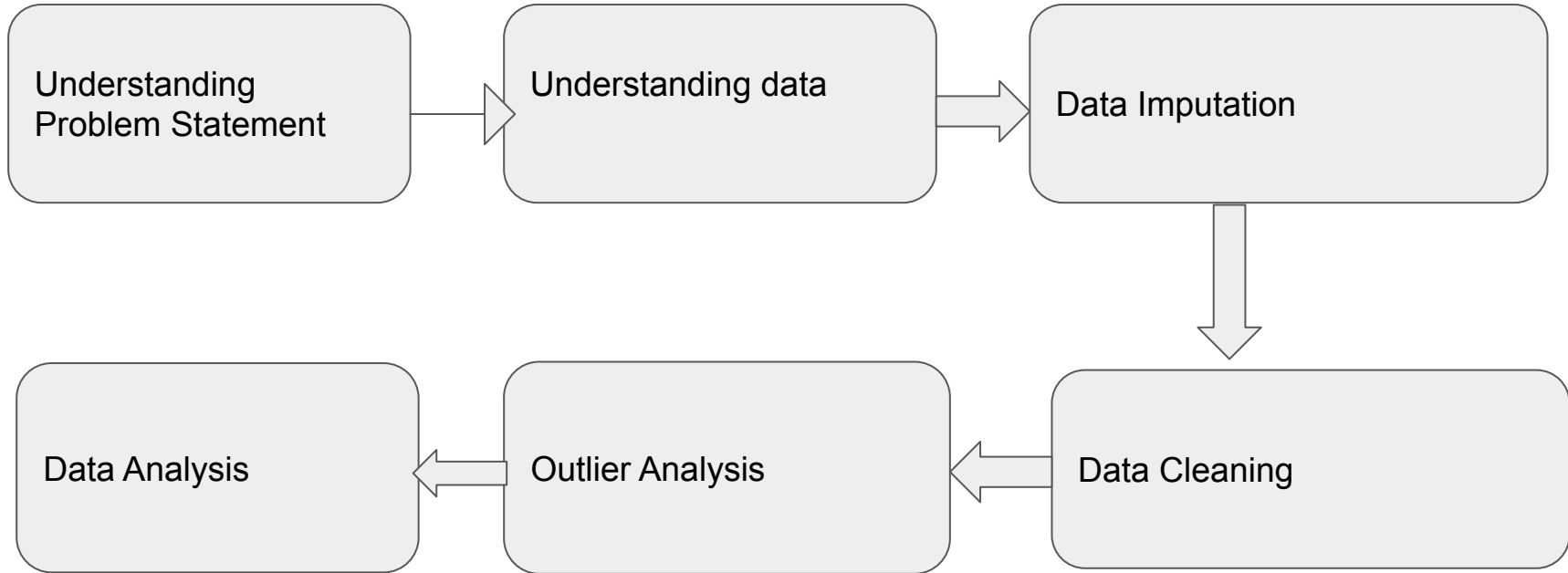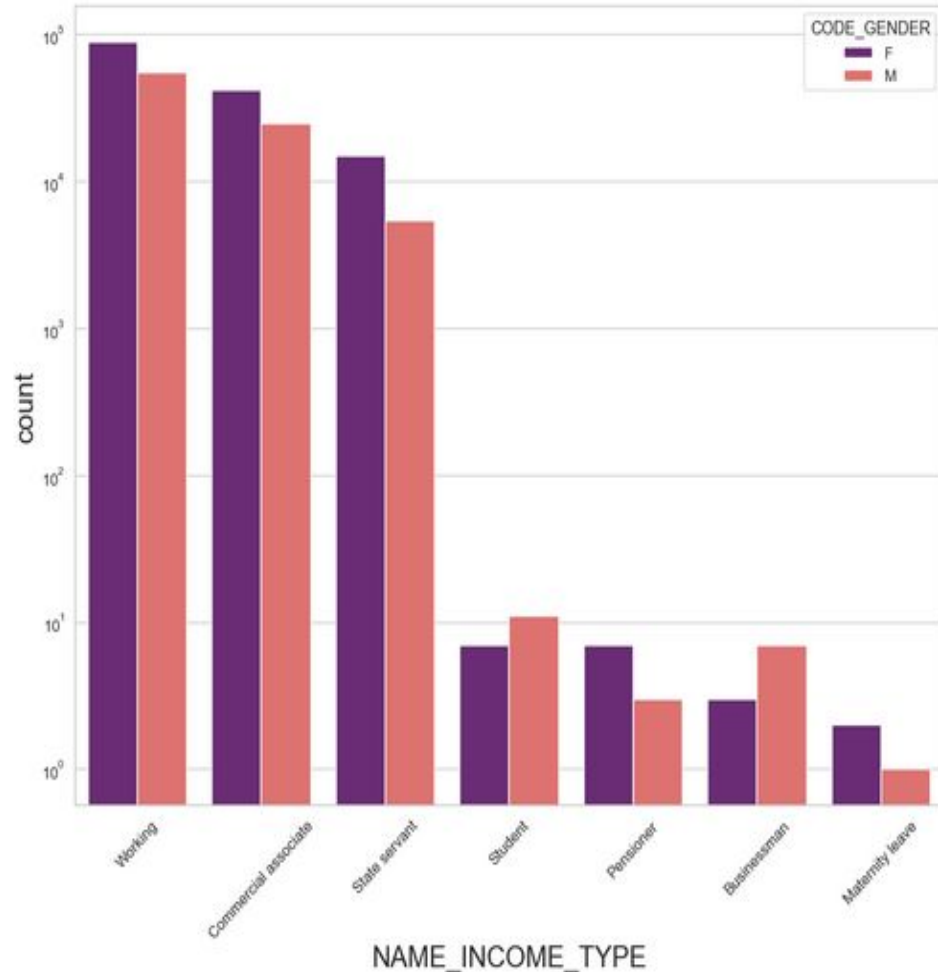
Univariate Analysis for Target 0

Distribution of income range
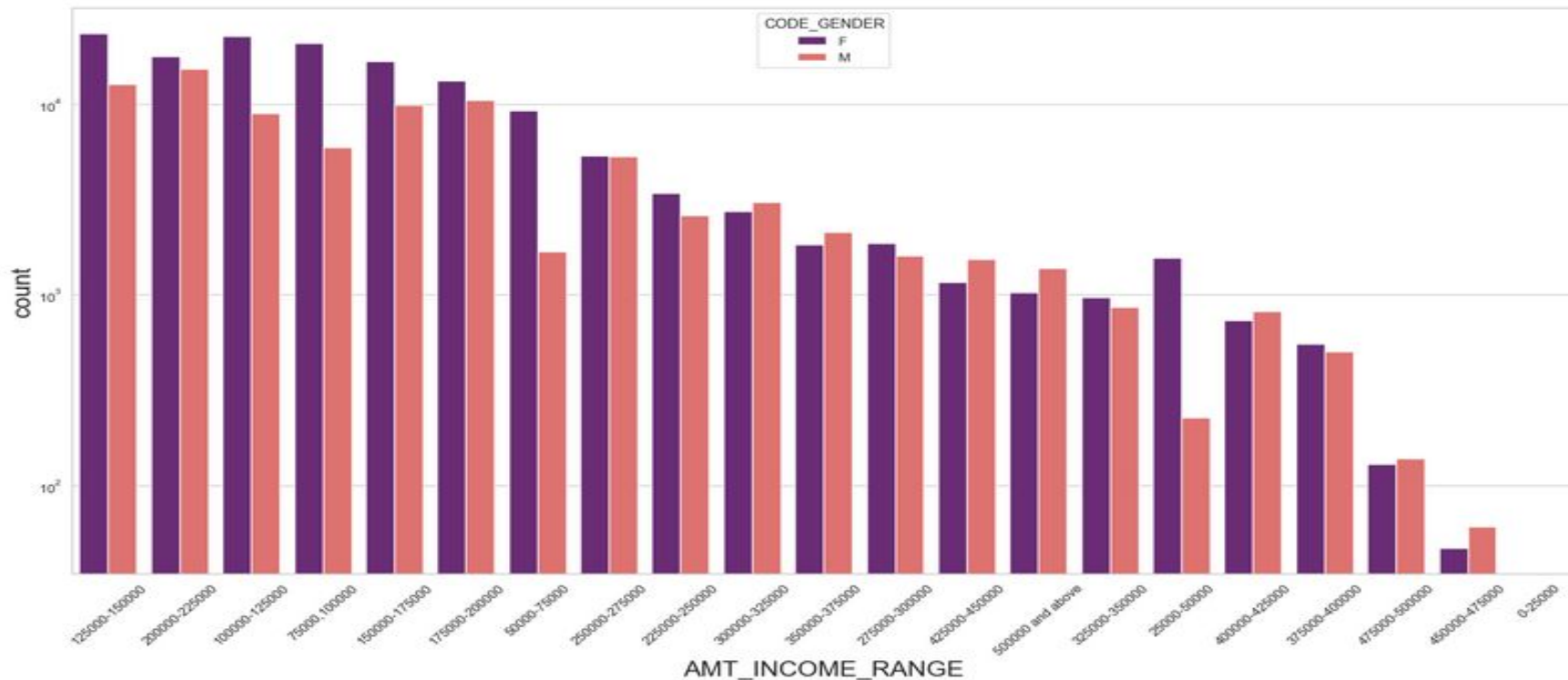
Conclusion from this graph:
- F means Female count is more than M Means Male
- Range from 100000 to 200000 having more counts
- There is much less count for range >400000

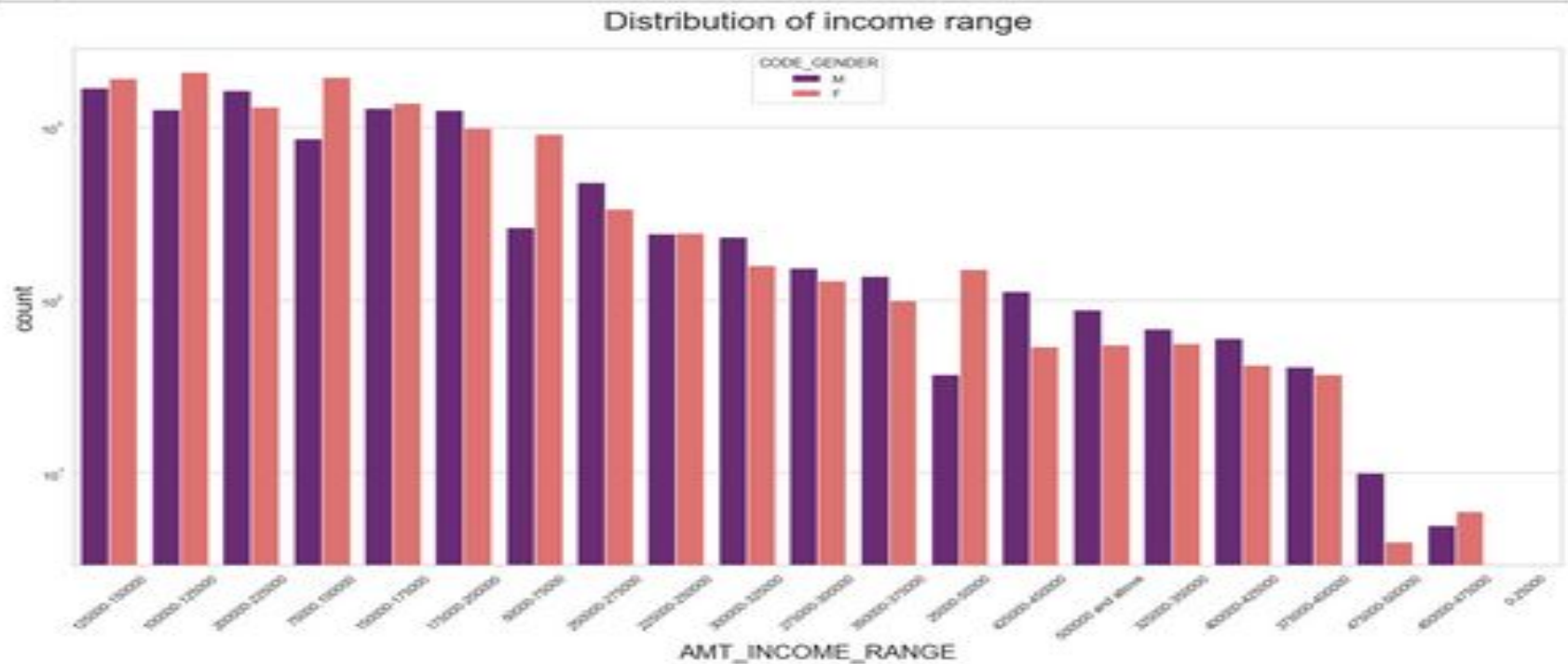## Distribution of Income type

From this graph we can conclude that :

- Working,Commercial Associate, and State Servant income types have higher credit score than others types
- Also F (Female) have top credit score than Male.
- Businessman, student and other category people have much less credit .

Distribution of contract type
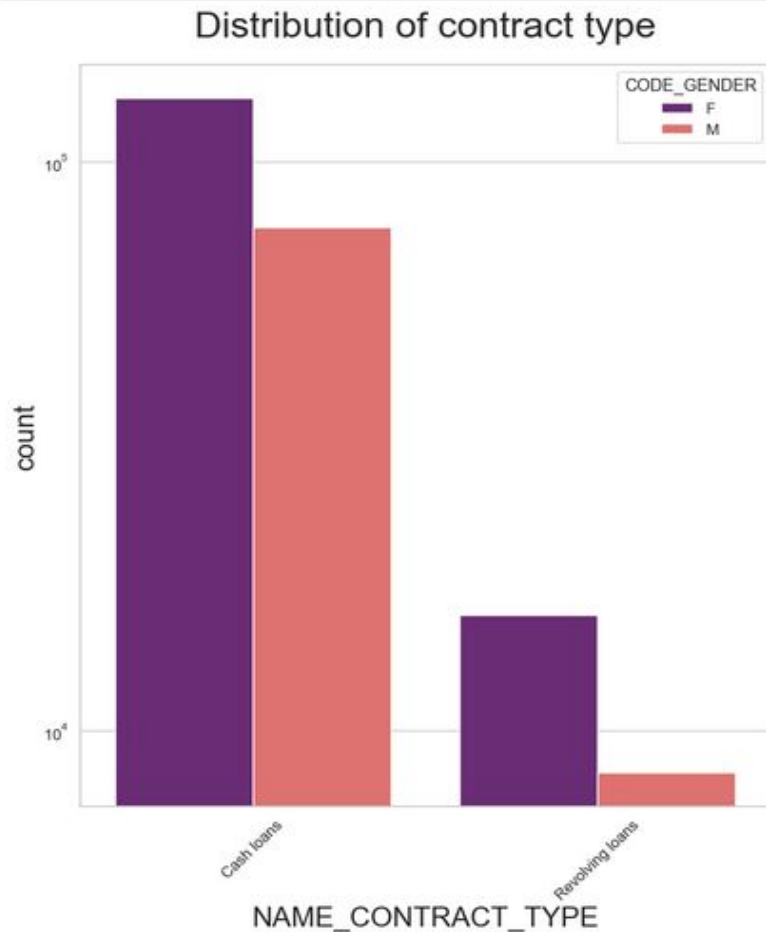
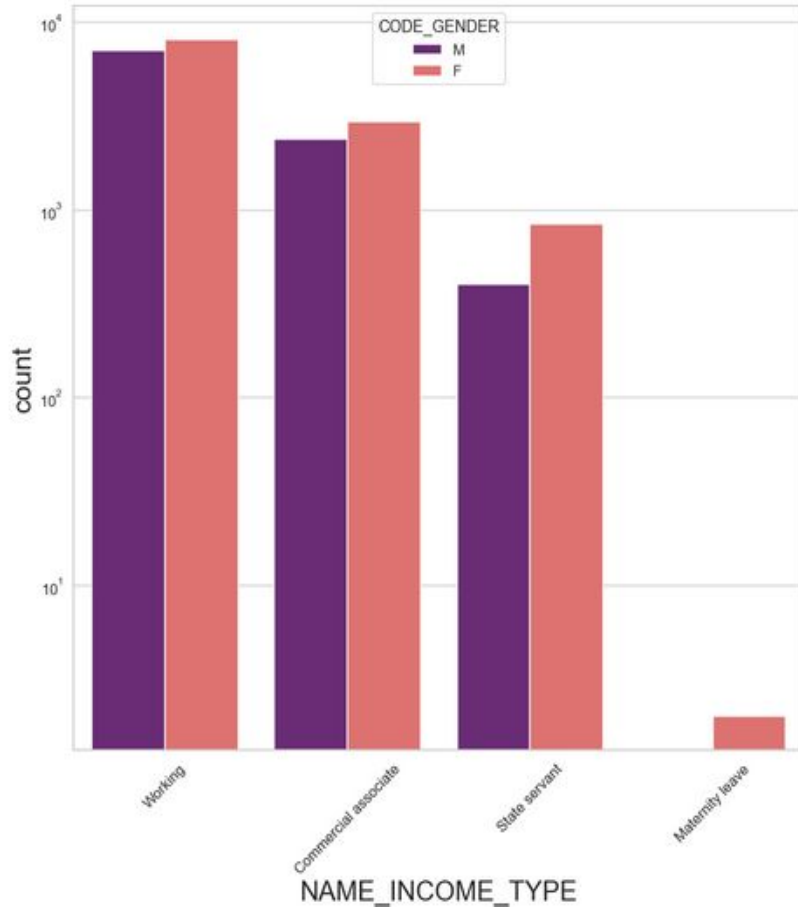From this graph we can conclude that :

- Contract type Cash Loan have major credit than Revolving Loan
- Here also Female is in lead for applying loans

Univariate Analysis for target=1

Distribution of income range

From this graph we can conclude that:

- Male count is higher than female count.
- Income range from 100000 to 200000 have major number of credits.
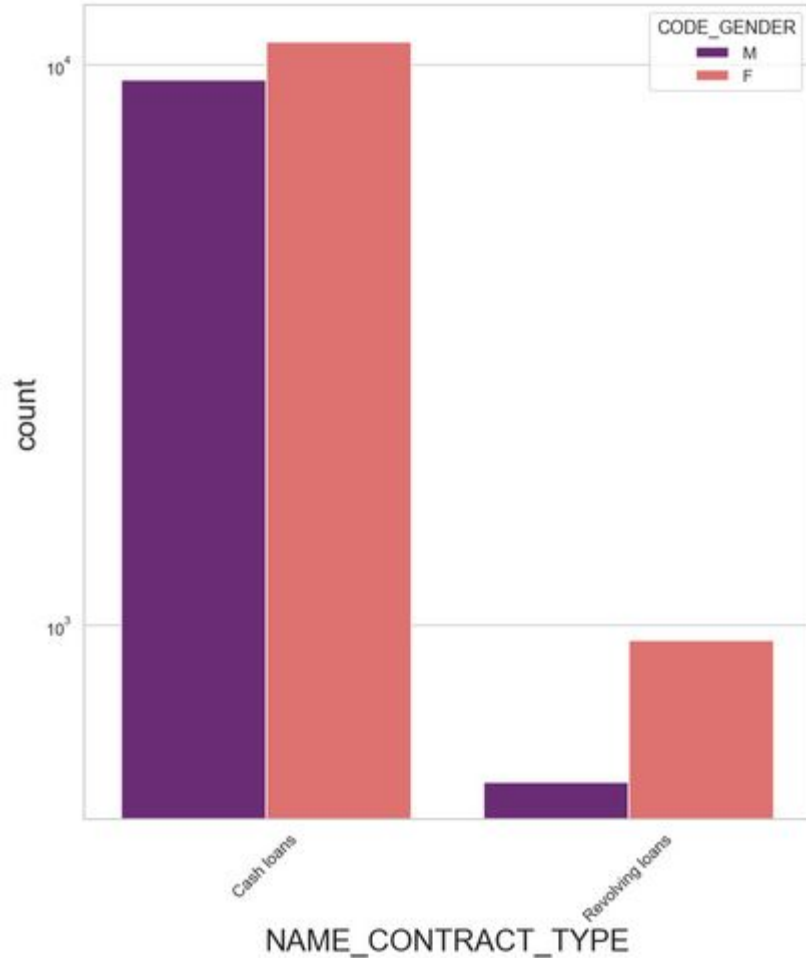- Here very less count for income range > 400000

Income type Distribution

From this graph we can conclude that:

- Female have larger credits than male
- Working type have major credit than any other.
- Maternity leave have much less credit as compare to other income type.

Income type Distribution

From the above graph we conclude:

- For 'cash loans' contact type, is having higher number of credits than 'Revolving loans' contact type..
- Also Females are leading here.

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.
- less children client have in dense area.
- Credit amount is higher to dense area.
- The income is also higher in dense area

Correlation for target 0
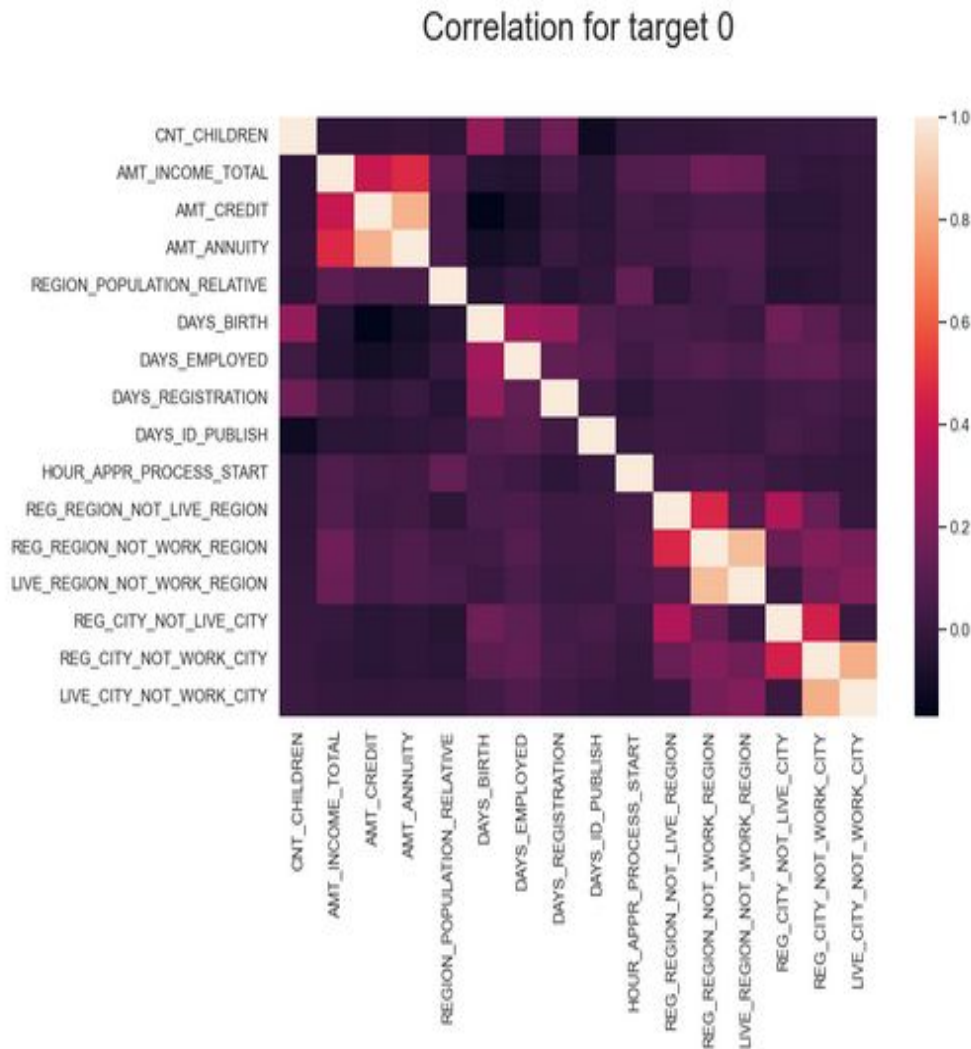
Correlation for Target 1

- This heat map for Target 1 is also having quite a same observation just like Target 0. But for few points are different. They are listed below.
- 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

Correlation for target 1

Distribution of purposes with target — Distribution of contract status with purposes
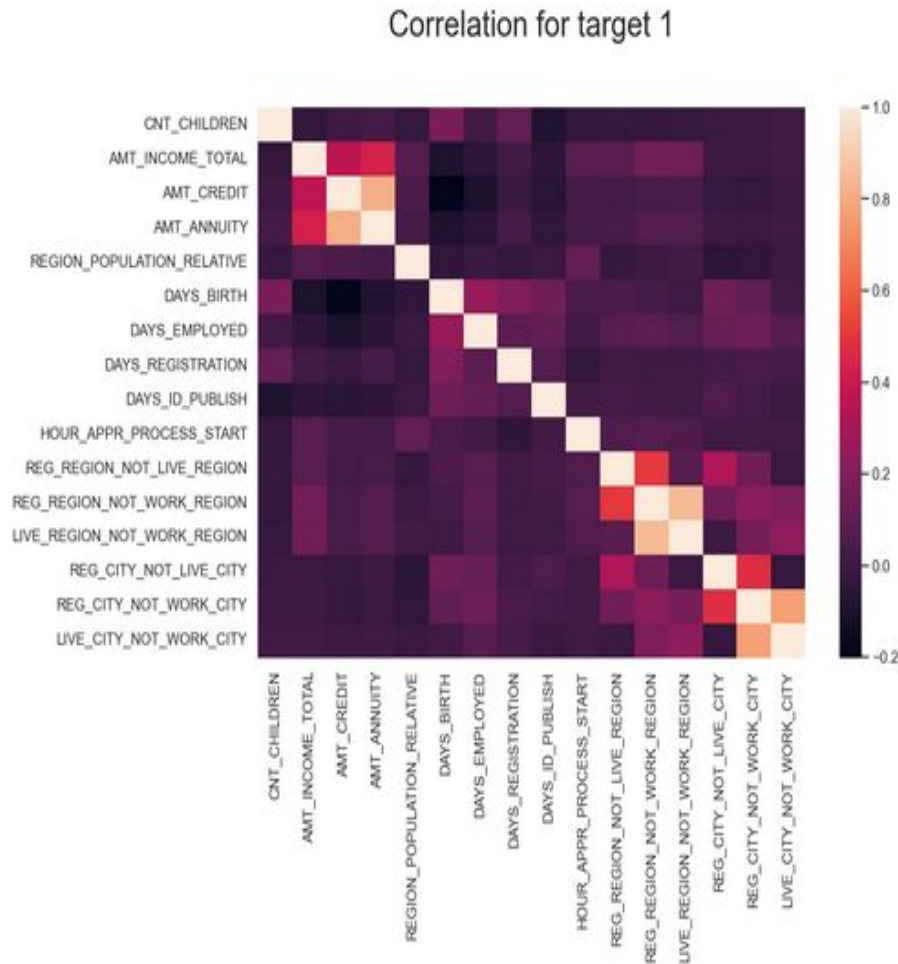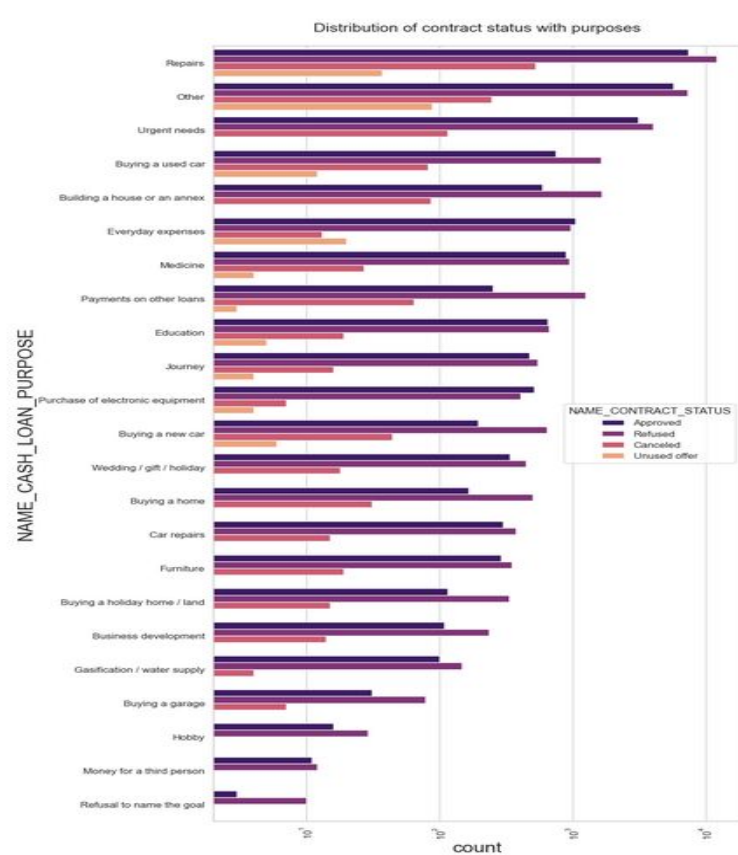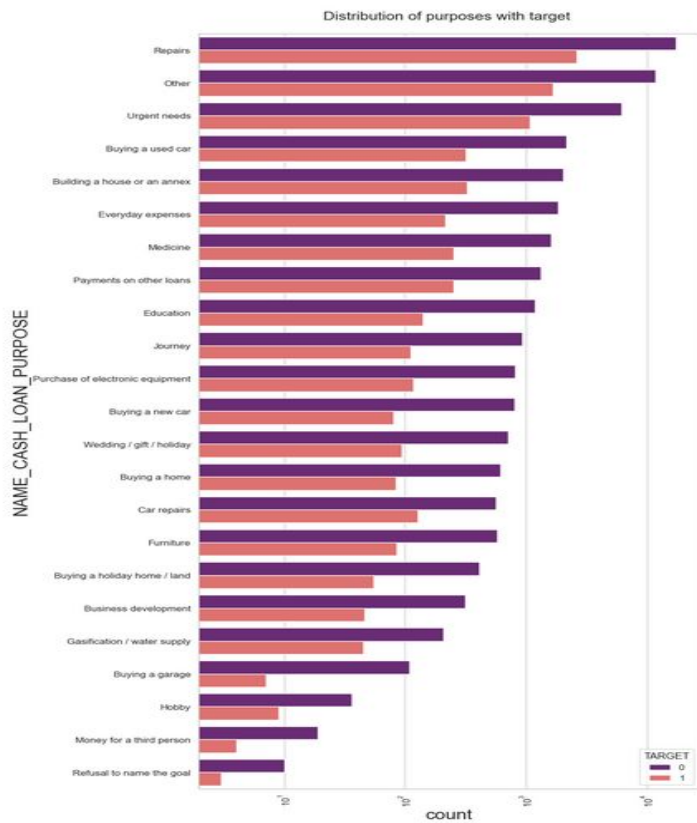
- For Loan purposes 'Repairs' are facing more difficulties and refused in payment.
- Education purpose have equal amount of refuse and accept loan amount.

So using this visual we can concentrate on purposes with having minimal payment difficulty.

Prev Credit amount vs Loan Purpose
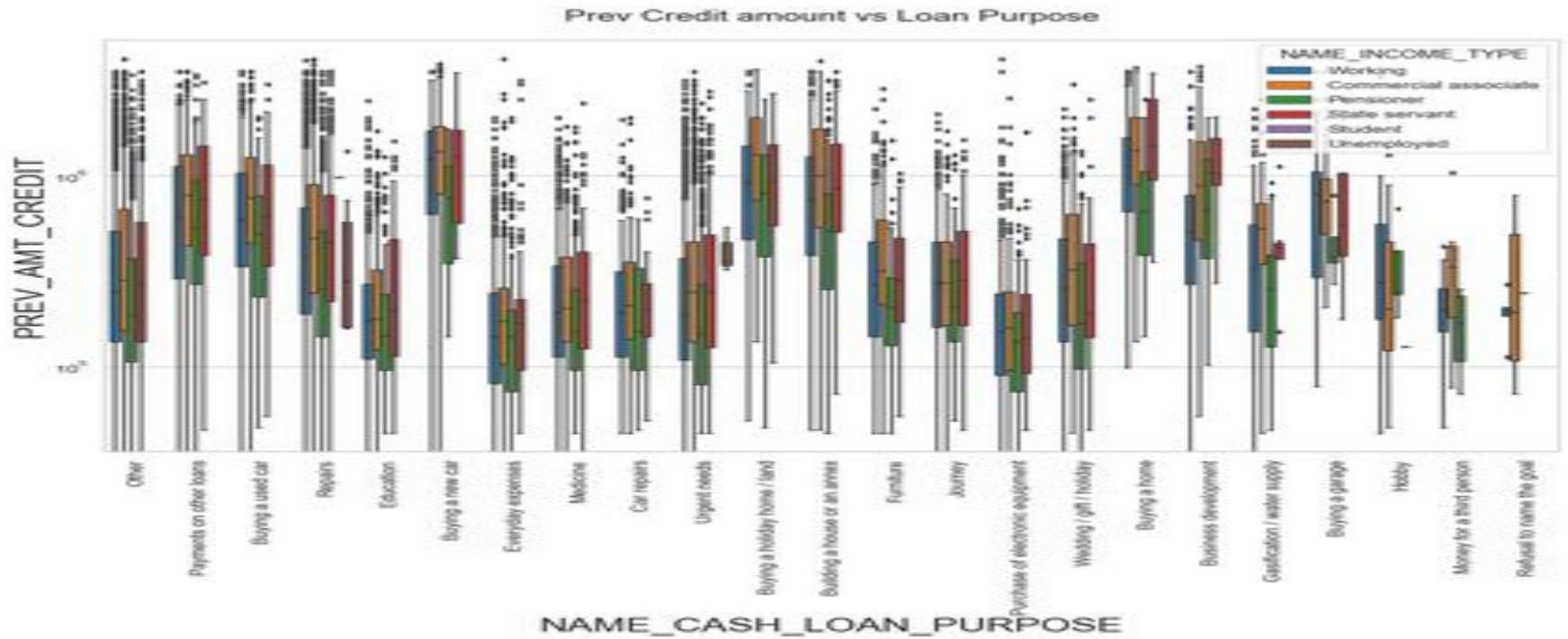
From the above we can conclude:

- 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
- Hobby or a Money for third person is having much less credits applied.

Prev Credit amount vs Housing type
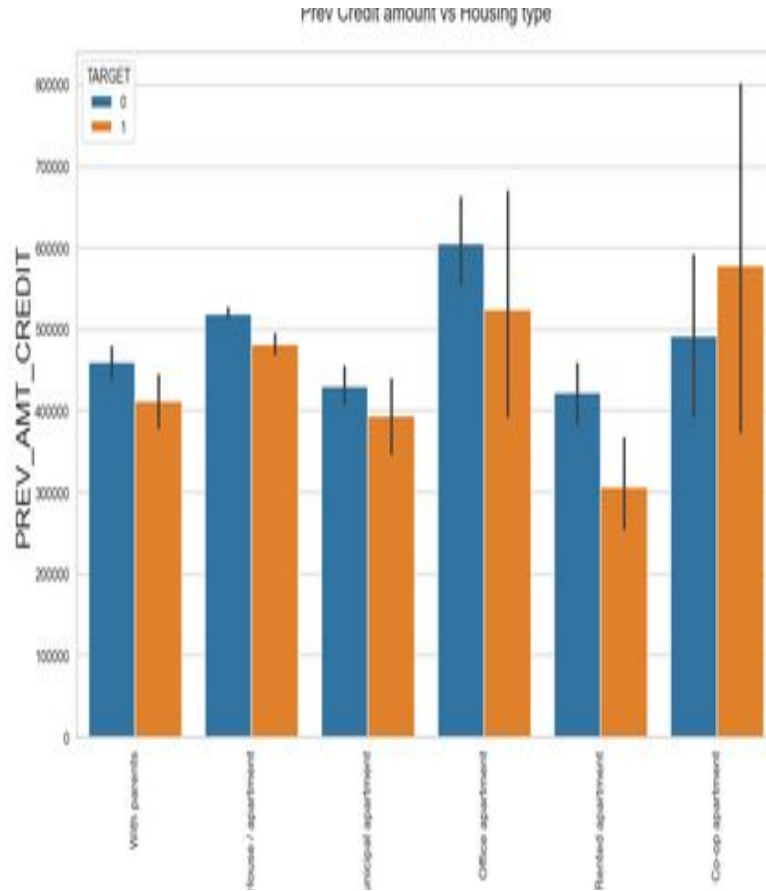
Here Housing type, office appartment is having higher credit score of target 0 and co-op apartment is having higher credit score of target 1. So, base on this data we conclude at bank should avoid giving loans to the housing type of co-op apartment as they are having difficulties in payment. Bank can focus mostly on housing type with parents or House\appartment or miuncipal appartment for successful payments.

CONCLUSION

1. Based on data 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.

Thank You !