Lending Club Case Study :

- **Problem Statement** :

Lending Club wants to identify loan applicants who are likely to default. This helps them minimize losses and make better lending decisions.

- By Sharique Seraj.

   UpGrad

Batch : ML C70

Email id : sharique035@gmail.com

Mob No. : 8709665897

The Loan Approval Process

- Applicants submit loan applications with personal and financial information.

- The company analyzes applications through automated systems and human review.

- Based on the analysis, a loan approval or rejection decision is made.

- Approved applicants receive loan funds, while rejected applicants may be provided with feedback.

Risks Associated with Loan Decisions

- **Lost Business :**

Rejecting a loan application from a reliable borrower could lead to lost business opportunities.

- **Default Risk :**

Approving a loan to a borrower who is unable or unwilling to repay can result in financial losses for the company.

Data-Driven Success

- Lending Club successfully leverages data to improve loan approval decisions, leading to greater efficiency and profitability.

- **Data Cleaning and Preprocessing** :

➢Loading the data.

➢Displaying basic information and summary of the dataset.

➢Finding missing values.

➢Dropping columns with more than 40% missing values.

➢Filling remaining missing values.

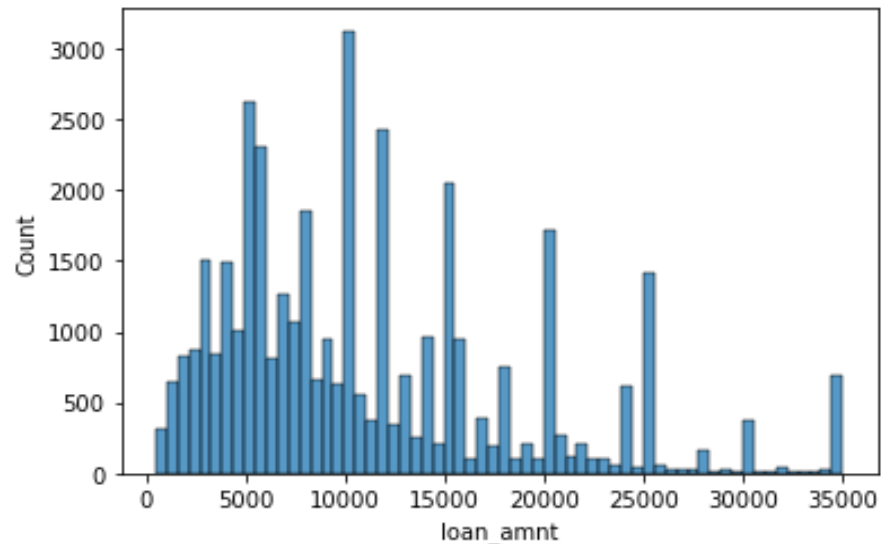# EDA (Exploratory Data Analysis)

- ## 1. Univariate Analysis :
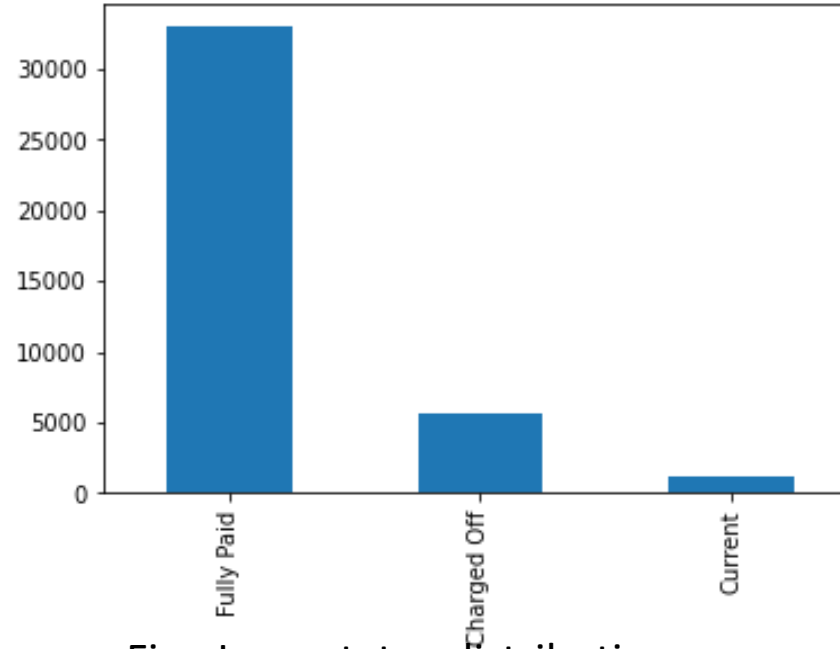

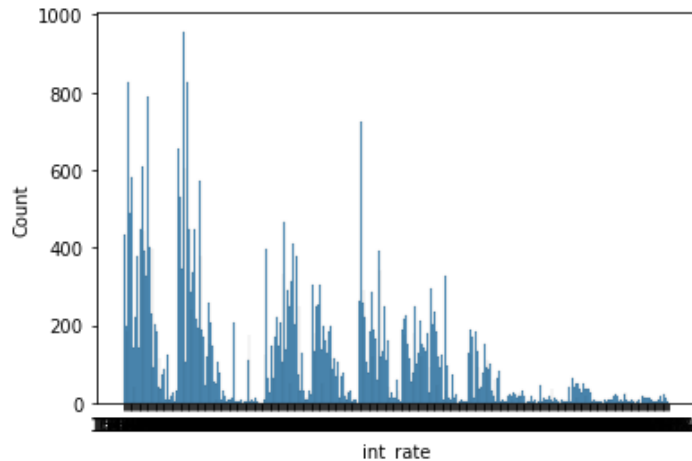Fig : Distribution of loan amounts.
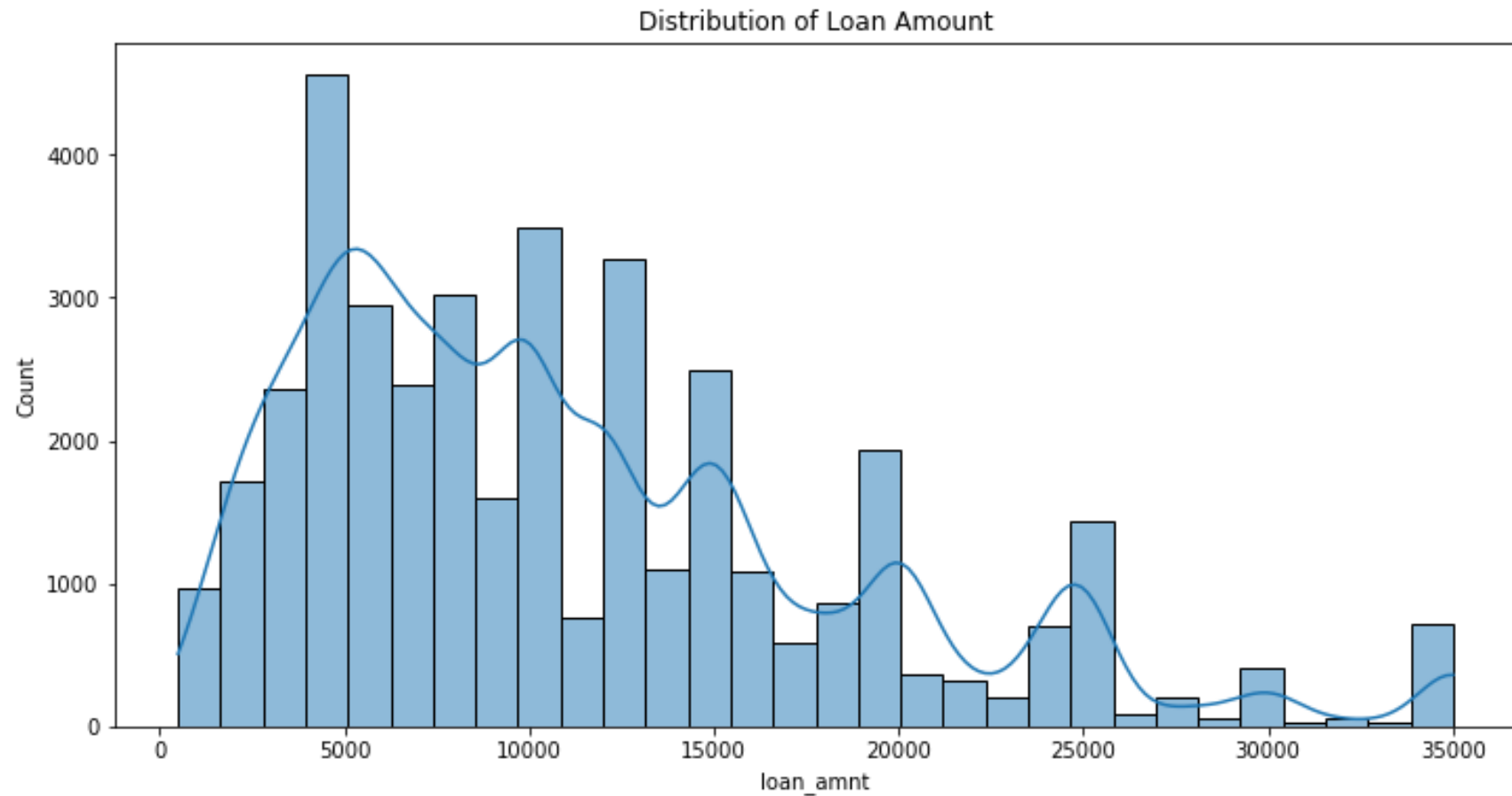

Fig : Loan status distribution:

Fig: Interest rate distribution.

Analyzing numerical features

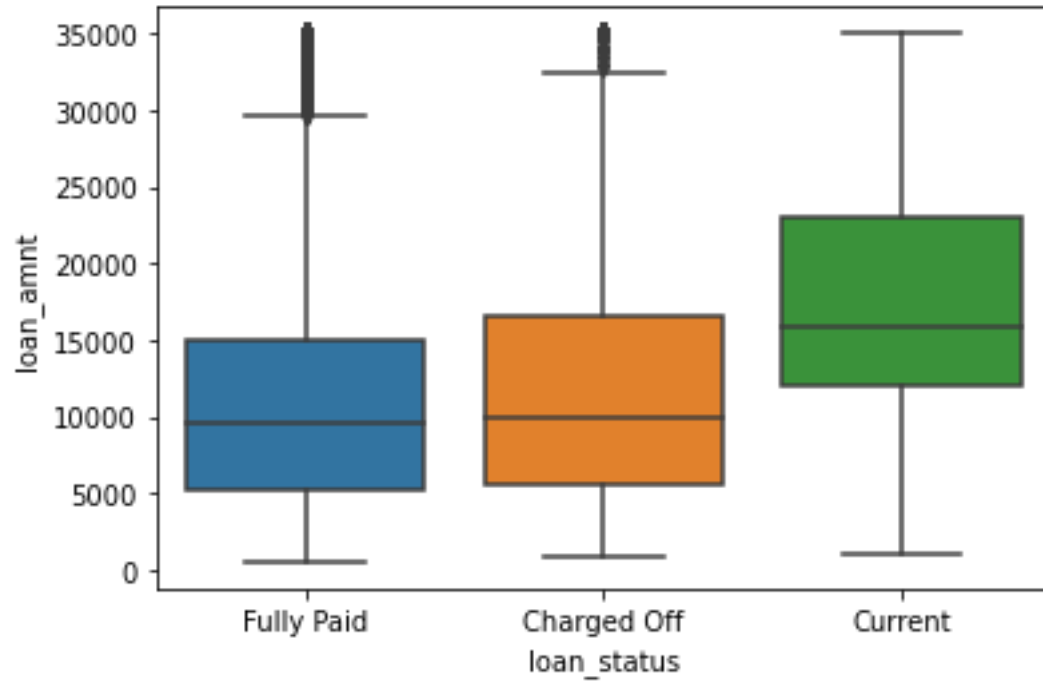Distribution of Loan Amount

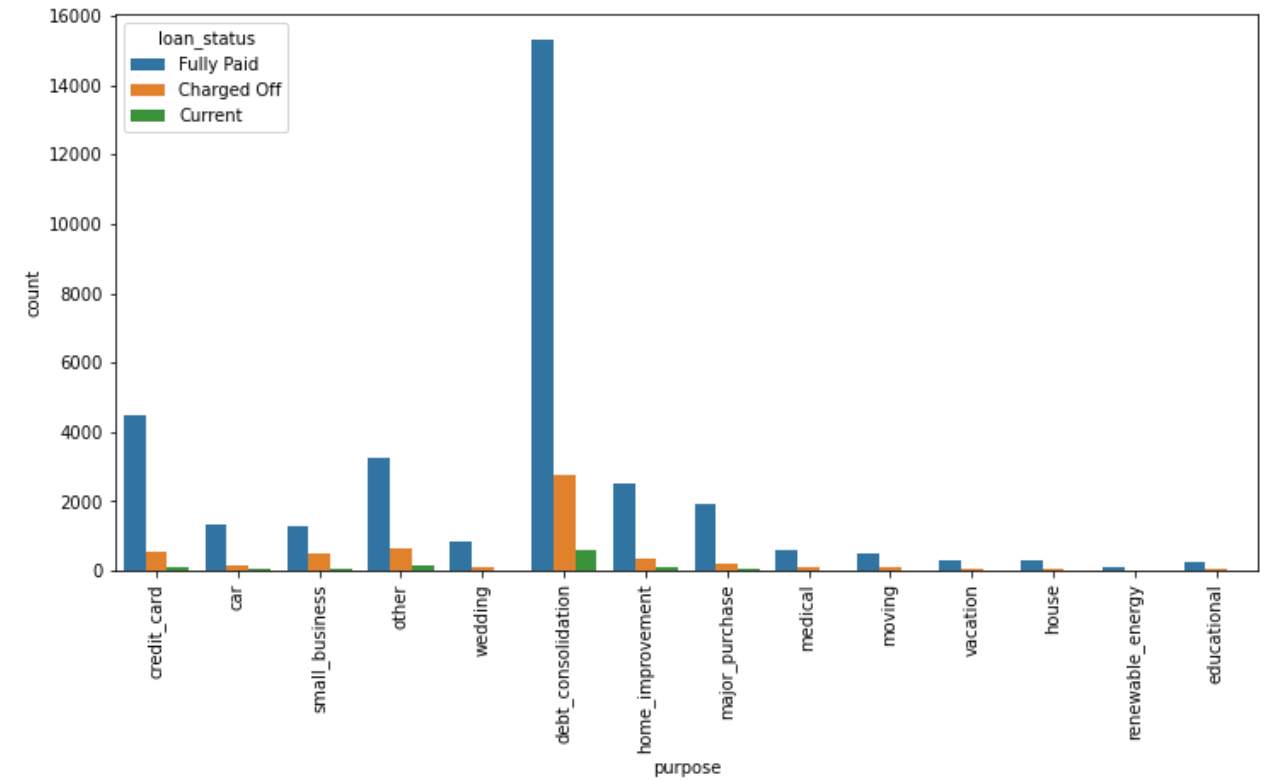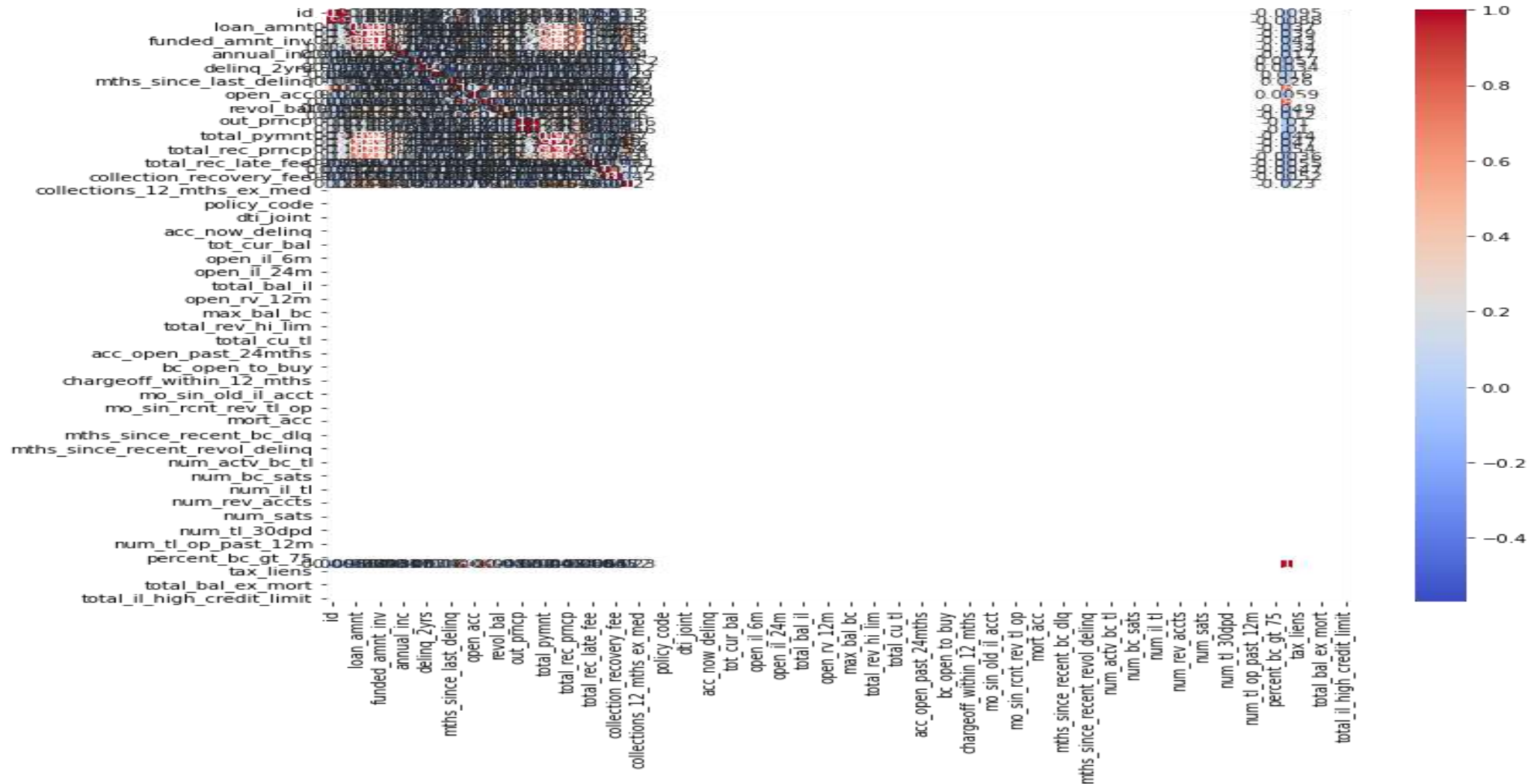# 2. Bivariate Analysis

Fig : Loan amount vs loan status.

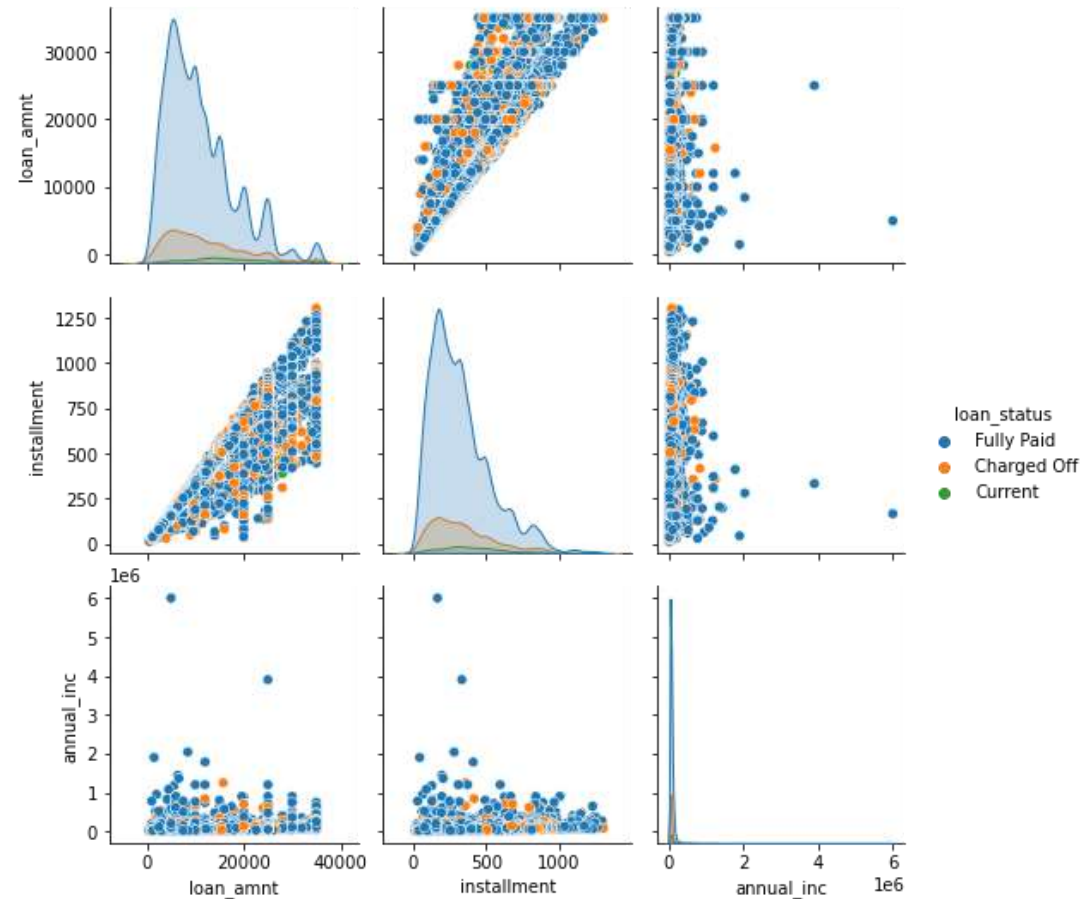Fig : Purpose of loan vs loan status.

Correlation Analysis :

Other EDA findings.

Insights and Conclusions :

- Higher interest rates correlate with higher default rates.

- Lower grade loans show higher chances of default.

- Loan amount and annual income impact default probability.

- Loans taken for small business and debt consolidation show higher default tendencies