Part_II_slide_deck_template

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1 Part II - (Loan Data from Prosper)

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1.2 Investigation Overview

The overall goals of this presentation is to show: 1. Original Loan Amount of Borrowers 2. loan amounts of different listing categories 3. Loan Amount Based on Term Length and Listing Category.

1.3 Dataset Overview

The data set contains 113,937 loans with 81 variables on each loan, including loan amount, borrower rate (or interest rate), current loan status, borrower income, and many others.

```
In [1]: # import all packages and set plots to be embedded inline
        import numpy as np
        import pandas as pd
        import matplotlib.pyplot as plt
        import seaborn as sb

        %matplotlib inline

        # suppress warnings from final output
        import warnings
        warnings.simplefilter("ignore")

In [2]: # load in the dataset into a pandas dataframe
        loan_data = pd.read_csv('prosperLoanData.csv')

In [12]: #inputting corresponding listing category to corresponding number and changing the colu
         loan_data['ListingCategory (numeric)'] = loan_data['ListingCategory (numeric)'].replace
                                                                         2: 'Home I
                                                                         4: 'Person
                                                                         7: 'Other'
                                                                        10: 'Cosme
                                                                        12: 'Green
                                                                        14: 'Large
```

```
loan_data.rename(columns={'ListingCategory (numeric)':'ListingCategory'}, inplace=True)
```

Note that the above cells have been set as "Skip"-type slides. That means that when the notebook is rendered as http slides, those cells won't show up.
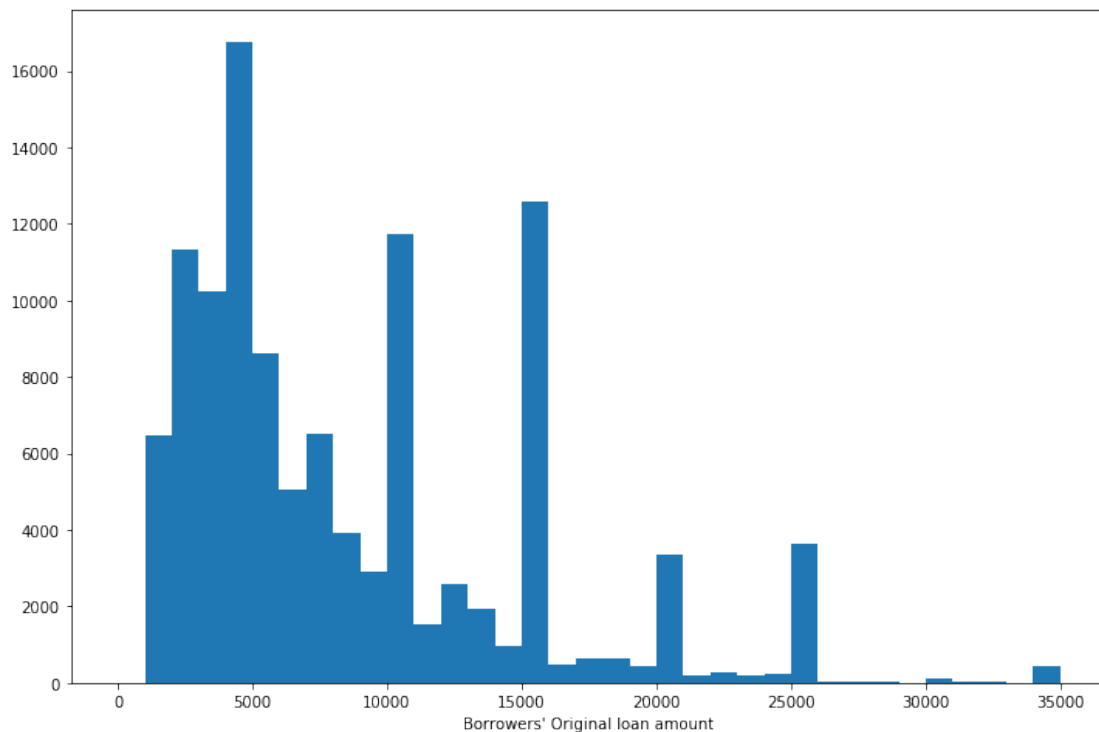
1.4 Original Loan Amount

Highest loan amounts are about 14000.

```
In [3]: #plotting a histogram for original loan amounts
        plt.figure(figsize = [12, 8])
        binsize= np.arange(0, loan_data['LoanOriginalAmount'].max()+1000, 1000)
        plt.hist(data= loan_data, x = 'LoanOriginalAmount', bins= binsize)
        plt.xlabel("Borrowers' Original loan amount");
```
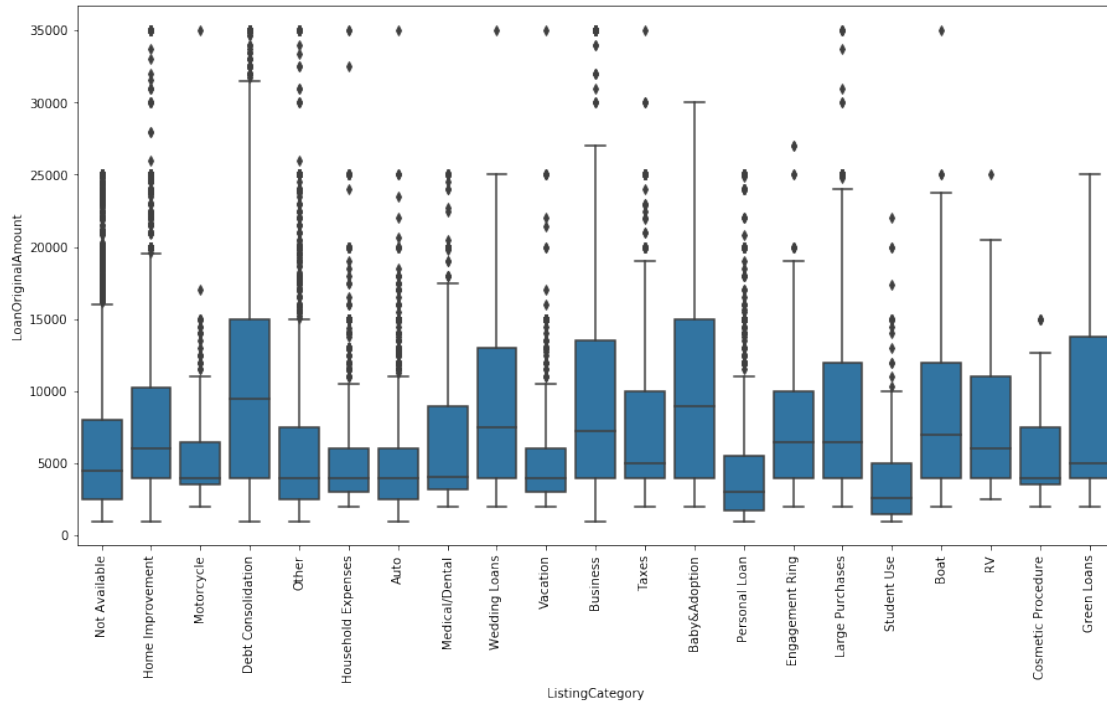

1.5 Loan Amounts of Different Listing Categories

Green loans, debt consolidation, business, and baby & adoption had the highest loan amounts.

```
In [13]: #boxplot for loan amounts of different listing categories
         plt.figure(figsize = [15, 8])
         sb.boxplot(data = loan_data, x = 'ListingCategory', y = 'LoanOriginalAmount', color = s
         plt.xticks(rotation = 90);
```

1.6 Loan Amount Based on Term Length and Listing Category

The highest green loan amount is a 12-term loan.

```
In [14]: #bar plot for Loan Amount Based on Term Length and Listing Category
         fig = plt.figure(figsize = [15,7])
         ax = sb.barplot(data = loan_data, x = 'ListingCategory', y = 'LoanOriginalAmount',  hue
         plt.title('Loan Amount Based on Term Length and Listing Category')
         plt.xlabel('Listing Category')
         plt.ylabel('Loan Amount')
         plt.xticks(rotation = 90)
         ax.legend(loc='center right', title='Term')
         plt.show();
```

Loan Amount Based on Term Length and Listing Category
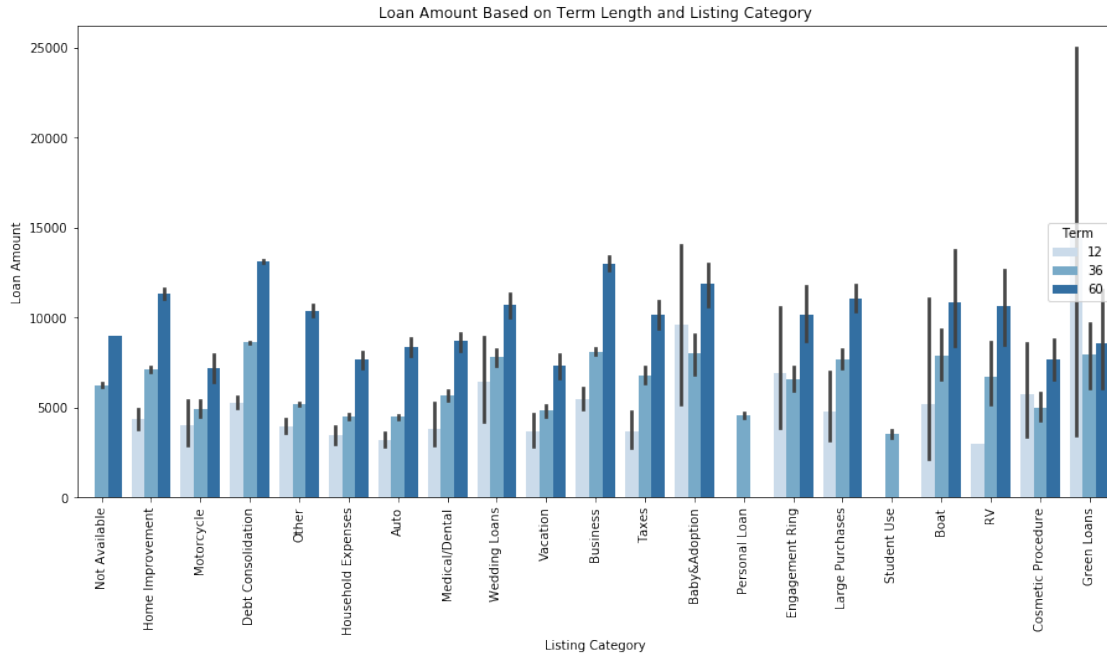
1.6.1 Generate Slideshow

Once you're ready to generate your slideshow, use the `jupyter nbconvert` command to generate the HTML slide show.

```
In [ ]: # Use this command if you are running this file in local
        !jupyter nbconvert <Part_II_Filename>.ipynb --to slides --post serve --no-input --no-pro
```

In the classroom workspace, the generated HTML slideshow will be placed in the home folder.

In local machines, the command above should open a tab in your web browser where you can scroll through your presentation. Sub-slides can be accessed by pressing 'down' when viewing its parent slide. Make sure you remove all of the quote-formatted guide notes like this one before you finish your presentation! At last, you can stop the Kernel.

1.6.2 Submission

If you are using classroom workspace, you can choose from the following two ways of submission:

1. **Submit from the workspace**. Make sure you have removed the example project from the /home/workspace directory. You must submit the following files:

   - Part_I_notebook.ipynb
   - Part_I_notebook.html or pdf
   - Part_II_notebook.ipynb

- Part_I_slides.html
- README.md
- dataset (optional)

2. **Submit a zip file on the last page of this project lesson**. In this case, open the Jupyter terminal and run the command below to generate a ZIP file.

   ```
   zip -r my_project.zip .
   ```

   The command abobve will ZIP every file present in your /home/workspace directory. Next, you can download the zip to your local, and follow the instructions on the last page of this project lesson.

In [ ]: