1. In 250-500 words, write a thorough discussion of when to use ML and when not to. Do NOT go over the 500-word limit. It is essential to express this concisely. This should be informed by the Machine Learning for Business DataCamp course.
2. Perform pre-processing on the Lending Club dataset from class. Clearly use markdown to indicate each pre-processing step you are using. Note: this question is worth twice as many points as the others. It should be rather lengthy.
3. Create a correlation matrix with a heatmap for the features in the Lending Club dataset. Use markdown to write about your takeaways in under 250 words.
4. Create a histogram showing the frequency of loan\_amounts. Describe what you see. Pay special attention to bin sizes, and clearly describe how you chose your bin sizes.
5. Create a new column called region that uses a lambda and shows which part of the US someone lives in, split up into Pacific, Plains, Midwest, Northeast, and South. Consider having your lambda call a function.
   1. Is there a better way to do this than with a lambda?
   2. Either use two different lambdas or a lambda and a different technique and see which one is more performant. Explain your findings in the markdown.
6. Create subplot histograms to show if loan\_amounts differ by region.