

Lending Club

1. In **Tableau**, connect to the **lending_club.csv** file. Make sure that you have taken the time to go through the data dictionary for the various variables and update the data types for any variables that might have been imported incorrectly.

In order to answer the business questions discussed earlier, you will need to make a number of calculated fields from the data.

2. Create a calculated field called **Total Annual Income**
 - This field represents the addition of the **Annual Income** variable and the **Annual Income Joint** variable.
 - Note: Although "Annual Income Joint" already includes Annual Income, for educational purposes, we will pretend you need to add the two values to get "Total Annual Income". (Be careful and check your data types for these two fields. Both fields should be a decimal data type.)
 - If your **Annual Income Joint** variable is a numerical data type, you will notice that it has null values.
 - Review this [Tableau article](#), for working with null values or your calculation might not work as expected.
3. Create a calculated field called **DTI**
 - This field represents the [debt-to-income ratio](#). You will calculate it by taking the **Total Debt** variable and dividing it by **Total Annual Income** calculated in the previous step. We want a percentage, so in the calculated field, **multiply your answer by 100** and **round to 2 decimal places**.

To answer our first two business questions about distributions, you will create two initial distribution plots to look at the distribution of data.

4. Build a **distribution plot** (histogram) for **Total Annual Income**
 - Change **bin size** to **25,000**

- The x-axis **Major tick-mark interval** should be **25,000**
- Change the title to **Total Annual Income Distribution: <Student Name>**

5. Build a **distribution plot** for **DTI**

- Ensure that the **bin size** is **1**
- The x-axis **Major tick-mark interval** should be **2**
- Change the title of the graph to **DTI Distribution: <Student Name>**

For the next two charts, we need to make another calculated field. We will create three ranges for the debt-to-income ratio as outlined in [this article](#).

6. Create a calculated field called **DTI Level**

- If the DTI is **less than or equal to 35**, then call it **Low**
- If the DTI is **greater than 35 and less than 50**, then call it **Medium**
- If the DTI is **greater than or equal to 50**, then call it **High**

Using the DTI Level calculated field that you created above, create a text table that shows the counts of each range.

7. Build a **text table** that lists each **DTI Level** along with the respective counts.

- Sort the text table rows in this order: **Low, Medium, High**
- Change the title of the graph to **DTI Text Table: <Student Name>**
- Your chart should look similar to the following (some details have been removed):

DTI Text Table: <Student Name>

DTI Level	
Low	
Medium	
High	

Finally, we want to view the total loan amounts broken down by their loan purpose for only the Medium and High DTI Level customers. In addition, we want to see the percentage of total payments received for the respective loan purpose category compared to the total loan amount.

8. Create a calculated field called **Total Payments to Loans**

- This field represents the proportion of total payments received compared to the total loan amount. This should be calculated by the sum of the **Paid Total** variable divided by the sum of the **Loan Amount**.

9. Create a calculated field called **Payments to Loans Categories**

- If the Total Payments to Loans is less than 15%, then call it **Less than 15%**

- If the Total Payments to Loans is greater than or equal to 15%, then call it **15% or Greater**
 - Note: Consider how 15% is represented in your current data before converting the values into percentage format (we will do this next).

10. Build a **horizontal bar chart** that shows the total **Loan Amount** for each **Loan Purpose**.

- Filter the **DTI Level** for only **Medium** and **High** values.
- Sort the **Loan Purpose** axis by **Loan Amount** in descending order
- **Color** the chart based on the **Payments to Loans Categories** field
- Add a **label** to the chart based on the **Total Payments to Loans** field.
 - Format this label to a percentage with two decimal places
- Change the title of the graph to **Loan Purpose: Total Loan Amounts for Medium/High DTI Accounts <Student Name>**
- Your chart should look similar to the following (some details have been removed and your chart should have labels):

Loan Purpose: Total Loan Amounts for Medium/High DTI Accounts <Student Name>

