**Instructions:**

***Read the statement carefully.***

1. **Create a graph to Display Month\_number from car\_financing dataset in x- axis and interest\_paid , starting balance in y-axis with labels and title and legend.**

**Using these step**

**Step 1 :**

1. **Use Matplotlib library** for producing complex publication-quality figures with fine layout control in two or three dimensions. While this is an older library, so many libraries are built on top of it and inline flag will use the appropriate back end to make the figures appear inline in the notebook and
2. use **the pandas and**
3. **numpy libraries** to manipulate data in a format that's suitable for plotting.
4. **import matplotlib.pyplot as plt and plt** is just an alias for the matplotlib.pyplot module.
5. **import the seaborn library** which is a wrapper for matplotlib as sns.

Before graph data, have a data in a form that's suitable for graphing.

**Step 2:**

**import the car loan data into a pandas dataframe**.

**Step 3:**

**Then display the first five rows of the dataframe,**

First convert data in the form of numpy arrays. Add dataframe.  the lock operator, get the month column so this is a panda series and turn this panda series into a numpy array by using the values attribute and assigning this entire thing to the month number variable.

Sort balance due in ascending order and sort principal paid in descending order.

**Step 4:**

**Use plt.plot ( month, interestpaid)**

**Similarly for starting balance**

**Step 5:**

**Use plt.style.available to check the available styles**

**Then use any style from it.**

**For example :Use plt.style.use (‘fivethirtyeight’)** to select an appropriate aesthetic styles

**Step 6: Use Marker type and colors**

**‘k’ = black**

**‘b’ = blue**

**plt.plot (monthnumber, interestpaid, c= ‘k’, marker = ‘.’, markersize =10)**

**plt.plot (monthnumber, interestpaid, c= ‘b’, marker = ‘.’, markersize =10)**

**Step 7 :**

**Set labels , titles and fontsize of labels to be 15 and title to be 20**

**Use plt.xlabel(‘Month’)**

**plt.ylabel(‘Dollars’)**

**Plt.title (‘Interest and Principal Paid’)**

**Step 8:**

**Create grid by using**

**Plt.grid()**

**Give different color to your grid for both axes.**

**Plt.grid(c=’g’)**

**Step 9 :**

**Use Plot Legend**

**Put legend outside the graph toward bottom right**

**Step 10 :**

**Save the file**

**Use plt.savefig(‘images/StudentNameCourseName.png’, dpi =300)**

**Make Sure your graph have x-axis, y-axis label and title.**

**Upload Instructions:**

**Upload the .png file and complete source Code file on Moodle.**