Page View Time Series Visualizer

You will be working on this project with our Replit starter code (https://replit.com/github/freeCodeCamp/boilerplate-page-view-time-series-visualizer).

- Start by importing the project on Replit.
- Next, you will see a `.replit` window.
- Select `Use run command` and click the `Done` button.

We are still developing the interactive instructional part of the Python curriculum. For now, here are some videos on the freeCodeCamp.org YouTube channel that will teach you everything you need to know to complete this project:

- Python for Everybody Video Course (https://www.freecodecamp.org/news/python-for-everybody/)(14 hours)
- How to Analyze Data with Python Pandas (https://www.freecodecamp.org/news/how-to-analyze-data-with-python-pandas/) (10 hours)

For this project you will visualize time series data using a line chart, bar chart, and box plots. You will use Pandas, Matplotlib, and Seaborn to visualize a dataset containing the number of page views each day on the freeCodeCamp.org forum from 2016-05-09 to 2019-12-03. The data visualizations will help you understand the patterns in visits and identify yearly and monthly growth.

Use the data to complete the following tasks:

- Use Pandas to import the data from "fcc-forum-pageviews.csv". Set the index to the `date` column.
- Clean the data by filtering out days when the page views were in the top 2.5% of the dataset or bottom 2.5% of the dataset.
- Create a `draw_line_plot` function that uses Matplotlib to draw a line chart similar to "examples/Figure_1.png". The title should be `Daily freeCodeCamp Forum Page Views 5/2016-12/2019`. The label on the x axis should be `Date` and the label on the y axis should be `Page Views`.
- Create a `draw_bar_plot` function that draws a bar chart similar to "examples/Figure_2.png". It should show average daily page views for each month grouped by year. The legend should show month labels and have a title of `Months`. On the chart, the label on the x axis should be `Years` and the label on the y axis should be `Average Page Views`.
- Create a `draw_box_plot` function that uses Seaborn to draw two adjacent box plots similar to "examples/Figure_3.png". These box plots should show how the values are distributed within a given year or month and how it compares over time. The title of the first chart should be `Year-wise Box Plot (Trend)` and the title of the second chart should be `Month-wise Box Plot (Seasonality)`. Make sure the month labels on bottom start at `Jan` and the x and y axis are labeled correctly. The boilerplate includes commands to prepare the data.

For each chart, make sure to use a copy of the data frame. Unit tests are written for you under `test_module.py`.

The boilerplate also includes commands to save and return the image.

Development

For development, you can use `main.py` to test your functions. Click the "run" button and `main.py` will run.

Testing

We imported the tests from `test_module.py` to `main.py` for your convenience. The tests will run automatically whenever you hit the "run" button.

Submitting

Copy your project's URL and submit it to freeCodeCamp.

Solution Link

ex: https://replit.com/@camperbot/hello

I've completed this challenge (/learn)

Get a Hint (https://forum.freecodecamp.org/t/462369)

Ask for Help


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