HyperionDev

Application of Data Visualisation

Task

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Introduction

Great job! You have reached another synthesis task in this bootcamp. For this task, we will be applying both our data analytics and visualisation skills to a real-life dataset.

As a data scientist, it is imperative to cultivate a skill set encompassing the ability to proficiently write code for data cleaning, organisation, analysis, and visualisation. These technical competencies must be complemented by effective communication skills, allowing for the clear and concise presentation of findings to relevant stakeholders.

The task at hand

In this task, you will be given the opportunity to showcase all the skills which you have been developing throughout this bootcamp. You will be tasked with analysing a dataset of your choice. Furthermore, you will create an exploratory data analysis (EDA) report that contains several data visualisations that will clearly communicate your findings. While this is not a capstone project, you are encouraged to attempt it to the best of your ability, as it can add value to your developer portfolio.

Take note

A key focus of this project will be ensuring that your code is correct, well-formatted, and readable. In this regard, make sure that you do the following before submitting your work:

1. Make sure that you have identified and removed all syntax, runtime, and logical errors from your code.
2. Make sure that your code is readable. To ensure this, add comments to your code, use descriptive variable names, and make good use of whitespace and indentation. Use the **PEP 8 style guide** to see how classes and methods should be named, and how your program should be formatted.
3. Make sure that your code is modular. Create functions to perform specific units of work.
4. How you choose to write code to create the solution to the specified problem is up to you. However, make sure that you write your code as efficiently as possible.

5. Use defensive coding to make provisions for errors that may occur using exception-handling techniques.

6. Make sure that all the output that your program provides to the user is easy to read and understand. Labelling all data that you output (whether in text files or to the screen) is essential to make the data your program produces more user-friendly.

   Output 1: Raw

```
admin, Register Users with taskManager.py, Use taskManager.py to add the usernam
es and passwords for all team members that will be using this program., 10 Oct 2
019, 20 Oct 2019, No
admin, Assign initial tasks, Use taskManager.py to assign each team member with
appropriate tasks, 10 Oct 2019, 25 Oct 2019, No
```

   Output 2: User-friendly

```
------------------------------------------------------------

Task:                   Assign initial tasks
Assigned to:            admin
Date assigned:          10 Oct 2019
Due date:               25 Oct 2019
Task Complete?          No
Task description:
 Use taskManager.py to assign each team member with appropriate tasks
------------------------------------------------------------
```

7. Label data visualisations with appropriate headings, axis labels, and legends.

Practical task

1. Choose from the following datasets contained in this folder:
    - Diabetes
    - Forbes Highest Paid Athletes 1990-2020
    - Hourly Wage Data
    - Penguins
    - Titanic
    - US arrests
    - Wine
2. Using the EDA report document example provided, create a report exported as a PDF that includes the following:
    - A brief description of the dataset you have chosen.
    - A description of how your dataset was cleaned.
    - A description of how you managed missing data.
    - A detailed description of your findings accompanied by appropriate visualisations.
    - A wide selection of appropriate data visualisations. Besides Matplotlib, we encourage you to explore and use libraries with more interesting visualisations.
    - Name your file **EDA Report – [Dataset name].pdf**, for example:
        i. EDA Report – Penguins.pdf

Ensure that your report is professional! Remember, such a report can be added to your professional portfolio.

Important: Be sure to upload all files required for the task submission inside your task folder and then click "Request review" on your dashboard.

Share your thoughts

Please take some time to complete this short feedback **form** to help us ensure we provide you with the best possible learning experience.