Homework 3

Due: May 19, 2019, 11:59 PM (before midnight)

Download the data from https://www.kaggle.com/ronitf/heart-disease-uci. Understand the description of the data and what each variable shows. Use PCA to get principal components. Create a dash app that will include the following plots: correlation heatmap for the appropriate variables, commutative explained variance of the principle components, scatterplot for top 2 principle components with distinct colors for each class, scatterplot for top 3 principle components with distinct colors for each class. Create a Toggle Switch that will switch between 2d scatterplot and 3d scatterplot when clicked.

The dash app should have the following structure:

- row 1: appropriate title
- row 2: description of the project and description of the data
- row 3: correlation heatmap and commutative explained variance
- row 4: Toggle Switch and plot for principal components
- row 5: Some conclusion or comments

Your submission must include one .py file for the app. No need to upload the app to pythonanywhere.com.

Homework 4

Due: May 19, 2019, 11:59 PM (before midnight)

From menu.am choose two types of cuisine (Italian, Indian, Sushi, Pizzas, Burgers, etc.). From each one choose 3 suppliers (total 6 suppliers). Make sure that they have a section for beverages. Scrape the prices for each one. Save the results in a file (.csv, .npy, etc.). Read the file(s) and calculate the average price for a meal (not including beverages) and the average price of a beverage from each supplier. Compare the 1) average price and 2) price distribution for beverages and meals across and inside the 2 types of cuisines using appropriate plots. The plots must have meaningful title and labels for each axis.

Your submission must include the code for scraping prices (.py or .ipynb file). The data saved in file(s). The code for generating plots and some interpretation/conclusion about the plots in markdown saved as a .ipynb file separate from the scraping file. **Please make sure to compress all the files inside a .zip file and not as a .rar file.**