

Module 2 Live Coding Assignment: Data Structures

Throughout this assignment, please remember to import all the necessary libraries at the beginning of every exercise.

Question 1

Create a Pandas dataframe called “df” containing 4 columns named “Id”, “Continent”, “Country”, “Capital” and with values

Id	Continent	Country	Capital
1	Europe	Italy	Rome
2	Europe	France	Paris
3	Asia	China	Beijing
4	North America	Canada	Ottawa
5	Europe	Germany	Berlin

Sort df in descending order with respect to the column “Continent”.

Question 2

Consider the dataframe “df” defined in Question 1. Delete the column with label “Continent” and rename the column “Capital” to “Country Capital”.

Question 3

Read the CSV file named “foo.csv” located in the “data” folder and assign it to a dataframe called “df2”. Compute the average of the values of the column “price” and assign it to a variable called “average_price”. Next, create a filter to get all rows where the column “price” is less or equal than 5. Call this new dataframe “df_price”. Print the “average_price” and the new dataframe to screen.

Question 4

Create a Python lambda function called “add_ten” that adds 10 to a certain variable “x”. Next apply this function to all the entries in the column “billingId” in the dataframe “df2” created in the previous question. Assign the new values to a list called “added_values”. Return the list to screen. **Hint:** use the pandas command “map” .

Question 5

Split the dataframe “df2” from the previous questions into two dataframes. One dataframe will contain rows with odd index, the other one will contain rows with even index. Assign the new dataframes to “df2_odd” and “df2_even”, respectively. Print the dataframes to screen.