Assignment

In this assignment, we will construct simple predictive models for Olympic medals using a dataset from Kaggle. You will complete this assignment using only (generic) Python. No additional Python modules like Pandas, Numpy, SciPy are allowed. You will get 0 for this assignment if you use any of these modules.

For the dataset, we use Olympic medals dataset from Kaggle:
`https://www.kaggle.com/ramontanoeiro/summer-olympic-medals-1986-2020`
The dataset is in the file "Summer_olympic_Medals.csv" **Dataset**

Description: From the Kaggle website: "This dataset contains all medals awarded for all participating countries from 1896 up to 2020(1). Data was scraped from Wikipedia pages containing the tables of medals. This dataset was used to create this animated bar chart race:
`https://www.youtube.com/watch?v=81ZJL07GL4s`

A data frame with 1,345 rows (including headers) and 8 variables"

1. Year: date of games (1896-2020) no games in 1916 (World War I) and 1940, 1944 (World War II)

2. Country_Code: 3 Letters Code used to identify the country

3. Country_Name: quality of the cut (Fair, Good, Very Good, Premium, Ideal)

4. Host_city: City of the Edition

5. Host_country: a measurement of how clear the diamond is (I1 (worst), SI2, SI1, VS2, VS1, VVS2, VVS1, IF (best))

6. Gold: Number of Gold medals awarded

7. Silver: Number of Silver medals awarded

8. Bronze: Number of Bronze medals awarded

Questions:

1. load the "Summer_olympic_Medals" file as a list of lines using Python

2. How many entries are there?

3. compute the average numbers of gold, silver, and bronze medals per country and write this (in decreasing order) to a file "average_medals_per_country.csv"

4. Which country has the highest (average) number of medals?

5. list top 10 countries by (averaged) number of medals

6. compute the median number of gold, silver, and bronze medals per country and write this (in decreasing order) to a file "median_medals_per_country.csv"

7. Which country has the highest median number of medals?

8. list top 10 countries by median number of medals

9. For which countries you have $\#(\text{gold}) = \#(\text{silver}) = \#(\text{bronze})$. For which countries you have $(\#(\text{gold}) + \#(\text{silver})) >$ $\#(\text{bronze})$

10. Which countries increased their number of total medals each game during the last 4 Olympic games and which countries decreased their total number of medals during the last 4 Olympic games?