Assignment 01_Solution

June 23, 2020

1 Assignment 01: Evaluate the GDP Dataset

The comments/sections provided are your cues to perform the assignment. You don't need to limit yourself to the number of rows/cells provided. You can add additional rows in each section to add more lines of code.

If at any point in time you need help on solving this assignment, view our demo video to understand the different steps of the code.

Happy coding!

1: View and add the dataset

[3]:
```
#Import required library
import numpy as np
```

[4]:
```
#Manually add the dataset
countries = np.
 ↪array(['Algeria','Angola','Argentina','Australia','Austria','Bahamas','Bangladesh','Belarus
 ↪Salvador','Estonia','Ethiopia','Fiji','Finland','France','Georgia','Ghana','Grenada','Guine
 ↪'South Korea','Liberia','Malaysia','Mexico', 'Morocco','Nepal','New␣
 ↪Zealand','Norway','Pakistan', 'Peru','Qatar','Russia','Singapore','South␣
 ↪Africa','Spain','Sweden','Switzerland','Thailand', 'United Arab␣
 ↪Emirates','United Kingdom','United␣
 ↪States','Uruguay','Venezuela','Vietnam','Zimbabwe'])

gdp = np.array([2255.225482,629.9553062,11601.63022,25306.82494,27266.
 ↪40335,19466.99052,588.3691778,2890.345675,24733.62696,1445.760002,4803.
 ↪398244,2618.876037,590.4521124,665.7982328,7122.938458,2639.54156,3362.
 ↪4656,15378.16704,30860.12808,2579.115607,6525.541272,229.6769525,2242.
 ↪689259,27570.4852,23016.84778,1334.646773,402.6953275,6047.200797,394.
 ↪1156638,385.5793827,1414.072488,5745.981529,837.7464011,1206.991065,27715.
 ↪52837,18937.24998,39578.07441,478.2194906,16684.21278,279.2204061,5345.
 ↪213415,6288.25324,1908.304416,274.8728621,14646.42094,40034.85063,672.
 ↪1547506,3359.517402,36152.66676,3054.727742,33529.83052,3825.093781,15428.
 ↪32098,33630.24604,39170.41371,2699.123242,21058.43643,28272.40661,37691.
 ↪02733,9581.05659,5671.912202,757.4009286,347.7456605])
```

2: Find and print the name of the country with the highest GDP

[7]:
```
#Use the argmax() method to find the highest GDP
max_gdp = gdp.argmax()
```

[8]:
```
ountries_with_max_gdp = countries[max_gdp]
```

[9]:
```
#Print the name of the country
ountries_with_max_gdp
```

[9]: 'Norway'

[ ]:
```

```

3: Find and print the name of the country with the lowest GDP

[12]:
```
#Use the argmin() method to find the lowest GDP
min_gdp = gdp.argmin()
```

[14]:
```
#Print the name of the country
ountries_with_mix_gdp = countries[min_gdp]
ountries_with_mix_gdp
```

[14]: 'Ethiopia'

4: Print out text ('evaluating country') and input value ('country name') iteratively

[18]:
```
#Use a for loop to print the required output
for country in countries:
    print("executing cuntries {} ".format(country))
```

```
executing cuntries Algeria
executing cuntries Angola
executing cuntries Argentina
executing cuntries Australia
executing cuntries Austria
executing cuntries Bahamas
executing cuntries Bangladesh
executing cuntries Belarus
executing cuntries Belgium
executing cuntries Bhutan
executing cuntries Brazil
executing cuntries Bulgaria
executing cuntries Cambodia
executing cuntries Cameroon
executing cuntries Chile
executing cuntries China
executing cuntries Colombia
```

```
executing cuntries Cyprus
executing cuntries Denmark
executing cuntries El Salvador
executing cuntries Estonia
executing cuntries Ethiopia
executing cuntries Fiji
executing cuntries Finland
executing cuntries France
executing cuntries Georgia
executing cuntries Ghana
executing cuntries Grenada
executing cuntries Guinea
executing cuntries Haiti
executing cuntries Honduras
executing cuntries Hungary
executing cuntries India
executing cuntries Indonesia
executing cuntries Ireland
executing cuntries Italy
executing cuntries Japan
executing cuntries Kenya
executing cuntries South Korea
executing cuntries Liberia
executing cuntries Malaysia
executing cuntries Mexico
executing cuntries Morocco
executing cuntries Nepal
executing cuntries New Zealand
executing cuntries Norway
executing cuntries Pakistan
executing cuntries Peru
executing cuntries Qatar
executing cuntries Russia
executing cuntries Singapore
executing cuntries South Africa
executing cuntries Spain
executing cuntries Sweden
executing cuntries Switzerland
executing cuntries Thailand
executing cuntries United Arab Emirates
executing cuntries United Kingdom
executing cuntries United States
executing cuntries Uruguay
executing cuntries Venezuela
executing cuntries Vietnam
executing cuntries Zimbabwe
```

5: Print out the entire list of the countries with their GDPs

[19]:
```
#Use a for loop to print the required list
for i in range(len(countries)):
    country = countries[i]
    country_gdp_per_capita = gdp[i]
    print("country {} per capita gdp is {}".format(country,␣
 ↪country_gdp_per_capita))
```

```
country Algeria per capita gdp is 2255.225482
country Angola per capita gdp is 629.9553062
country Argentina per capita gdp is 11601.63022
country Australia per capita gdp is 25306.82494
country Austria per capita gdp is 27266.40335
country Bahamas per capita gdp is 19466.99052
country Bangladesh per capita gdp is 588.3691778
country Belarus per capita gdp is 2890.345675
country Belgium per capita gdp is 24733.62696
country Bhutan per capita gdp is 1445.760002
country Brazil per capita gdp is 4803.398244
country Bulgaria per capita gdp is 2618.876037
country Cambodia per capita gdp is 590.4521124
country Cameroon per capita gdp is 665.7982328
country Chile per capita gdp is 7122.938458
country China per capita gdp is 2639.54156
country Colombia per capita gdp is 3362.4656
country Cyprus per capita gdp is 15378.16704
country Denmark per capita gdp is 30860.12808
country El Salvador per capita gdp is 2579.115607
country Estonia per capita gdp is 6525.541272
country Ethiopia per capita gdp is 229.6769525
country Fiji per capita gdp is 2242.689259
country Finland per capita gdp is 27570.4852
country France per capita gdp is 23016.84778
country Georgia per capita gdp is 1334.646773
country Ghana per capita gdp is 402.6953275
country Grenada per capita gdp is 6047.200797
country Guinea per capita gdp is 394.1156638
country Haiti per capita gdp is 385.5793827
country Honduras per capita gdp is 1414.072488
country Hungary per capita gdp is 5745.981529
country India per capita gdp is 837.7464011
country Indonesia per capita gdp is 1206.991065
country Ireland per capita gdp is 27715.52837
country Italy per capita gdp is 18937.24998
country Japan per capita gdp is 39578.07441
country Kenya per capita gdp is 478.2194906
```

```
country South Korea per capita gdp is 16684.21278
country Liberia per capita gdp is 279.2204061
country Malaysia per capita gdp is 5345.213415
country Mexico per capita gdp is 6288.25324
country Morocco per capita gdp is 1908.304416
country Nepal per capita gdp is 274.8728621
country New Zealand per capita gdp is 14646.42094
country Norway per capita gdp is 40034.85063
country Pakistan per capita gdp is 672.1547506
country Peru per capita gdp is 3359.517402
country Qatar per capita gdp is 36152.66676
country Russia per capita gdp is 3054.727742
country Singapore per capita gdp is 33529.83052
country South Africa per capita gdp is 3825.093781
country Spain per capita gdp is 15428.32098
country Sweden per capita gdp is 33630.24604
country Switzerland per capita gdp is 39170.41371
country Thailand per capita gdp is 2699.123242
country United Arab Emirates per capita gdp is 21058.43643
country United Kingdom per capita gdp is 28272.40661
country United States per capita gdp is 37691.02733
country Uruguay per capita gdp is 9581.05659
country Venezuela per capita gdp is 5671.912202
country Vietnam per capita gdp is 757.4009286
country Zimbabwe per capita gdp is 347.7456605
```

6: Print the following:

1. Highest GPD value
2. Lowest GDP value
3. Mean GDP value
4. Standardized GDP value
5. Sum of all the GDPs

[25]:
```
print("Max GDP = "+str(gdp.max()))
print("Min GDP = "+str(gdp.min()))
print("Mean GDP = "+str(gdp.mean()))
print("Standardize GDP = "+str(gdp.std()))
print("Sum of all GDP = "+str(gdp.sum()))
```

```
Max GDP = 40034.85063
Min GDP = 229.6769525
Mean GDP = 11289.409271639683
Standardize GDP = 12743.828910617945
Sum of all GDP = 711232.7841133
```

[ ]:
```

```