Assignment_01

January 9, 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

[1]:
```
#Import required library
import numpy as np
```

[2]:
```
#Manually add the dataset
countries =␣
 ↪['Algeria','Angola','Argentina','Australia','Austria','Bahamas','Bangladesh','Belarus','Bel
 ↪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']
```

[3]:
```
GDP = [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

[4]:
```
#Use the argmax() method to find the highest GDP
np.argmax(GDP)
```

[4]: 45

[5]:
```
print("Highest GDP: {}".format(GDP[np.argmax(GDP)]))
```

```
Highest GDP: 40034.85063
```

[6]:
```
#Print the name of the country
print("Country with highest GDP: {}".format(countries[np.argmax(GDP)]))
```

```
Country with highest GDP: Norway
```

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

[7]:
```
#Use the argmin() method to find the lowest GDP
print("Lowest GDP: {}".format(GDP[np.argmin(GDP)]))
```

```
Lowest GDP: 229.6769525
```

[8]:
```
#Print the name of the country
print("Country with minimum GDP: {}".format(countries[np.argmin(GDP)]))
```

```
Country with minimum GDP: Ethiopia
```

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

[9]:
```
#Use a for loop to print the required output
for country in countries:
    print("Evaluating country: {}".format(country))
```

```
Evaluating country: Algeria
Evaluating country: Angola
Evaluating country: Argentina
Evaluating country: Australia
Evaluating country: Austria
Evaluating country: Bahamas
Evaluating country: Bangladesh
Evaluating country: Belarus
Evaluating country: Belgium
Evaluating country: Bhutan
Evaluating country: Brazil
Evaluating country: Bulgaria
Evaluating country: Cambodia
Evaluating country: Cameroon
Evaluating country: Chile
Evaluating country: China
```

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

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

[11]:
```
#Use a for loop to print the required list
for index in range(len(countries)):
    print("Country: {}    GDP: {}".format(countries[index],GDP[index]))
```

```
Country: Algeria    GDP: 2255.225482
Country: Angola    GDP: 629.9553062
Country: Argentina    GDP: 11601.63022
Country: Australia    GDP: 25306.82494
Country: Austria    GDP: 27266.40335
Country: Bahamas    GDP: 19466.99052
Country: Bangladesh    GDP: 588.3691778
Country: Belarus    GDP: 2890.345675
Country: Belgium    GDP: 24733.62696
Country: Bhutan    GDP: 1445.760002
Country: Brazil    GDP: 4803.398244
Country: Bulgaria    GDP: 2618.876037
Country: Cambodia    GDP: 590.4521124
Country: Cameroon    GDP: 665.7982328
Country: Chile    GDP: 7122.938458
Country: China    GDP: 2639.54156
Country: Colombia    GDP: 3362.4656
Country: Cyprus    GDP: 15378.16704
Country: Denmark    GDP: 30860.12808
Country: El Salvador    GDP: 2579.115607
Country: Estonia    GDP: 6525.541272
Country: Ethiopia    GDP: 229.6769525
Country: Fiji    GDP: 2242.689259
Country: Finland    GDP: 27570.4852
Country: France    GDP: 23016.84778
Country: Georgia    GDP: 1334.646773
Country: Ghana    GDP: 402.6953275
Country: Grenada    GDP: 6047.200797
Country: Guinea    GDP: 394.1156638
Country: Haiti    GDP: 385.5793827
Country: Honduras    GDP: 1414.072488
Country: Hungary    GDP: 5745.981529
Country: India    GDP: 837.7464011
Country: Indonesia    GDP: 1206.991065
Country: Ireland    GDP: 27715.52837
Country: Italy    GDP: 18937.24998
Country: Japan    GDP: 39578.07441
Country: Kenya    GDP: 478.2194906
Country: South Korea    GDP: 16684.21278
Country: Liberia    GDP: 279.2204061
Country: Malaysia    GDP: 5345.213415
Country: Mexico    GDP: 6288.25324
Country: Morocco    GDP: 1908.304416
```

```
Country: Nepal    GDP: 274.8728621
Country: New Zealand    GDP: 14646.42094
Country: Norway    GDP: 40034.85063
Country: Pakistan    GDP: 672.1547506
Country: Peru    GDP: 3359.517402
Country: Qatar    GDP: 36152.66676
Country: Russia    GDP: 3054.727742
Country: Singapore    GDP: 33529.83052
Country: South Africa    GDP: 3825.093781
Country: Spain    GDP: 15428.32098
Country: Sweden    GDP: 33630.24604
Country: Switzerland    GDP: 39170.41371
Country: Thailand    GDP: 2699.123242
Country: United Arab Emirates    GDP: 21058.43643
Country: United Kingdom    GDP: 28272.40661
Country: United States    GDP: 37691.02733
Country: Uruguay    GDP: 9581.05659
Country: Venezuela    GDP: 5671.912202
Country: Vietnam    GDP: 757.4009286
Country: Zimbabwe    GDP: 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

[12]:
```
print("Highest GDP value: {}".format(max(GDP)))
```

```
Highest GDP value: 40034.85063
```

[13]:
```
print("Lowest GDP value: {}".format(min(GDP)))
```

```
Lowest GDP value: 229.6769525
```

[14]:
```
print("Mean GDP value: {}".format(np.mean(GDP)))
```

```
Mean GDP value: 11289.409271639683
```

[15]:
```
print("Standardized GDP value: {}".format(np.array(GDP).std()))
```

```
Standardized GDP value: 12743.828910617945
```

[16]:
```
print("Sum of all the GDPs: {}".format(np.array(GDP).sum()))
```

```
Sum of all the GDPs: 711232.7841133
```