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

In [1]:
```
# Read GDP text file
gdp_data = open('Countries with GDP.txt', 'r')
content = gdp_data.read()
print(content)
```

```
List of countries:

'Algeria','Angola','Argentina','Australia','Austria','Bahamas','Bangladesh','Be
larus','Belgium','Bhutan','Brazil','Bulgaria','Cambodia','Cameroon','Chile','Ch
ina','Colombia','Cyprus','Denmark','El Salvador','Estonia','Ethiopia','Fiji','F
inland','France','Georgia','Ghana','Grenada','Guinea','Haiti','Honduras','Hunga
ry','India','Indonesia','Ireland','Italy','Japan','Kenya', 'South Korea','Liber
ia','Malaysia','Mexico', 'Morocco','Nepal','New Zealand','Norway','Pakistan',
'Peru','Qatar','Russia','Singapore','South Africa','Spain','Sweden','Switzerlan
d','Thailand', 'United Arab Emirates','United Kingdom','United States','Urugua
y','Venezuela','Vietnam','Zimbabwe'


GDP values for each country:

2255.225482,629.9553062,11601.63022,25306.82494,27266.40335,19466.99052,588.369
1778,2890.345675,24733.62696,1445.760002,4803.398244,2618.876037,590.4521124,66
5.7982328,7122.938458,2639.54156,3362.4656,15378.16704,30860.12808,2579.115607,
6525.541272,229.6769525,2242.689259,27570.4852,23016.84778,1334.646773,402.6953
275,6047.200797,394.1156638,385.5793827,1414.072488,5745.981529,837.7464011,120
6.991065,27715.52837,18937.24998,39578.07441,478.2194906,16684.21278,279.220406
1,5345.213415,6288.25324,1908.304416,274.8728621,14646.42094,40034.85063,672.15
47506,3359.517402,36152.66676,3054.727742,33529.83052,3825.093781,15428.32098,3
3630.24604,39170.41371,2699.123242,21058.43643,28272.40661,37691.02733,9581.056
59,5671.912202,757.4009286,347.7456605
```

In [2]:
```
# Import required library
import numpy as np
```

In [3]:
```
# Manually add the dataset
countries = np.array(['Algeria','Angola','Argentina','Australia','Austria','Baham
gdp = np.array([2255.225482,629.9553062,11601.63022,25306.82494,27266.40335,19466
```

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

In [4]:
```
# Use the argmax() method to find the highest GDP
max_gdp_index = gdp.argmax()
print(f'Index position for highest GDP: {max_gdp_index}')
print(f'Highest GDP: {gdp[max_gdp_index]}')
```

```
Index position for highest GDP: 45
Highest GDP: 40034.85063
```

In [5]:
```
# Print the name of the country
country_max_gdp = countries[max_gdp_index]
print(f'Country with the highest GDP: {country_max_gdp}')
```

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

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

In [6]:
```
# Use the argmin() method to find the lowest GDP
min_gdp_index = gdp.argmin()
print(f'Index position for lowest GDP: {min_gdp_index}')
print(f'Lowest GDP:{gdp[min_gdp_index]}')
```

```
Index position for lowest GDP: 21
Lowest GDP:229.6769525
```

In [7]:
```
# Print the name of the country
country_min_gdp = countries[min_gdp_index]
print(f'Country with the lowest GDP: {country_min_gdp}')
```

```
Country with the lowest GDP: Ethiopia
```

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

In [8]:
```
# Use a for loop to print the required output
for country in countries:
    print(f'Evaluating country {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

In [9]:
```
# Use a for loop to print the required list
for i in range(len(countries)):
    country = countries[i]
    gdp_value = gdp[i]
    print(f'{i+1}. {country} GDP: {gdp_value}')
```

```
1. Algeria GDP: 2255.225482
2. Angola GDP: 629.9553062
3. Argentina GDP: 11601.63022
4. Australia GDP: 25306.82494
5. Austria GDP: 27266.40335
6. Bahamas GDP: 19466.99052
7. Bangladesh GDP: 588.3691778
8. Belarus GDP: 2890.345675
9. Belgium GDP: 24733.62696
10. Bhutan GDP: 1445.760002
11. Brazil GDP: 4803.398244
12. Bulgaria GDP: 2618.876037
13. Cambodia GDP: 590.4521124
14. Cameroon GDP: 665.7982328
15. Chile GDP: 7122.938458
16. China GDP: 2639.54156
17. Colombia GDP: 3362.4656
18. Cyprus GDP: 15378.16704
19. Denmark GDP: 30860.12808
20. El Salvador GDP: 2579.115607
21. Estonia GDP: 6525.541272
22. Ethiopia GDP: 229.6769525
23. Fiji GDP: 2242.689259
24. Finland GDP: 27570.4852
25. France GDP: 23016.84778
26. Georgia GDP: 1334.646773
27. Ghana GDP: 402.6953275
28. Grenada GDP: 6047.200797
29. Guinea GDP: 394.1156638
30. Haiti GDP: 385.5793827
31. Honduras GDP: 1414.072488
32. Hungary GDP: 5745.981529
33. India GDP: 837.7464011
34. Indonesia GDP: 1206.991065
35. Ireland GDP: 27715.52837
36. Italy GDP: 18937.24998
37. Japan GDP: 39578.07441
38. Kenya GDP: 478.2194906
39. South Korea GDP: 16684.21278
40. Liberia GDP: 279.2204061
41. Malaysia GDP: 5345.213415
42. Mexico GDP: 6288.25324
43. Morocco GDP: 1908.304416
44. Nepal GDP: 274.8728621
45. New Zealand GDP: 14646.42094
46. Norway GDP: 40034.85063
47. Pakistan GDP: 672.1547506
48. Peru GDP: 3359.517402
49. Qatar GDP: 36152.66676
50. Russia GDP: 3054.727742
51. Singapore GDP: 33529.83052
```

```
52. South Africa GDP: 3825.093781
53. Spain GDP: 15428.32098
54. Sweden GDP: 33630.24604
55. Switzerland GDP: 39170.41371
56. Thailand GDP: 2699.123242
57. United Arab Emirates GDP: 21058.43643
58. United Kingdom GDP: 28272.40661
59. United States GDP: 37691.02733
60. Uruguay GDP: 9581.05659
61. Venezuela GDP: 5671.912202
62. Vietnam GDP: 757.4009286
63. 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

In [10]:
```
print(f'Highest GDP value: {gdp.max()}')
print(f'Lowest GDP value: {gdp.min()}')
print(f'Mean GDP value: {gdp.mean()}')
print(f'Standardized GDP value: {gdp.std()}')
print(f'Sum of all GDPs: {gdp.sum()}')
```

```
Highest GDP value: 40034.85063
Lowest GDP value: 229.6769525
Mean GDP value: 11289.409271639683
Standardized GDP value: 12743.828910617945
Sum of all GDPs: 711232.7841133
```