In [60]:

```
import numpy as np
countries = np.array(['Algeria','Angola','Argentina','Australia','Austria','Bahamas','Bangladesh','Belarus','Belgium'
                      'Bhutan', 'Brazil', 'Bulgaria', 'Cambodia', 'Cameroon', 'Chile', 'China', 'Colombia', 'Cyprus', 'Denmar
k',
                      'El Salvador','Estonia','Ethiopia','Fiji','Finland','France','Georgia','Ghana','Grenada','Guine
a', 'Haiti',
                      'Honduras','Hungary','India','Indonesia','Ireland','Italy','Japan','Kenya', 'South Korea','Libe
ria', 'Malaysia',
                      'Mexico', 'Morocco','Nepal','New Zealand','Norway','Pakistan', 'Peru','Qatar','Russia','Singapo
re', 'South Africa',
                      'Spain','Sweden','Switzerland','Thailand', 'United Arab Emirates','United Kingdom','United Stat
es', 'Uruguay', 'Venezuela', 'Vietnam', 'Zimbabwe'])
gdp per capita = np.array([2255.225482,629.9553062,11601.63022,25306.82494,27266.40335,19466.99052,588.3691778,2890.3
45675,24733.62696,1445.760002,4803.398244,2618.876037,
                        590.4521124,665.7982328,7122.938458,2639.54156,3362.4656,15378.16704,30860.12808,2579.115607,
6525.541272,229.6769525,2242.689259,27570.4852,
                        23016.84778,1334.646773,402.6953275,6047.200797,394.1156638,385.5793827,1414.072488,5745.9815
29,837.7464011,1206.991065,27715.52837,18937.24998,39578.07441,
                        478.2194906,16684.21278,279.2204061,5345.213415,6288.25324,1908.304416,274.8728621,14646.4209
4,40034.85063,672.1547506,3359.517402,36152.66676,3054.727742,33529.83052,3825.093781,15428.32098,
                        33630.24604,39170.41371,2699.123242,21058.43643,28272.40661,37691.02733,9581.05659,5671.91220
2,757.4009286,347.7456605])
```

In [41]:

```
max_gdp_per_capita = gdp_per_capita.argmax()
```

In [44]:

```
country_with_max_gdp_per_capita = countries[max_gdp_per_capita]
```

localhost:8892/lab 1/9

```
In [45]:
country_with_max_gdp_per_capita
Out[45]:
'Norway'

In [47]:
min_gdp_per_capita = gdp_per_capita.argmin()

In [49]:
country_with_min_gdp_per_capita = countries[min_gdp_per_capita]

In [50]:
country_with_min_gdp_per_capita
Out[50]:
'Ethiopia'
```

localhost:8892/lab 2/9

In [53]:

```
for country in countries:
    print('ecaluating country {}'.format(country))
```

localhost:8892/lab 3/9

ecaluating country Algeria ecaluating country Angola ecaluating country Argentina ecaluating country Australia ecaluating country Austria ecaluating country Bahamas ecaluating country Bangladesh ecaluating country Belarus ecaluating country Belgium ecaluating country Bhutan ecaluating country Brazil ecaluating country Bulgaria ecaluating country Cambodia ecaluating country Cameroon ecaluating country Chile ecaluating country China ecaluating country Colombia ecaluating country Cyprus ecaluating country Denmark ecaluating country El Salvador ecaluating country Estonia ecaluating country Ethiopia ecaluating country Fiji ecaluating country Finland ecaluating country France ecaluating country Georgia ecaluating country Ghana ecaluating country Grenada ecaluating country Guinea ecaluating country Haiti ecaluating country Honduras ecaluating country Hungary ecaluating country India ecaluating country Indonesia ecaluating country Ireland ecaluating country Italy ecaluating country Japan ecaluating country Kenya ecaluating country South Korea ecaluating country Liberia ecaluating country Malaysia ecaluating country Mexico ecaluating country Morocco

PROJECT GDP

ecaluating country Nepal ecaluating country New Zealand ecaluating country Norway ecaluating country Pakistan ecaluating country Peru ecaluating country Qatar ecaluating country Russia ecaluating country Singapore ecaluating country South Africa ecaluating country Spain ecaluating country Sweden ecaluating country Switzerland ecaluating country Thailand ecaluating country United Arab Emirates ecaluating country United Kingdom ecaluating country United States ecaluating country Uruguay ecaluating country Venezuela ecaluating country Vietnam ecaluating country Zimbabwe

9/16/2020

localhost:8892/lab 5/9

In [57]:

```
for i in range (len(countries)):
    country = countries[i]
    country_gdp_per_capita = gdp_per_capita[i]
    print('country {} per capita gdp is {}'. format(country, country_gdp_per_capita))
```

localhost:8892/lab 6/9

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 Norway per capita gdp is 40034.85063

11289,409271639683

country New Zealand per capita gdp is 14646.42094

```
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
In [63]:
print(gdp_per_capita.max())
40034.85063
In [64]:
print(gdp per capita.min())
229.6769525
In [65]:
print(gdp_per_capita.mean())
```

localhost:8892/lab

In [66]:

```
print(gdp_per_capita.std())
```

12743.828910617945

In [67]:

```
print(gdp_per_capita.sum())
```

711232.7841133

localhost:8892/lab 9/9