

eda

September 19, 2023

```
[1]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px
```

1 About Dataset

This data is about Petrol/Gas prices worldwide (181 countries). It contains world share of petrol consumption by country, price per gallon, price per liter and the corresponding price in Pakistan Rupee (Conversion Rate 1 USD = 211.5 PKR).

2 1. Import the Dataset

```
[2]: df= pd.read_csv("Petrol Dataset June 23 2022 -- Version 2.csv",
encoding='latin-1')
```

```
[3]: df.head()
```

```
[3]: S#          Country Daily Oil Consumption (Barrels) World Share \
0    1  United States          19,687,287          20%
1    2           China          12,791,553          13%
2    3           India           4,443,000           5%
3    4           Japan           4,012,877           4%
4    5           Russia           3,631,287           4%

      Yearly Gallons Per Capita  Price Per Gallon (USD)  Price Per Liter (USD) \
0                934.3                5.19                1.37
1                138.7                5.42                1.43
2                 51.4                5.05                1.33
3                481.5                4.69                1.24
4                383.2                3.41                0.90

      Price Per Liter (PKR) GDP Per Capita ( USD ) \
0                289.97                63,414
1                302.87                10,435
```

2	281.93	1,901
3	262.05	40,193
4	190.56	10,127

	Gallons GDP Per Capita Can Buy	xTimes Yearly Gallons Per Capita Buy
0	12,218	13
1	1,925	14
2	376	7
3	8,570	18
4	2,970	8

3 2. Details about dataset

```
[4]: df.columns
```

```
[4]: Index(['S#', 'Country', 'Daily Oil Consumption (Barrels)', 'World Share',
          'Yearly Gallons Per Capita', 'Price Per Gallon (USD)',
          'Price Per Liter (USD)', 'Price Per Liter (PKR)',
          'GDP Per Capita ( USD )', 'Gallons GDP Per Capita Can Buy',
          'xTimes Yearly Gallons Per Capita Buy'],
          dtype='object')
```

```
[5]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 181 entries, 0 to 180
Data columns (total 11 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   S#                                     181 non-null    int64
1   Country                             181 non-null    object
2   Daily Oil Consumption (Barrels)      181 non-null    object
3   World Share                          181 non-null    object
4   Yearly Gallons Per Capita            181 non-null    float64
5   Price Per Gallon (USD)               181 non-null    float64
6   Price Per Liter (USD)                181 non-null    float64
7   Price Per Liter (PKR)                181 non-null    float64
8   GDP Per Capita ( USD )               181 non-null    object
9   Gallons GDP Per Capita Can Buy       181 non-null    object
10  xTimes Yearly Gallons Per Capita Buy  181 non-null    int64
dtypes: float64(4), int64(2), object(5)
memory usage: 15.7+ KB
```

```
[6]: df.describe()
```

```
[6]:
```

	S#	Yearly Gallons Per Capita	Price Per Gallon (USD)	\
count	181.000000	181.000000	181.000000	
mean	91.000000	332.006630	5.695691	
std	52.394338	436.558735	4.370484	
min	1.000000	2.200000	0.080000	
25%	46.000000	53.900000	4.150000	
50%	91.000000	180.200000	5.280000	
75%	136.000000	424.600000	6.760000	
max	181.000000	3679.500000	54.890000	

	Price Per Liter (USD)	Price Per Liter (PKR)	\
count	181.000000	181.000000	
mean	1.505138	318.219227	
std	1.154575	244.192081	
min	0.020000	4.650000	
25%	1.100000	232.020000	
50%	1.400000	295.040000	
75%	1.790000	377.740000	
max	14.500000	3066.750000	

	xTimes Yearly Gallons Per Capita Buy
count	181.000000
mean	14.204420
std	48.613866
min	1.000000
25%	6.000000
50%	9.000000
75%	12.000000
max	654.000000

```
[7]: #shape of dataset
df.shape
```

```
[7]: (181, 11)
```

4 3. Preparing Data

```
[8]: #first of all we do not need the serial number column we have index for
      ↪representation
df.drop(['S#'], axis=1, inplace=True)
```

```
[9]: df.head(40)
```

```
[9]:
```

	Country	Daily Oil Consumption (Barrels)	World Share	\
0	United States	19,687,287	20%	
1	China	12,791,553	13%	

2	India	4,443,000	5%
3	Japan	4,012,877	4%
4	Russia	3,631,287	4%
5	Saudi Arabia	3,302,000	3%
6	Brazil	2,984,000	3%
7	South Korea	2,605,440	3%
8	Canada	2,486,301	3%
9	Germany	2,383,393	3%
10	Mexico	2,052,607	2%
11	Iran	1,803,999	2%
12	France	1,705,568	2%
13	Indonesia	1,623,000	2%
14	United Kingdom	1,583,896	2%
15	Singapore	1,357,000	1%
16	Italy	1,236,628	1%
17	Spain	1,290,063	1%
18	Thailand	1,302,000	1%
19	Australia	1,114,645	1%
20	Taiwan	981,203	1%
21	Turkey	941,861	1%
22	Netherlands	937,098	1%
23	Egypt	877,000	1%
24	United Arab Emirates	896,000	1%
25	Iraq	857,000	1%
26	Malaysia	708,000	1%
27	Argentina	709,000	1%
28	Belgium	631,522	1%
29	South Africa	640,000	1%
30	Venezuela	598,000	1%
31	Poland	582,161	1%
32	Pakistan	556,000	1%
33	Vietnam	478,000	1%
34	Nigeria	428,000	0%
35	Colombia	357,000	0%
36	Algeria	429,000	0%
37	Kuwait	359,000	0%
38	Philippines	429,000	0%
39	Chile	351,989	0%

	Yearly Gallons Per Capita	Price Per Gallon (USD)	Price Per Liter (USD) \
0	934.3	5.19	1.37
1	138.7	5.42	1.43
2	51.4	5.05	1.33
3	481.5	4.69	1.24
4	383.2	3.41	0.90
5	1560.2	2.35	0.62
6	221.9	5.36	1.42

7	783.4	6.09	1.61
8	1047.6	6.76	1.79
9	444.5	7.65	2.02
10	255.1	4.36	1.15
11	347.6	0.20	0.05
12	404.3	8.27	2.19
13	95.1	4.48	1.18
14	366.2	8.38	2.22
15	3679.5	8.71	2.30
16	312.5	8.01	2.12
17	424.1	8.35	2.21
18	289.4	5.70	1.51
19	704.3	5.22	1.38
20	636.9	3.94	1.04
21	180.9	6.06	1.60
22	846.0	9.33	2.47
23	142.3	1.97	0.52
24	1467.3	4.15	1.10
25	358.9	1.95	0.51
26	353.7	1.76	0.46
27	249.8	3.96	1.05
28	852.6	8.36	2.21
29	174.6	5.59	1.48
30	307.1	0.08	0.02
31	234.9	6.80	1.80
32	41.9	3.90	1.03
33	78.3	5.38	1.42
34	35.3	1.57	0.42
35	113.6	2.28	0.60
36	162.2	1.18	0.31
37	1390.9	1.29	0.34
38	63.4	5.88	1.55
39	296.3	5.26	1.39

	Price Per Liter (PKR)	GDP Per Capita (USD) \
0	289.97	63,414
1	302.87	10,435
2	281.93	1,901
3	262.05	40,193
4	190.56	10,127
5	131.34	20,110
6	299.27	6,797
7	340.52	31,632
8	377.74	43,258
9	427.44	46,208
10	243.44	8,329
11	11.21	2,423

12	462.13	39,030
13	250.42	3,870
14	468.47	41,125
15	486.87	59,798
16	447.53	31,714
17	466.57	27,063
18	318.73	7,189
19	291.45	51,693
20	220.17	25,936
21	338.40	8,536
22	521.35	52,397
23	110.19	3,548
24	232.02	36,285
25	108.71	4,158
26	98.14	10,412
27	221.23	8,579
28	466.99	45,159
29	312.60	5,091
30	4.65	16,056
31	380.07	15,721
32	217.85	1,194
33	300.75	2,786
34	87.98	2,097
35	127.11	5,333
36	66.20	3,310
37	72.33	24,812
38	328.46	3,299
39	293.77	13,232

	Gallons	GDP Per Capita	Can Buy	xTimes	Yearly	Gallons	Per Capita	Buy
0			12,218					13
1			1,925					14
2			376					7
3			8,570					18
4			2,970					8
5			8,557					5
6			1,268					6
7			5,194					7
8			6,399					6
9			6,040					14
10			1,910					7
11			12,115					35
12			4,719					12
13			864					9
14			4,908					13
15			6,865					2
16			3,959					13

17	3,241	8
18	1,261	4
19	9,903	14
20	6,583	10
21	1,409	8
22	5,616	7
23	1,801	13
24	8,743	6
25	2,132	6
26	5,916	17
27	2,166	9
28	5,402	6
29	911	5
30	200,700	654
31	2,312	10
32	306	7
33	518	7
34	1,336	38
35	2,339	21
36	2,805	17
37	19,234	14
38	561	9
39	2,516	8

World Percentage is incorrect so we to collect it by calculating total first and then taking percentage

```
[10]: #replacing commas in the figure with ''
df['Daily Oil Consumption (Barrels)'] = df['Daily Oil Consumption (Barrels)'].
    ↪str.replace(',', '')
#converting the Column from object data type to numeric data type
df['Daily Oil Consumption (Barrels)'] = pd.to_numeric(df['Daily Oil Consumption_
    ↪(Barrels)'])
#finding the total consumption by using sum()
total_consumption = df['Daily Oil Consumption (Barrels)'].sum()
#now as we have the total consumption world wide we can calculate the percentage
df['World Share'] = (df['Daily Oil Consumption (Barrels)'] / total_consumption) *
    ↪100
```

```
[11]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 181 entries, 0 to 180
Data columns (total 10 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   Country                               181 non-null    object
```

```

1  Daily Oil Consumption (Barrels)      181 non-null    int64
2  World Share                          181 non-null    float64
3  Yearly Gallons Per Capita            181 non-null    float64
4  Price Per Gallon (USD)               181 non-null    float64
5  Price Per Liter (USD)                181 non-null    float64
6  Price Per Liter (PKR)                181 non-null    float64
7  GDP Per Capita ( USD )               181 non-null    object
8  Gallons GDP Per Capita Can Buy        181 non-null    object
9  xTimes Yearly Gallons Per Capita Buy  181 non-null    int64
dtypes: float64(5), int64(2), object(3)
memory usage: 14.3+ KB

```

5 Data Analysis and Visualization

5.0.1 First lets Visualize which countries have highest oil consumtions

```
[12]: df.head()
```

```

[12]:      Country  Daily Oil Consumption (Barrels)  World Share \
0  United States      19687287      20.385127
1      China      12791553      13.244965
2      India      4443000      4.600487
3      Japan      4012877      4.155118
4      Russia      3631287      3.760002

      Yearly Gallons Per Capita  Price Per Gallon (USD)  Price Per Liter (USD) \
0              934.3              5.19              1.37
1              138.7              5.42              1.43
2              51.4              5.05              1.33
3              481.5              4.69              1.24
4              383.2              3.41              0.90

      Price Per Liter (PKR)  GDP Per Capita ( USD ) \
0              289.97      63,414
1              302.87      10,435
2              281.93       1,901
3              262.05      40,193
4              190.56      10,127

      Gallons GDP Per Capita Can Buy  xTimes Yearly Gallons Per Capita Buy
0              12,218              13
1              1,925              14
2              376              7
3              8,570              18
4              2,970              8

```


5.0.2 Top 10 Oil Consuming Countries

```
[13]: #Performing sum() on oil consumption and grouping it with country
oil_consumption = df.groupby('Daily Oil Consumption_
↳(Barrels)',as_index=False)['Country'].sum()
#sorting the values
oil_consumption.sort_values(by='Daily Oil Consumption (Barrels)'\_
↳,ascending=False, inplace=True)
```

```
[14]: oil_consumption.head(10)
```

```
[14]:      Daily Oil Consumption (Barrels)      Country
155      19687287      United States
154      12791553      China
153      4443000      India
152      4012877      Japan
151      3631287      Russia
150      3302000      Saudi Arabia
149      2984000      Brazil
148      2605440      South Korea
147      2486301      Canada
146      2383393      Germany
```

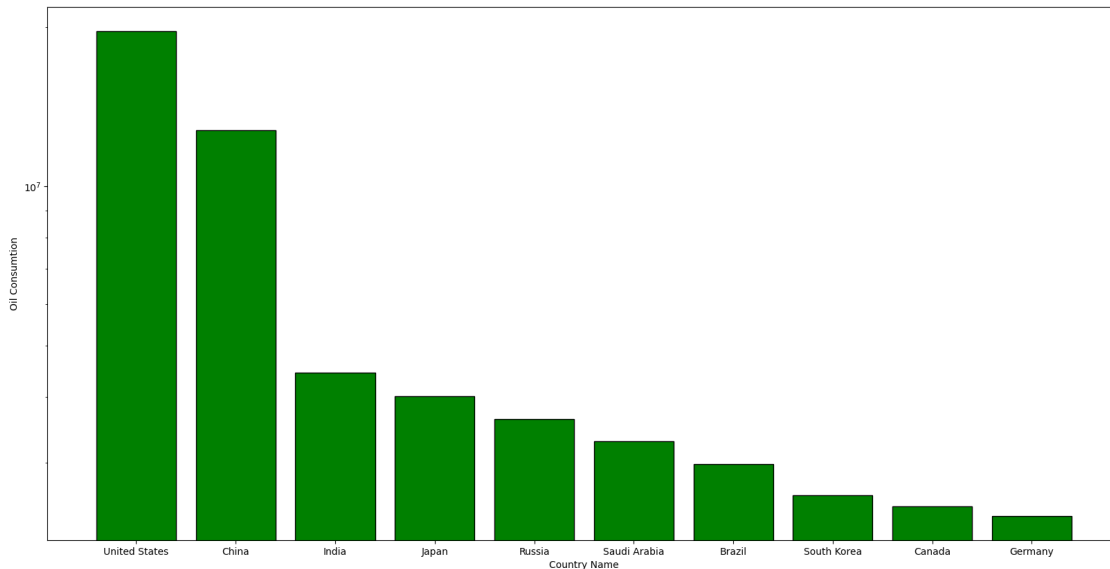
```
[15]: #getting top 10 consumers
top_10_max_consumers = oil_consumption.head(10)
```

```
[16]: top_10_max_consumers
```

```
[16]:      Daily Oil Consumption (Barrels)      Country
155      19687287      United States
154      12791553      China
153      4443000      India
152      4012877      Japan
151      3631287      Russia
150      3302000      Saudi Arabia
149      2984000      Brazil
148      2605440      South Korea
147      2486301      Canada
146      2383393      Germany
```

```
[17]: #plotting
plt.figure(figsize=(20,10))
plt.bar(top_10_max_consumers['Country'], top_10_max_consumers['Daily Oil_
↳Consumption (Barrels)'], color= 'g', edgecolor= 'black')
plt.xlabel('Country Name')
plt.ylabel('Oil Consumption')
#converting yaxis to log scale
```

```
plt.yscale('log')
plt.show()
```



5.1 Top 10 Countries for Minimum Use

as we have a dataframe representing all countries sum of the Consumption in descending order we can just take 10 countries from tail or end

```
[18]: Lowest_oil_Consumption= oil_consumption.tail(10)
```

```
[19]: Lowest_oil_Consumption
```

```
[19]:
```

	Daily Oil Consumption (Barrels)	Country
9	1499	Burundi
8	1301	Dominica
7	1300	Comoros
6	1240	British Virgin Islands
5	1100	Vanuatu
4	899	Tonga
3	660	Saint Pierre & Miquelon
2	400	KiribatiMontserrat
1	70	Saint Helena
0	51	Niue

```
[20]: #this time lets use plotly
```

```
[21]: px.bar(Lowest_oil_Consumption, x='Country', y= 'Daily Oil Consumption_
↳(Barrels)')
```

5.2 Countries with Highest Price Per Liter in USD and their Oil Consumption

```
[22]: #Performing sum() on oil consumption and grouping it with country
oil_consumption_and_money = df.groupby('Daily Oil Consumption_
↳(Barrels)',as_index=False)[['Country','Price Per Liter (USD)']].sum()
#sorting the values
oil_consumption_and_money.sort_values(by='Price Per Liter (USD)'\
↳,ascending=False, inplace=True)
```

```
[23]: oil_consumption_and_money.head(10)
```

```
[23]:      Daily Oil Consumption (Barrels)  \
34                                     18000
40                                     21000
4                                      899
57                                    40000
0                                       51
85                                   114000
63                                   52000
119                                408491
24                                   8000
102                                204090

                                     Country  Price Per Liter (USD)
34                                MadagascarLaosNorth Korea      17.43
40    DR CongoGabonBotswanaMongoliaNorth MacedoniaTa...      7.95
4                                      Tonga      4.28
57                                CameroonMozambiqueKyrgyzstan      3.17
0                                      Niue      3.02
85                                KenyaJordan      3.02
63                                El SalvadorCyprus      3.00
119                                Hong Kong      3.00
24                                LiberiaAruba      2.91
102                                Norway      2.70
```

```
[24]: oil_consumption_and_money.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Index: 156 entries, 34 to 125
Data columns (total 3 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   Daily Oil Consumption (Barrels)      156 non-null    int64
1   Country                              156 non-null    object
2   Price Per Liter (USD)                156 non-null    float64
dtypes: float64(1), int64(1), object(1)
memory usage: 4.9+ KB
```

```
[25]: top_10_max_money= oil_consumption_and_money.head(10)
```

```
[26]: top_10_max_money
```

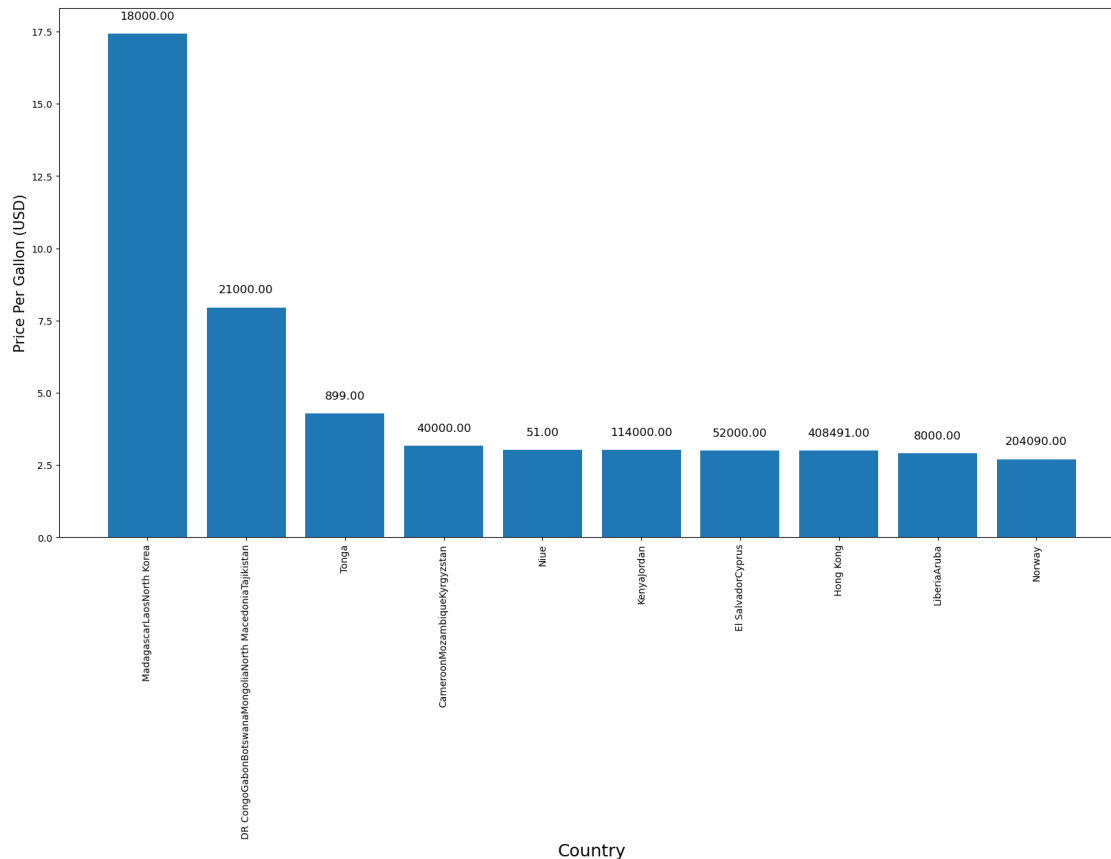
```
[26]:      Daily Oil Consumption (Barrels)  \
34                                     18000
40                                     21000
4                                      899
57                                    40000
0                                       51
85                                    114000
63                                    52000
119                                   408491
24                                    8000
102                                   204090

                                     Country  Price Per Liter (USD)
34                                MadagascarLaosNorth Korea      17.43
40      DR CongoGabonBotswanaMongoliaNorth MacedoniaTa...    7.95
4                                       Tonga      4.28
57                                CameroonMozambiqueKyrgyzstan    3.17
0                                       Niue      3.02
85                                KenyaJordan      3.02
63                                El SalvadorCyprus      3.00
119                                Hong Kong      3.00
24                                LiberiaAruba      2.91
102                                Norway      2.70
```

```
[27]: plt.figure(figsize= (20,10))
plt.bar(top_10_max_money['Country'], top_10_max_money['Price Per Liter (USD)'])
plt.xlabel("Country", fontsize=18)
plt.ylabel("Price Per Gallon (USD)", fontsize=15)
plt.xticks(rotation=90)

# Writing Daily Oil Consumption on bars
for i, value in enumerate(top_10_max_money['Daily Oil Consumption (Barrels)']):
    plt.text(i, # X coordinate (bar position)
             top_10_max_money['Price Per Liter (USD)'].iloc[i] + 0.5, # Y_
             ↪coordinate (above the bar)
             f"{value:.2f}", # Text to display (formatted as a floating-point_
             ↪number)
             ha='center', # Horizontal alignment
             fontsize=12)

plt.show()
```



```
[28]: oil_consumption_and_money.info()
```

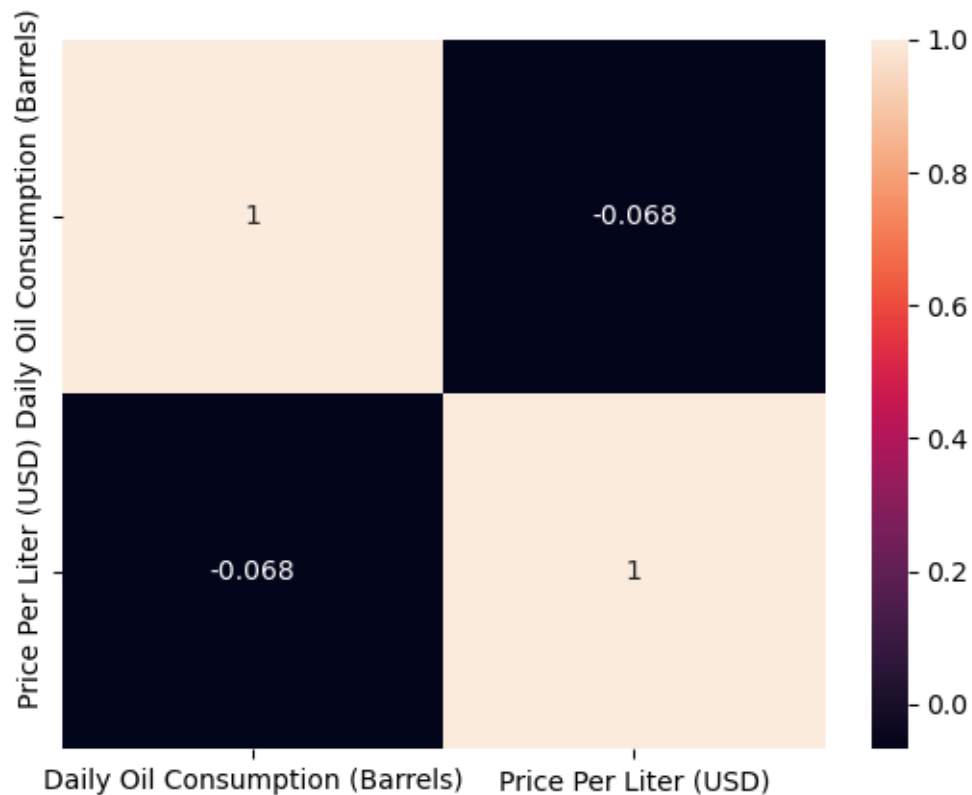
```
<class 'pandas.core.frame.DataFrame'>
Index: 156 entries, 34 to 125
Data columns (total 3 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   Daily Oil Consumption (Barrels)        156 non-null    int64
1   Country                                156 non-null    object
2   Price Per Liter (USD)                  156 non-null    float64
dtypes: float64(1), int64(1), object(1)
memory usage: 4.9+ KB
```

5.2.1 Relation Between Oil Prices and Oil Consumption

```
[29]: numbers = oil_consumption_and_money[['Daily Oil Consumption (Barrels)', 'Price_
      ↪Per Liter (USD)']]
      corr_Consumtion_and_Money= numbers.corr()
```

```
[30]: sns.heatmap(corr_Consumtion_and_Money, annot=True)
```

[30]: <AxesSubplot:>



There is a very small negative Correlation means where Prices is High, Oil Consumption is low but as number shows it has very very little effect

5.3 Now Coming Towards “Pakistan”

```
[31]: #Performing sum() on oil consumption and grouping it with country
oil_consumption_pkr = df.groupby('Daily Oil Consumption_
    ↳(Barrels)',as_index=False)[['Country','Price Per Liter (PKR)']].sum()
#sorting the values
oil_consumption_pkr.sort_values(by='Price Per Liter (PKR)',ascending=False,
    ↳inplace=True)
```

```
[32]: oil_consumption_pkr[oil_consumption_pkr['Country']=='Pakistan']
```

```
[32]:      Daily Oil Consumption (Barrels)  Country  Price Per Liter (PKR)
123                                556000  Pakistan                217.85
```

So pakistan is at 124th position

Comparing top Oil Consumers with Pakistan

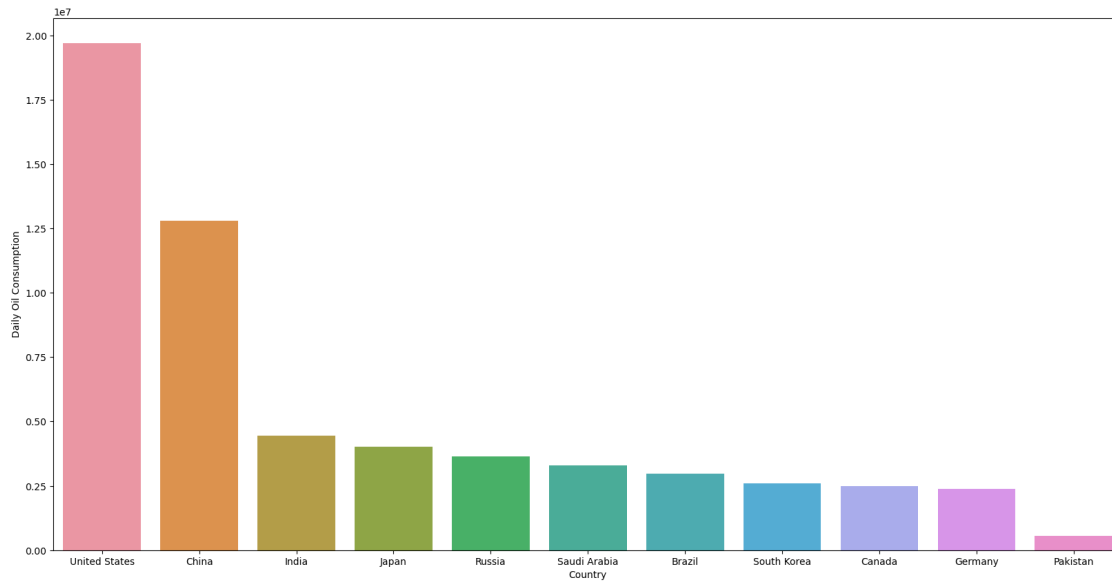
```
[33]: pak = oil_consumption[oil_consumption['Country'] == 'Pakistan']
      pak
```

```
[33]:      Daily Oil Consumption (Barrels)  Country
      123                               556000  Pakistan
```

```
[34]: top_oil_consumers_and_pak = pd.concat([top_10_max_consumers,pak],
      ↪ignore_index=True)
      top_oil_consumers_and_pak
```

```
[34]:      Daily Oil Consumption (Barrels)  Country
      0                               19687287  United States
      1                               12791553      China
      2                               4443000   India
      3                               4012877   Japan
      4                               3631287   Russia
      5                               3302000  Saudi Arabia
      6                               2984000   Brazil
      7                               2605440  South Korea
      8                               2486301   Canada
      9                               2383393   Germany
      10                              556000   Pakistan
```

```
[35]: #lets visualize wher pakistan lies w.r.t oil conusmption
      plt.figure(figsize=(20,10))
      sns.barplot(data = top_oil_consumers_and_pak,
                  x = 'Country',
                  y= 'Daily Oil Consumption (Barrels)')
      plt.xlabel('Country')
      plt.ylabel('Daily Oil Consumption')
      plt.show()
```



Now lets see Some Countries who are selling petrol in high price.

```
[54]: df_high_prices = df.nlargest(20, 'Price Per Liter (PKR)')
df_high_prices
```

```
[54]:
```

	Country	Daily Oil Consumption (Barrels)	World Share \
147	North Korea	18000	0.018638
180	Tonga	899	0.000931
177	Niue	51	0.000053
40	Hong Kong	408491	0.422970
58	Norway	204090	0.211324
53	Denmark	158194	0.163801
63	Finland	210030	0.217475
141	Iceland	19090	0.019767
47	Greece	296101	0.306597
22	Netherlands	937098	0.970315
174	Central African Republic	2800	0.002899
15	Singapore	1357000	1.405100
43	Sweden	322109	0.333527
64	Portugal	236866	0.245262
14	United Kingdom	1583896	1.640039
28	Belgium	631522	0.653907
17	Spain	1290063	1.335791
118	Estonia	28855	0.029878
110	Latvia	37694	0.039030
50	Switzerland	228194	0.236283

Yearly Gallons Per Capita	Price Per Gallon (USD)	Price Per Liter (USD) \
---------------------------	------------------------	-------------------------

147	10.9	54.89	14.50
180	136.3	16.20	4.28
177	484.4	11.43	3.02
40	864.5	11.35	3.00
58	595.8	10.22	2.70
53	424.6	10.04	2.65
63	585.7	10.01	2.64
141	880.9	9.83	2.60
47	427.6	9.49	2.51
22	846.0	9.33	2.47
174	9.5	9.06	2.39
15	3679.5	8.71	2.30
43	502.0	8.70	2.30
64	351.7	8.55	2.26
14	366.2	8.38	2.22
28	852.6	8.36	2.21
17	424.1	8.35	2.21
118	336.0	8.35	2.21
110	292.7	8.28	2.19
50	417.5	8.27	2.19

	Price Per Liter (PKR)	GDP Per Capita (USD) \
147	3066.75	1,300
180	905.22	4,903
177	638.73	15,586
40	634.29	46,324
58	571.26	67,390
53	561.11	61,063
63	559.21	48,773
141	549.48	59,270
47	530.02	17,623
22	521.35	52,397
174	506.12	477
15	486.87	59,798
43	486.24	52,274
64	477.78	22,176
14	468.47	41,125
28	466.99	45,159
17	466.57	27,063
118	466.57	23,027
110	462.55	17,726
50	462.34	87,097

	Gallons GDP Per Capita Can Buy	xTimes Yearly Gallons Per Capita Buy
147	24	2
180	303	2
177	1,364	3

40	4,081	5
58	6,594	11
53	6,082	14
63	4,872	8
141	6,030	7
47	1,857	4
22	5,616	7
174	53	6
15	6,865	2
43	6,009	12
64	2,594	7
14	4,908	13
28	5,402	6
17	3,241	8
118	2,758	8
110	2,141	7
50	10,532	25

```
[55]: #plotting the above table
px.bar(data_frame=df_high_prices,
       x= 'Country',
       y= 'Price Per Liter (PKR)',
       color= 'Country')
```

5.3.1 Pakistan is not in the list of very high consuming countries neither it is in the countries where petrol price is highest, so we need to figure out why the price of pakistan has huge effect on its population.

So lets consider gdp per capita to get understanding of the serious effect.

```
[36]: #lets sort the whole dataset
df_sorted_desc = df.sort_values(by= 'Daily Oil Consumption (Barrels)',
                                ↪ascending=False)
```

```
[37]: df_sorted_desc.head()
```

```
[37]:
```

	Country	Daily Oil Consumption (Barrels)	World Share \
0	United States	19687287	20.385127
1	China	12791553	13.244965
2	India	4443000	4.600487
3	Japan	4012877	4.155118
4	Russia	3631287	3.760002

	Yearly Gallons Per Capita	Price Per Gallon (USD)	Price Per Liter (USD) \
0	934.3	5.19	1.37
1	138.7	5.42	1.43
2	51.4	5.05	1.33

3	481.5	4.69	1.24
4	383.2	3.41	0.90

	Price Per Liter (PKR)	GDP Per Capita (USD) \
0	289.97	63,414
1	302.87	10,435
2	281.93	1,901
3	262.05	40,193
4	190.56	10,127

	Gallons GDP Per Capita Can Buy	xTimes Yearly Gallons Per Capita Buy
0	12,218	13
1	1,925	14
2	376	7
3	8,570	18
4	2,970	8

```
[38]: top_oil_consumers_details = df_sorted_desc.head(10)
```

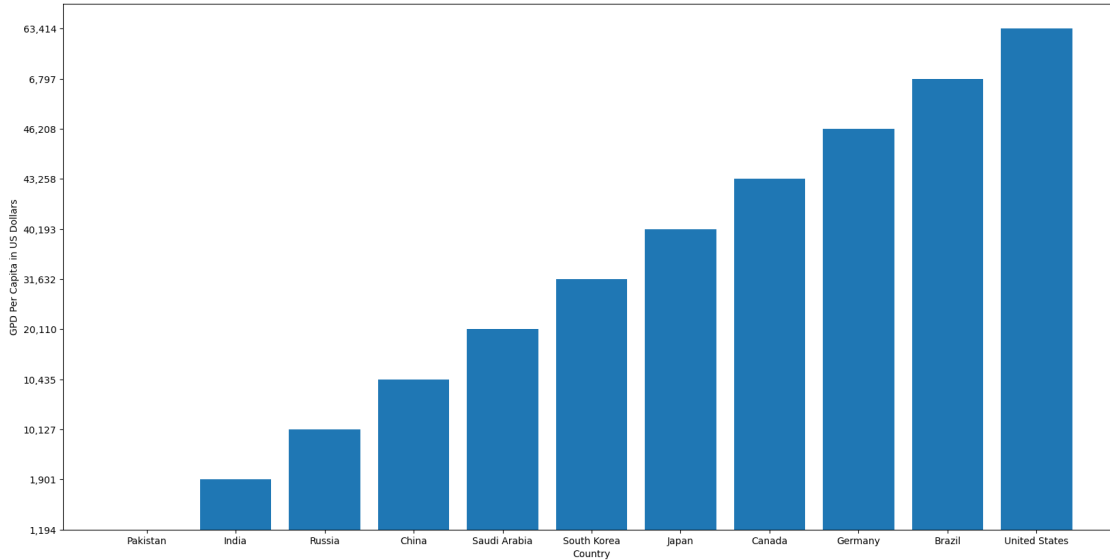
```
[39]: pak_details = df_sorted_desc[df_sorted_desc['Country'] == 'Pakistan']
```

```
[40]: #lets put pakistans details with the dataframe
top_oil_consumers_details_and_pak = pd.concat([top_oil_consumers_details,
↪ pak_details], ignore_index = True)
```

```
[45]: top_oil_consumers_details_and_pak = top_oil_consumers_details_and_pak.
↪ sort_values(by= 'GDP Per Capita ( USD )', ascending= True)
```

Now we will compare gdp of pakistan with gdps of highest oil consumer to check why price of petrol and gasoline has adverse effect in pakistan even they are not highest of the prices in the world and also pakistan is not the highest oil consumer.

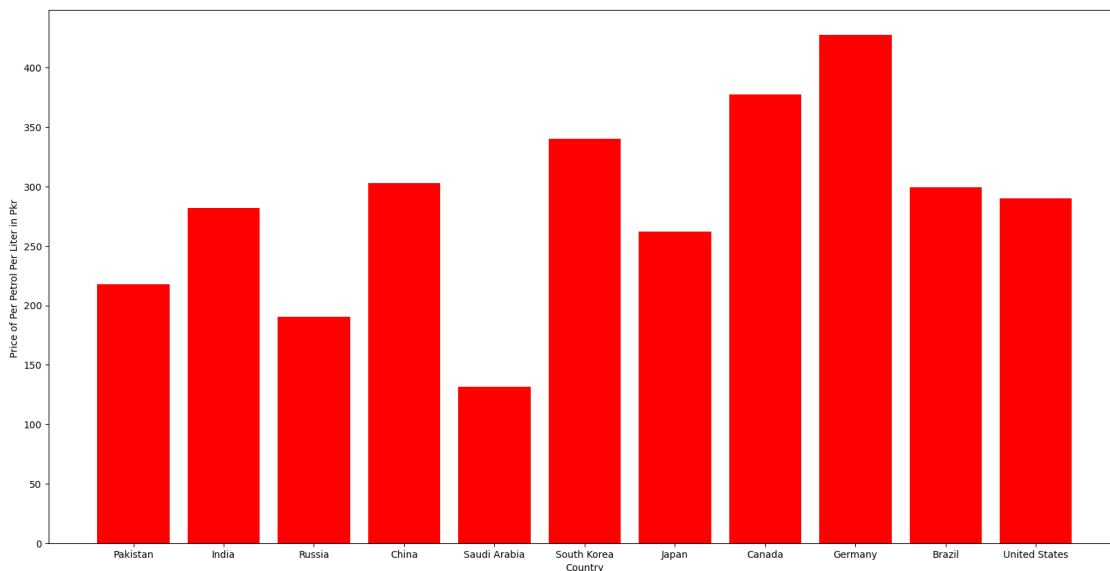
```
[46]: #lets visualize wher pakistan lies w.r.t oil conusmption
plt.figure(figsize=(20,10))
plt.bar(top_oil_consumers_details_and_pak['Country'],
        top_oil_consumers_details_and_pak['GDP Per Capita ( USD )'])
plt.xlabel('Country')
plt.ylabel('GPD Per Capita in US Dollars')
plt.show()
```



As you can see pakistan has the lowest gdp per capita among top oil consumers that is the reason of the adverse effect petrol price in pakistan.

Now lets see where does pakistan lies when we compare it with all these countries with Price of Per Liter Petrol in Pkr

```
[62]: plt.figure(figsize=(20,10))
plt.bar(top_oil_consumers_details_and_pak['Country'],
        top_oil_consumers_details_and_pak['Price Per Liter (PKR)'],
        color = 'r')
plt.xlabel('Country')
plt.ylabel('Price of Per Petrol Per Liter in Pkr ')
plt.show()
```

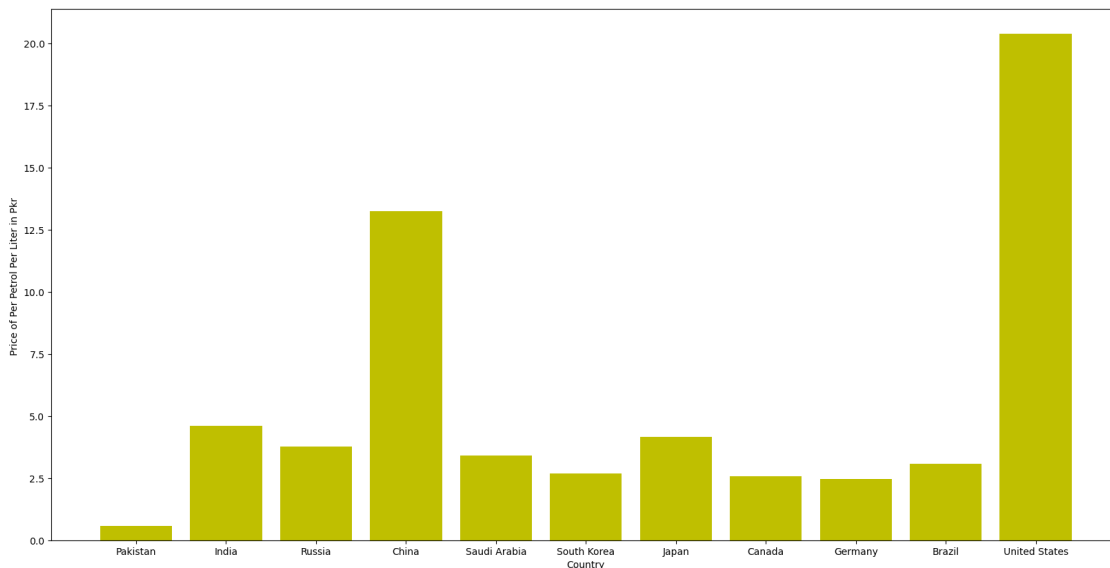


Pakistan is not the country having the lowest of the price in pkr but it is at the 8 place.

Saudia and Russia have the lower prices because they are the one of the leading oil producers.

5.3.2 Now we will Consider these countries and their Total world share percentage

```
[49]: plt.figure(figsize=(20,10))
plt.bar(top_oil_consumers_details_and_pak['Country'],
        top_oil_consumers_details_and_pak['World Share'],
        color = 'y')
plt.xlabel('Country')
plt.ylabel('Price of Per Petrol Per Liter in Pkr ')
plt.show()
```



5.3.3 Now Lets see how Daily Consumption of Oil effect the price

```
[67]: px.scatter(df,
                x= 'Price Per Liter (USD)',
                y= 'Daily Oil Consumption (Barrels)',
                size = 'Price Per Liter (USD)',
                color= 'Country')
```

```
[ ]:
```