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20104028

Basic Analysis using Numpy and Pandas

Importing libraries

In [1]:
```python
import pandas as pd
import numpy as np
```

importing datasets

In [2]:
```python
df=pd.read_csv("2015.csv")
df
```

Out[2]:

	Country	Region	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedom
0	Switzerland	Western Europe	1	7.587	0.03411	1.39651	1.34951	0.94143	0.6655
1	Iceland	Western Europe	2	7.561	0.04884	1.30232	1.40223	0.94784	0.6287
2	Denmark	Western Europe	3	7.527	0.03328	1.32548	1.36058	0.87464	0.6493
3	Norway	Western Europe	4	7.522	0.03880	1.45900	1.33095	0.88521	0.6697
4	Canada	North America	5	7.427	0.03553	1.32629	1.32261	0.90563	0.6329
...	...	...	...	...	...	...	...	...	.
153	Rwanda	Sub-Saharan Africa	154	3.465	0.03464	0.22208	0.77370	0.42864	0.5920
154	Benin	Sub-Saharan Africa	155	3.340	0.03656	0.28665	0.35386	0.31910	0.4845
155	Syria	Middle East and Northern Africa	156	3.006	0.05015	0.66320	0.47489	0.72193	0.1568

	Country	Region	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedor
156	Burundi	Sub-Saharan Africa	157	2.905	0.08658	0.01530	0.41587	0.22396	0.1185
		Sub-							

To display first 10 rows

In [3]:
```
df.head(10)
```

Out[3]:

	Country	Region	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedom
0	Switzerland	Western Europe	1	7.587	0.03411	1.39651	1.34951	0.94143	0.66557
1	Iceland	Western Europe	2	7.561	0.04884	1.30232	1.40223	0.94784	0.62877
2	Denmark	Western Europe	3	7.527	0.03328	1.32548	1.36058	0.87464	0.64938
3	Norway	Western Europe	4	7.522	0.03880	1.45900	1.33095	0.88521	0.66973
4	Canada	North America	5	7.427	0.03553	1.32629	1.32261	0.90563	0.63297
5	Finland	Western Europe	6	7.406	0.03140	1.29025	1.31826	0.88911	0.64169
6	Netherlands	Western Europe	7	7.378	0.02799	1.32944	1.28017	0.89284	0.61576
7	Sweden	Western Europe	8	7.364	0.03157	1.33171	1.28907	0.91087	0.65980
8	New Zealand	Australia and New Zealand	9	7.286	0.03371	1.25018	1.31967	0.90837	0.63938
9	Australia	Australia and New Zealand	10	7.284	0.04083	1.33358	1.30923	0.93156	0.65124

To display last 5 rows

In [4]:
```
df.tail(5)
```

Out[4]:

	Country	Region	Happiness	Happiness	Standard	Economy	Family	Health (Life	Freedom

			Rank	Score	Error	(GDP per Capita)		Expectancy)	
153	Rwanda	Sub-Saharan Africa	154	3.465	0.03464	0.22208	0.77370	0.42864	0.59201
154	Benin	Sub-Saharan Africa	155	3.340	0.03656	0.28665	0.35386	0.31910	0.48450
155	Syria	Middle East and Northern Africa	156	3.006	0.05015	0.66320	0.47489	0.72193	0.15684
156	Burundi	Sub-Saharan Africa	157	2.905	0.08658	0.01530	0.41587	0.22396	0.11850
157	Togo	Sub-Saharan Africa	158	2.839	0.06727	0.20868	0.13995	0.28443	0.36453

Statistical Summary

In [5]:
```python
df.describe()
```

Out[5]:

	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedom	(Government Corrupt
count	158.000000	158.000000	158.000000	158.000000	158.000000	158.000000	158.000000	158.00
mean	79.493671	5.375734	0.047885	0.846137	0.991046	0.630259	0.428615	0.14
std	45.754363	1.145010	0.017146	0.403121	0.272369	0.247078	0.150693	0.12
min	1.000000	2.839000	0.018480	0.000000	0.000000	0.000000	0.000000	0.00
25%	40.250000	4.526000	0.037268	0.545808	0.856823	0.439185	0.328330	0.06
50%	79.500000	5.232500	0.043940	0.910245	1.029510	0.696705	0.435515	0.10
75%	118.750000	6.243750	0.052300	1.158448	1.214405	0.811013	0.549092	0.18
max	158.000000	7.587000	0.136930	1.690420	1.402230	1.025250	0.669730	0.55

To print no of rows and columns

In [6]:
```python
df.shape
```

Out[6]: (158, 12)

To print total no of elements

In [7]:
```python
df.size
```

Out[7]: 1896

To find the null value

In [8]:
```python
df.isna()
```

Out[8]:

	Country	Region	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedom	(C (
0	False	False	False	False	False	False	False	False	False	
1	False	False	False	False	False	False	False	False	False	
2	False	False	False	False	False	False	False	False	False	
3	False	False	False	False	False	False	False	False	False	
4	False	False	False	False	False	False	False	False	False	
...	...	...	...	...	...	...	...	...	...	
153	False	False	False	False	False	False	False	False	False	
154	False	False	False	False	False	False	False	False	False	
155	False	False	False	False	False	False	False	False	False	
156	False	False	False	False	False	False	False	False	False	
157	False	False	False	False	False	False	False	False	False	

158 rows × 12 columns

To drop the missing value

In [9]:
```python
df.dropna()
```

Out[9]:

	Country	Region	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedor
0	Switzerland	Western Europe	1	7.587	0.03411	1.39651	1.34951	0.94143	0.6655
1	Iceland	Western Europe	2	7.561	0.04884	1.30232	1.40223	0.94784	0.6287
2	Denmark	Western Europe	3	7.527	0.03328	1.32548	1.36058	0.87464	0.6493
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	Country	Region	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedor
4	Canada	North America	5	7.427	0.03553	1.32629	1.32261	0.90563	0.6329
...	...	...	...	...	...	...	...	...	
153	Rwanda	Sub-Saharan Africa	154	3.465	0.03464	0.22208	0.77370	0.42864	0.5920
154	Benin	Sub-Saharan Africa	155	3.340	0.03656	0.28665	0.35386	0.31910	0.4845
155	Syria	Middle East and Northern Africa	156	3.006	0.05015	0.66320	0.47489	0.72193	0.1568
156	Burundi	Sub-Saharan Africa	157	2.905	0.08658	0.01530	0.41587	0.22396	0.1185
157	Togo	Sub-Saharan	158	2.839	0.06727	0.20868	0.13995	0.28443	0.3645