

```
In [1]: import pandas as pd  
import numpy as np  
import matplotlib.pyplot as plt
```

```
In [2]: data=pd.read_csv(r"C:\Users\user\Desktop\Vicky\2_2015.csv")
```

```
In [3]: data.shape
```

```
Out[3]: (158, 12)
```

In [4]: data.head

```
Out[4]: <bound method NDFrame.head of
on Happiness Rank \
0      Switzerland      Western Europe      1
1      Iceland      Western Europe      2
2      Denmark      Western Europe      3
3      Norway      Western Europe      4
4      Canada      North America      5
..      ...      ...      ...
153      Rwanda      Sub-Saharan Africa      154
154      Benin      Sub-Saharan Africa      155
155      Syria      Middle East and Northern Africa      156
156      Burundi      Sub-Saharan Africa      157
157      Togo      Sub-Saharan Africa      158

      Happiness Score      Standard Error      Economy (GDP per Capita)      Family \
0      7.587      0.03411      1.39651      1.34951
1      7.561      0.04884      1.30232      1.40223
2      7.527      0.03328      1.32548      1.36058
3      7.522      0.03880      1.45900      1.33095
4      7.427      0.03553      1.32629      1.32261
..      ...      ...      ...      ...
153      3.465      0.03464      0.22208      0.77370
154      3.340      0.03656      0.28665      0.35386
155      3.006      0.05015      0.66320      0.47489
156      2.905      0.08658      0.01530      0.41587
157      2.839      0.06727      0.20868      0.13995

      Health (Life Expectancy)      Freedom      Trust (Government Corruption) \
0      0.94143      0.66557      0.41978
1      0.94784      0.62877      0.14145
2      0.87464      0.64938      0.48357
3      0.88521      0.66973      0.36503
4      0.90563      0.63297      0.32957
..      ...      ...      ...
153      0.42864      0.59201      0.55191
154      0.31910      0.48450      0.08010
155      0.72193      0.15684      0.18906
156      0.22396      0.11850      0.10062
157      0.28443      0.36453      0.10731

      Generosity      Dystopia Residual
0      0.29678      2.51738
1      0.43630      2.70201
2      0.34139      2.49204
3      0.34699      2.46531
4      0.45811      2.45176
..      ...      ...
153      0.22628      0.67042
154      0.18260      1.63328
155      0.47179      0.32858
156      0.19727      1.83302
157      0.16681      1.56726
```

[158 rows x 12 columns]>

In [5]:

data.tail()

Out[5]:

	Country	Region	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedom
153	Rwanda	Sub-Saharan Africa	154	3.465	0.03464	0.22208	0.77370	0.42864	0.592
154	Benin	Sub-Saharan Africa	155	3.340	0.03656	0.28665	0.35386	0.31910	0.484
155	Syria	Middle East and Northern Africa	156	3.006	0.05015	0.66320	0.47489	0.72193	0.156
156	Burundi	Sub-Saharan Africa	157	2.905	0.08658	0.01530	0.41587	0.22396	0.118
157	Togo	Sub-Saharan Africa	158	2.839	0.06727	0.20868	0.13995	0.28443	0.364

In [6]:

data.describe()

Out[6]:

	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedom	(G C
count	158.000000	158.000000	158.000000	158.000000	158.000000	158.000000	158.000000	1
mean	79.493671	5.375734	0.047885	0.846137	0.991046	0.630259	0.428615	
std	45.754363	1.145010	0.017146	0.403121	0.272369	0.247078	0.150693	
min	1.000000	2.839000	0.018480	0.000000	0.000000	0.000000	0.000000	
25%	40.250000	4.526000	0.037268	0.545808	0.856823	0.439185	0.328330	
50%	79.500000	5.232500	0.043940	0.910245	1.029510	0.696705	0.435515	
75%	118.750000	6.243750	0.052300	1.158448	1.214405	0.811013	0.549092	
max	158.000000	7.587000	0.136930	1.690420	1.402230	1.025250	0.669730	

```
In [7]: data.isna()
```

Out[7]:

	Country	Region	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Freedom
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



```
In [8]: data.size
```

Out[8]: 1896

```
In [9]: data.isna
```

```
Out[9]: <bound method DataFrame.isna of          Country          Re
gion Happiness Rank \
0      Switzerland      Western Europe      1
1      Iceland      Western Europe      2
2      Denmark      Western Europe      3
3      Norway      Western Europe      4
4      Canada      North America      5
..      ...      ...      ...
153      Rwanda      Sub-Saharan Africa      154
154      Benin      Sub-Saharan Africa      155
155      Syria      Middle East and Northern Africa      156
156      Burundi      Sub-Saharan Africa      157
157      Togo      Sub-Saharan Africa      158

      Happiness Score      Standard Error      Economy (GDP per Capita)      Family \
0      7.587      0.03411      1.39651      1.34951
1      7.561      0.04884      1.30232      1.40223
2      7.527      0.03328      1.32548      1.36058
3      7.522      0.03880      1.45900      1.33095
4      7.427      0.03553      1.32629      1.32261
..      ...      ...      ...      ...
153      3.465      0.03464      0.22208      0.77370
154      3.340      0.03656      0.28665      0.35386
155      3.006      0.05015      0.66320      0.47489
156      2.905      0.08658      0.01530      0.41587
157      2.839      0.06727      0.20868      0.13995

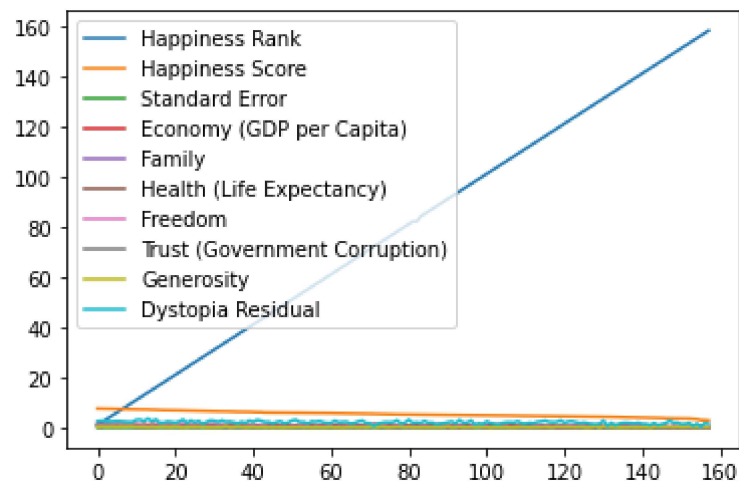
      Health (Life Expectancy)      Freedom      Trust (Government Corruption) \
0      0.94143      0.66557      0.41978
1      0.94784      0.62877      0.14145
2      0.87464      0.64938      0.48357
3      0.88521      0.66973      0.36503
4      0.90563      0.63297      0.32957
..      ...      ...      ...
153      0.42864      0.59201      0.55191
154      0.31910      0.48450      0.08010
155      0.72193      0.15684      0.18906
156      0.22396      0.11850      0.10062
157      0.28443      0.36453      0.10731

      Generosity      Dystopia Residual
0      0.29678      2.51738
1      0.43630      2.70201
2      0.34139      2.49204
3      0.34699      2.46531
4      0.45811      2.45176
..      ...      ...
153      0.22628      0.67042
154      0.18260      1.63328
155      0.47179      0.32858
156      0.19727      1.83302
157      0.16681      1.56726
```

```
[158 rows x 12 columns]>
```

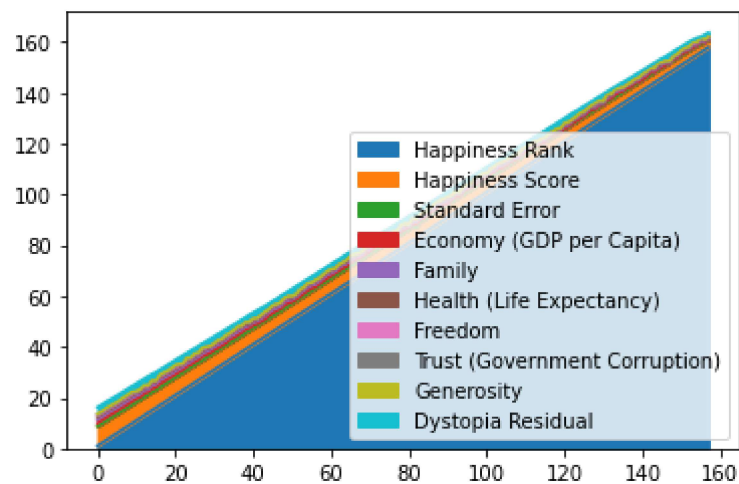
```
In [10]: data.plot.line()
```

```
Out[10]: <AxesSubplot:>
```



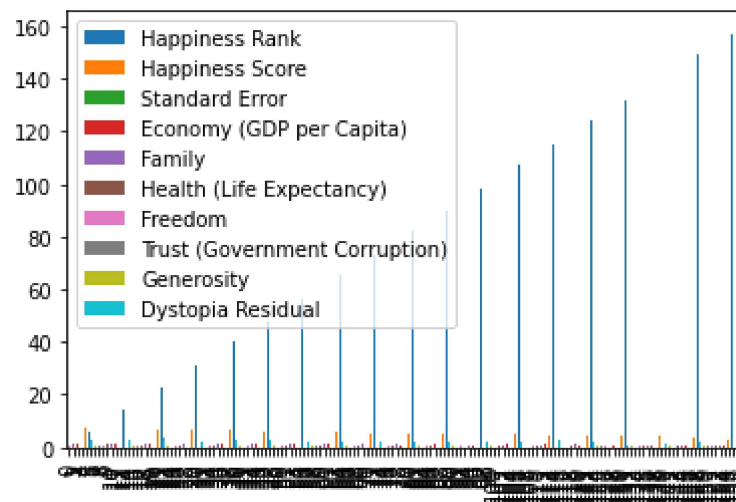
```
In [11]: data.plot.area()
```

```
Out[11]: <AxesSubplot:>
```



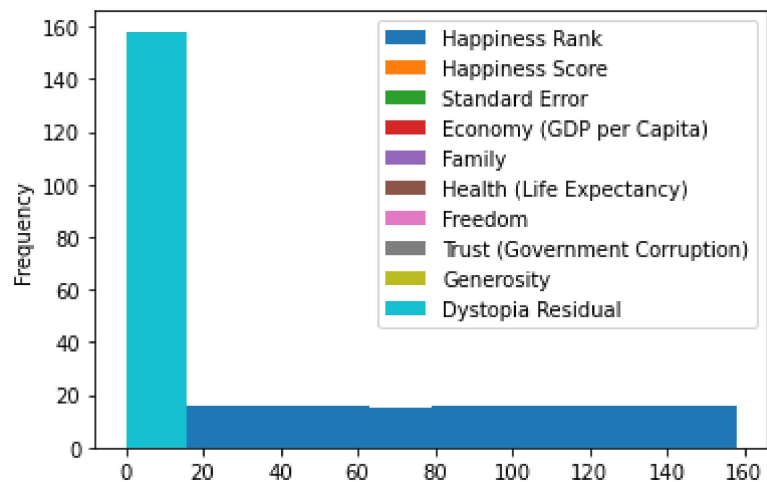
```
In [12]: data.plot.bar()
```

```
Out[12]: <AxesSubplot:>
```



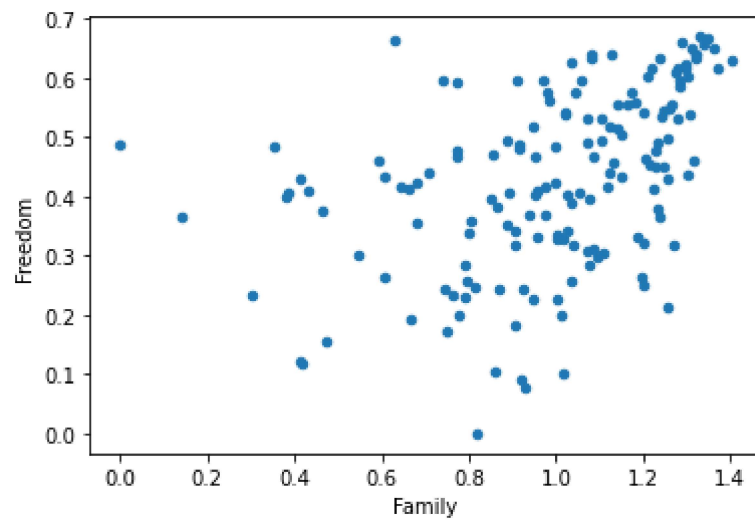
```
In [13]: data.plot.hist()
```

```
Out[13]: <AxesSubplot:ylabel='Frequency'>
```



```
In [15]: data.plot.scatter(x="Family",y='Freedom')
```

```
Out[15]: <AxesSubplot:xlabel='Family', ylabel='Freedom'>
```




```
In [16]: data.fillna(value=5)
```

Out[16]:

	Country	Region	Happiness Rank	Happiness Score	Standard Error	Economy (GDP per Capita)	Family	Health (Life Expectancy)	Fre
0	Switzerland	Western Europe	1	7.587	0.03411	1.39651	1.34951	0.94143	0.
1	Iceland	Western Europe	2	7.561	0.04884	1.30232	1.40223	0.94784	0.
2	Denmark	Western Europe	3	7.527	0.03328	1.32548	1.36058	0.87464	0.
3	Norway	Western Europe	4	7.522	0.03880	1.45900	1.33095	0.88521	0.
4	Canada	North America	5	7.427	0.03553	1.32629	1.32261	0.90563	0.
...
153	Rwanda	Sub-Saharan Africa	154	3.465	0.03464	0.22208	0.77370	0.42864	0.
154	Benin	Sub-Saharan Africa	155	3.340	0.03656	0.28665	0.35386	0.31910	0.
155	Syria	Middle East and Northern Africa	156	3.006	0.05015	0.66320	0.47489	0.72193	0.
156	Burundi	Sub-Saharan Africa	157	2.905	0.08658	0.01530	0.41587	0.22396	0.
157	Togo	Sub-Saharan Africa	158	2.839	0.06727	0.20868	0.13995	0.28443	0.

158 rows × 12 columns



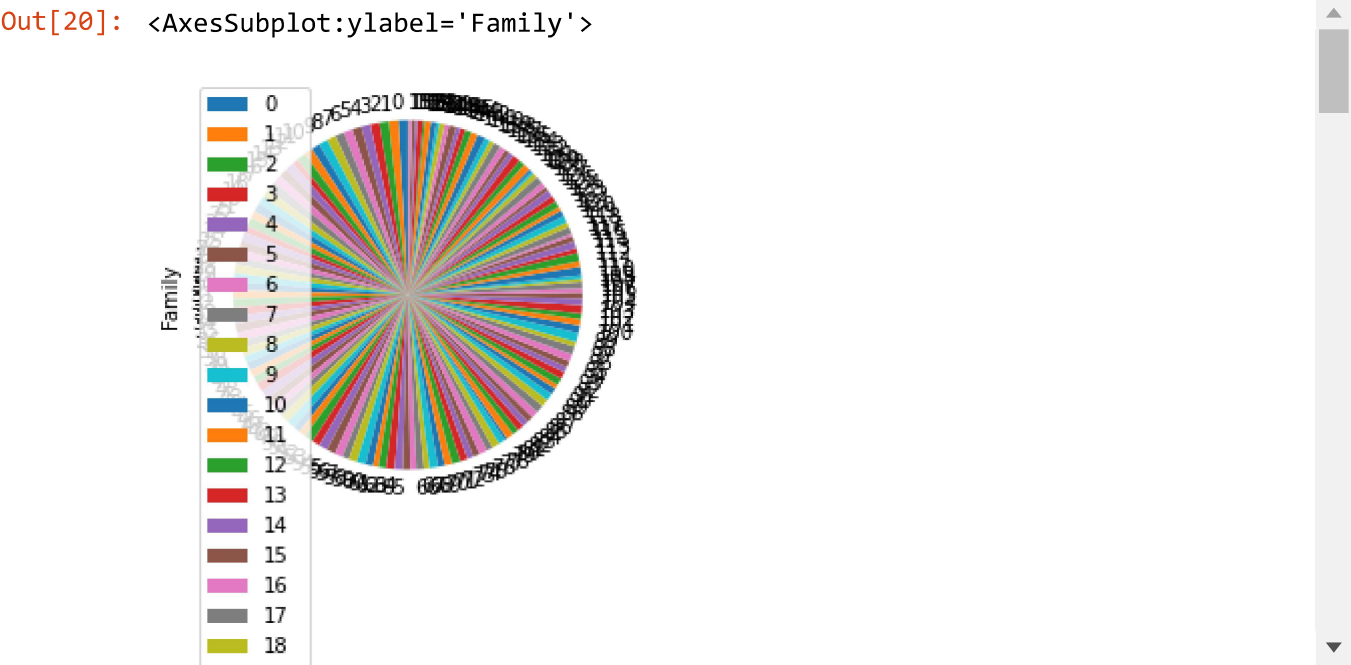
```
In [17]: pd.isna(data)
```

Out[17]:

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

158 rows × 12 columns

```
In [20]: data.plot.pie(y="Family", startangle=90)
```



```
In [ ]:
```

