Part 1 Question 1: Analyze the ramen data

Tasks:

In [ ]:
```
import pandas as pd
```

1. Read the data from the CSV file into a DataFrame.

In [ ]:
```
df = pd.read_csv('datasets/ramen-ratings.csv')
df
```

Out[ ]:

	Brand	Variety	Style	Country	Stars
0	New Touch	T's Restaurant Tantanmen	Cup	Japan	3.75
1	Just Way	Noodles Spicy Hot Sesame Spicy Hot Sesame Guan...	Pack	Taiwan	1.00
2	Nissin	Cup Noodles Chicken Vegetable	Cup	USA	2.25
3	Wei Lih	GGE Ramen Snack Tomato Flavor	Pack	Taiwan	2.75
4	Ching's Secret	Singapore Curry	Pack	India	3.75
...	...	...	...	...	...
2572	Vifon	Hu Tiu Nam Vang ["Phnom Penh" style] Asian Sty...	Bowl	Vietnam	3.50
2573	Wai Wai	Oriental Style Instant Noodles	Pack	Thailand	1.00
2574	Wai Wai	Tom Yum Shrimp	Pack	Thailand	2.00
2575	Wai Wai	Tom Yum Chili Flavor	Pack	Thailand	2.00
2576	Westbrae	Miso Ramen	Pack	USA	0.50

2577 rows × 5 columns

2. Display the first five rows of data.

In [ ]:
```
df.head(5)
```

Out[ ]:

	Brand	Variety	Style	Country	Stars
0	New Touch	T's Restaurant Tantanmen	Cup	Japan	3.75
1	Just Way	Noodles Spicy Hot Sesame Spicy Hot Sesame Guan...	Pack	Taiwan	1.00
2	Nissin	Cup Noodles Chicken Vegetable	Cup	USA	2.25
3	Wei Lih	GGE Ramen Snack Tomato Flavor	Pack	Taiwan	2.75
4	Ching's Secret	Singapore Curry	Pack	India	3.75

3. Display the last five rows of data.

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

Out[ ]:

	Brand	Variety	Style	Country	Stars
2572	Vifon	Hu Tiu Nam Vang ["Phnom Penh" style] Asian Sty...	Bowl	Vietnam	3.5
2573	Wai Wai	Oriental Style Instant Noodles	Pack	Thailand	1.0
2574	Wai Wai	Tom Yum Shrimp	Pack	Thailand	2.0
2575	Wai Wai	Tom Yum Chili Flavor	Pack	Thailand	2.0
2576	Westbrae	Miso Ramen	Pack	USA	0.5

4. Display statistical information for the numeric columns using the describe() method.

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

Out[ ]:

	Stars
count	2577.000000
mean	3.654676
std	1.015331
min	0.000000
25%	3.250000
50%	3.750000
75%	4.250000
max	5.000000

5. Display the number of unique values for each column.

In [ ]:
```
df.nunique()
```

Out[ ]:
```
Brand       355
Variety    2410
Style         7
Country      38
Stars        42
dtype: int64
```

6. Display only rows where the country is Vietnam.

In [ ]:
```
df[df['Country'] == 'Vietnam']
```

Out[ ]:

	Brand	Variety	Style	Country	Stars
18	Binh Tay	Mi Hai Cua	Pack	Vietnam	4.00
52	Uni-President	Mushroom Flavor	Pack	Vietnam	0.00
143	Mum Ngon	Lau Tom Chua Cay	Pack	Vietnam	3.50
224	Vifon	Viet Cuisine Bun Rieu Cua Sour Crab Soup Insta...	Bowl	Vietnam	5.00
365	Acecook	Oh! Ricey Pork Flavour	Pack	Vietnam	4.00
...	...	...	...	...	...
2486	Binh Tay	Mi Chay Mushroom	Pack	Vietnam	2.75
2535	Ve Wong	Kung-Fu Chicken Flavor	Pack	Vietnam	2.75
2570	Ve Wong	Mushroom Pork	Pack	Vietnam	1.00
2571	Vifon	Nam Vang	Pack	Vietnam	2.50
2572	Vifon	Hu Tiu Nam Vang ["Phnom Penh" style] Asian Sty...	Bowl	Vietnam	3.50

108 rows × 5 columns

7. Display only the Brand and Style columns.

In [ ]:
```
df[['Brand', 'Style']]
```

Out[ ]:

	Brand	Style
0	New Touch	Cup
1	Just Way	Pack
2	Nissin	Cup
3	Wei Lih	Pack
4	Ching's Secret	Pack
...	...	...
2572	Vifon	Bowl
2573	Wai Wai	Pack
2574	Wai Wai	Pack
2575	Wai Wai	Pack
2576	Westbrae	Pack

2577 rows × 2 columns

8. Display only the Country column.

In [ ]:
```
df['Country']
```

Out[ ]:
```
0          Japan
1         Taiwan
2            USA
3         Taiwan
4          India
          ...
2572     Vietnam
2573    Thailand
2574    Thailand
2575    Thailand
2576         USA
Name: Country, Length: 2577, dtype: object
```

9. Display the data after it has been sorted by the Stars column from high values to low values.

In [ ]:
```
df.sort_values(by='Stars', ascending=False)
```

Out[ ]:

	Brand	Variety	Style	Country	Stars
1585	Prima Taste	Singapore Laksa La Mian	Pack	Singapore	5.0
446	Maruchan	Instant Lunch Chipotle Chicken Flavor Ramen No...	Cup	USA	5.0
484	Nongshim	Champong Noodle Soup Spicy Seafood Flavor	Pack	South Korea	5.0
483	Nissin	Straits Kitchen Laksa	Pack	Singapore	5.0
1613	Nissin	Raoh Backfat Rich Soy Sauce Flavor	Bowl	Japan	5.0
...	...	...	...	...	...
522	Koyo	Garlic Pepper Reduced Sodium Ramen	Pack	USA	0.0
561	Samyang Foods	Honey & Cheese Big Bowl	Bowl	South Korea	0.0
950	Azami	Kimchee Noodle Soup	Cup	Canada	0.0
2079	Hsin Tung Yang	Tiny Noodle With Oyster Flavor	Pack	Taiwan	0.0
52	Uni-President	Mushroom Flavor	Pack	Vietnam	0.0

2577 rows × 5 columns

10. In the Country column replace “USA” with “United States” Make sure this change is saved in the DataFrame and then display the first five rows to be sure the change was made correctly.

In [ ]:
```
df['Country'] = df['Country'].replace('USA', 'United States')
df.head()
```

Out[ ]:

	Brand	Variety	Style	Country	Stars
0	New Touch	T's Restaurant Tantanmen	Cup	Japan	3.75
1	Just Way	Noodles Spicy Hot Sesame Spicy Hot Sesame Guan...	Pack	Taiwan	1.00
2	Nissin	Cup Noodles Chicken Vegetable	Cup	United States	2.25
3	Wei Lih	GGE Ramen Snack Tomato Flavor	Pack	Taiwan	2.75
4	Ching's Secret	Singapore Curry	Pack	India	3.75

Questions:

1. How many countries are represented in the data?

In [ ]:
```
df['Country'].nunique()
```

Out[ ]: 37

There are 37 countries represented in the data

2. Which three countries have the highest average rating?

In [ ]:
```
df[['Country', 'Stars']].groupby('Country').mean().sort_values(by='Stars', a
```

Out[ ]:

Country	Stars
Brazil	4.350000
Sarawak	4.333333
Cambodia	4.200000

The 3 countries with the highest average rating are:

1. Brazil
2. Sarawak
3. Cambodia

3. Which three countries have the lowest average rating?

In [ ]:
```
df[['Country', 'Stars']].groupby('Country').mean().sort_values(by='Stars', a
```

Out[ ]:

Country	Stars
Netherlands	2.483333
Canada	2.243902
Nigeria	1.500000

The 3 countries with the lowest average rating are:

1. Netherlands
2. Canada
3. Nigeria

4. Which three countries have the most brands and how many brands does each of these countries have?

In [ ]:
```
df[['Country', 'Brand']].groupby('Country').count().sort_values(by='Brand',
```

Out[ ]:

Country	Brand
Japan	352
United States	324
South Korea	307

The 3 countries with the who have the most brands are:

1. Japan with **352** brands
2. United States with **324** brands
3. Cambodia with **307** brands