

## Jupyter Notebook and Pandas Hands-On

This Hands-On will be graded. The best way to become a data scientist is to practice!

Caution!

Do not submit your project until you have completed all requirements, as you will not be able to resubmit.

You are working for an ecology company, and they have been tracking bison throughout North America. They've collected [data on the location, number, genus, and species of bison](#). They'd like to know some basic information about the bison, to determine whether the species is still in danger or whether it is recovering.

import pandas as pd

Please perform the following tasks:

- Read in your data as a CSV file `bison = pd.read_csv('/Users/music/Desktop/bison.csv')`

```
#Read in your data as a CCSV file bison  
bison = pd.read_csv('/Users/music/Desktop/bison.csv')
```

- Look at the first seven rows of your data `bison.head(7)`

```
#Look at the first seven rows of your data  
bison.head(7)
```

	Collection/Population Locality	SpecimenNumber	Genus	Species	Length
0	12 Mile Creek	112916	Bison	antiquus	8
1	12 Mile Creek	112917	Bison	antiquus	7
2	12 Mile Creek	112918	Bison	antiquus	7
3	12 Mile Creek	112919	Bison	antiquus	8
4	12 Mile Creek	112921	Bison	antiquus	9
5	12 Mile Creek	112925	Bison	antiquus	9
6	Agate Basin-Agate Basin	458	Bison	antiquus	7

- 
- Look at the last ten rows of your data `bison.tail(7)`

```
#Look at the last seven rows of your data
bison.tail(7)
```

	Collection/Population Locality	SpecimenNumber	Genus	Species	Length
1100	Simonsen	SW37 #9	Bison	antiquus	9
1101	Simonsen	SW37 #9	Bison	antiquus	8
1102	Terapa	TERA 403	Bison	antiquus	7
1103	Terapa	TERA 404	Bison	antiquus	8
1104	Terapa	TERA 426	Bison	antiquus	9
1105	WICA	422F7A5179	Bison	bison	7
1106	WICA	AVID*074*597*636	Bison	bison	7

- Determine the number of rows and columns your dataset has 1106 + the 0 row = 1107  
OR len(bison) = rows: 1107, columns: 5 len(bison.columns)

```
#Determine the number of rows your dataset
len(bison)
```

```
1107
```

```
#Determine the number of columns your dataset
len(bison.columns)
```

```
5
```

And answer the following questions:

- How many bison are of the species antiquus? bison.Species.describe() 633

```
#How many bison are of the species antiquus?
bison.Species.describe()
```

```
count      1107
unique         3
top    antiquus
freq         633
Name: Species, dtype: object
```

- What is the mean and standard deviation of Length? `bison.mean()` 7.98103,  
`bison.describe()` std 0.808299

```
#What is the mean and standard deviation of Length?bison.mean()  
bison.describe()
```

Length	
count	1107.000000
mean	7.981030
std	0.808299
min	7.000000
25%	7.000000
50%	8.000000
75%	9.000000
max	9.000000

- What is the median length of the bison? `bison.median()` Length 8.0

```
| #What is the median length of the bison?  
bison.median()
```

```
Length      8.0  
dtype: float64
```

Please annotate your code with markdown to explain each step, then attach your ipynb or an HTML copy of your notebook here, so your work can be graded.