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1.Loading Dataset into tool

```
from google.colab import files
```

```
uploaded = files.upload()
```

Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.

```
Saving abalone.csv to abalone.csv
```

```
import pandas as pd
```

```
import numpy as np
```

```
import matplotlib.pyplot as plt
```

```
import seaborn as sns
```

```
import warnings
```

```
warnings.filterwarnings('ignore')
```

```
data = pd.read_csv("abalone.csv")
```

2.Performing Visualization

Univariate Analysis

```
data.head()
```

Sex	Length	Diameter	Height	Whole weight	Shucked weight	Viscera weight	Shell weight
0	M	0.455	0.365	0.095	0.5140	0.2245	0.1010
1	M	0.350	0.265	0.090	0.2255	0.0995	0.0485

2	F	0.530	0.420	0.135	0.6770	0.2565	0.1415	0.210	9
3	M	0.440	0.365	0.125	0.5160	0.2155	0.1140	0.155	10
4	I	0.330	0.255	0.080	0.2050	0.0895	0.0395	0.055	7

```
sns.boxplot(data['Diameter'])
```

```
plt.hist(data['Diameter'])
```

```
(array([ 13., 66., 180., 344., 513., 812., 1017., 934., 275.,
        23.]),
```

```
array([0.055 , 0.1145, 0.174 , 0.2335, 0.293 , 0.3525, 0.412 , 0.4715,
        0.531 , 0.5905, 0.65 ]),
```

```
)
```

```
plt.plot(data['Diameter'].head(10))
```

```
[]
```

```
plt.pie(data['Diameter'].head(),autopct='%.3f')
```

```
([,
```

```
,
```

```
,
```

```
,
```

```
],
```

```
[Text(0.8507215626110557, 0.6973326486753676, ""),
```

```
Text(-0.32611344931648134, 1.0505474849691026, ""),
```

```
Text(-1.0998053664078908, -0.02069193128747144, ""),
```

```
Text(-0.08269436219656089, -1.096887251480709, ""),
```

```
Text(0.9758446362287218, -0.5076684409569241, ""),  
[Text(0.46402994324239394, 0.3803632629138369, '21.856'),  
Text(-0.17788006326353525, 0.5730259008922377, '15.868'),  
Text(-0.5998938362224858, -0.011286507974984419, '25.150'),  
Text(-0.045106015743578656, -0.5983021371712958, '21.856'),  
Text(0.5322788924883937, -0.2769100587037768, '15.269'))]
```

```
sns.distplot(data['Diameter'].head(300))
```

```
plt.scatter(data['Diameter'].head(400),data['Length'].head(400))
```

```
plt.bar(data['Sex'].head(20),data['Rings'].head(20))
```

```
plt.title('Bar plot')
```

```
plt.xlabel('Diameter')
```

```
plt.ylabel('Rings')
```

```
Text(0, 0.5, 'Rings')
```

```
sns.barplot(data['Sex'], data['Rings'])
```

```
sns.jointplot(data['Diameter'].head(50),data['Rings'].head(100))
```

```
sns.barplot('Diameter', 'Rings', hue='Sex', data=data.head())
```

```
sns.lineplot(data['Diameter'].head(),data['Rings'].head())
```

```
sns.boxplot(data['Sex'].head(10),data['Diameter'].head(10),data['Rings'].head(10))
```

```
fig=plt.figure(figsize=(8,5))
```

```
sns.heatmap(data.head().corr(),annot=True)
```

```
sns.pairplot(data.head(),hue='Height')
```

```
sns.pairplot(data.head())
```

3.Perform Descriptive Statistics on the dataset

```
data.head()
```

	Sex	Length	Diameter	Height	Whole weight	Shucked weight	Viscera weight	Shell weight	Rings
0	M	0.455	0.365	0.095	0.5140	0.2245	0.1010	0.150	15
1	M	0.350	0.265	0.090	0.2255	0.0995	0.0485	0.070	7
2	F	0.530	0.420	0.135	0.6770	0.2565	0.1415	0.210	9
3	M	0.440	0.365	0.125	0.5160	0.2155	0.1140	0.155	10
4	I	0.330	0.255	0.080	0.2050	0.0895	0.0395	0.055	7

```
data.tail()
```

	Sex	Length	Diameter	Height	Whole weight	Shucked weight	Viscera weight	Shell weight	Rings
4172	F	0.565	0.450	0.165	0.8870	0.3700	0.2390	0.2490	11
4173	M	0.590	0.440	0.135	0.9660	0.4390	0.2145	0.2605	10
4174	M	0.600	0.475	0.205	1.1760	0.5255	0.2875	0.3080	9
4175	F	0.625	0.485	0.150	1.0945	0.5310	0.2610	0.2960	10

4176 M 0.710 0.555 0.195 1.9485 0.9455 0.3765 0.4950 12

data.info()

RangeIndex: 4177 entries, 0 to 4176

Data columns (total 9 columns):

#	Column	Non-Null Count	Dtype
0	Sex	4177 non-null	object
1	Length	4177 non-null	float64
2	Diameter	4177 non-null	float64
3	Height	4177 non-null	float64
4	Whole weight	4177 non-null	float64
5	Shucked weight	4177 non-null	float64
6	Viscera weight	4177 non-null	float64
7	Shell weight	4177 non-null	float64
8	Rings	4177 non-null	int64

dtypes: float64(7), int64(1), object(1)

memory usage: 293.8+ KB

data.describe()

	Length	Diameter	Height	Whole weight	Shucked weight	Viscera weight	Shell weight	Rings
count	4177.000000	4177.000000	4177.000000	4177.000000	4177.000000	4177.000000	4177.000000	4177.000000
mean	0.523992	0.407881	0.139516	0.828742	0.359367	0.180594		
std	0.120093	0.099240	0.041827	0.490389	0.221963	0.109614		
min	0.075000	0.055000	0.000000	0.002000	0.001000	0.000500		

25%	0.450000 0.130000	0.350000 8.000000	0.115000	0.441500	0.186000	0.093500
50%	0.545000 0.234000	0.425000 9.000000	0.140000	0.799500	0.336000	0.171000
75%	0.615000 0.329000	0.480000 11.000000	0.165000	1.153000	0.502000	0.253000
max	0.815000 1.005000	0.650000 29.000000	1.130000	2.825500	1.488000	0.760000

data.mode().T

0 1

Sex M NaN

Length 0.55 0.625

Diameter 0.45 NaN

Height 0.15 NaN

Whole weight 0.2225 NaN

Shucked weight 0.175 NaN

Viscera weight 0.1715 NaN

Shell weight 0.275 NaN

Rings 9.0 NaN

data.shape

(4177, 9)

data.kurt()

Length 0.064621

Diameter -0.045476

Height 76.025509

Whole weight -0.023644

Shucked weight 0.595124

Viscera weight 0.084012

Shell weight 0.531926

Rings 2.330687

dtype: float64

data.skew()

Length -0.639873

Diameter -0.609198

Height 3.128817

Whole weight 0.530959

Shucked weight 0.719098

Viscera weight 0.591852

Shell weight 0.620927

Rings 1.114102

dtype: float64

data.var()

Length 0.014422

Diameter 0.009849

Height 0.001750

Whole weight 0.240481

Shucked weight 0.049268

Viscera weight 0.012015

Shell weight 0.019377

Rings 10.395266

dtype: float64

data.nunique()

[illegible]

4177 rows × 9 columns

```
data.isna().any()
```

Sex	False
-----	-------

Length	False
--------	-------

Diameter	False
----------	-------

Height	False
--------	-------

Whole weight	False
--------------	-------

Shucked weight	False
----------------	-------

Viscera weight	False
----------------	-------

Shell weight	False
--------------	-------

Rings	False
-------	-------

dtype: bool

```
data.isna().sum()
```

Sex	0
-----	---

Length	0
--------	---

Diameter	0
----------	---

Height	0
--------	---

Whole weight	0
--------------	---

Shucked weight	0
----------------	---

Viscera weight	0
----------------	---

Shell weight	0
--------------	---