```
import pandas as pd
meteorites = pd.read_csv('/Meteorite_Landings.csv')
meteorites
```

	name	id	nametype	recclass	mass (g)	fall	year	reclat	
0	Aachen	1	Valid	L5	21.0	Fell	01/01/1880 12:00:00 AM	50.77500	
1	Aarhus	2	Valid	H6	720.0	Fell	01/01/1951 12:00:00 AM	56.18333	
2	Abee	6	Valid	EH4	107000.0	Fell	01/01/1952 12:00:00 AM	54.21667	-1
3	Acapulco	10	Valid	Acapulcoite	1914.0	Fell	01/01/1976 12:00:00 AM	16.88333	·
4	Achiras	370	Valid	L6	780.0	Fell	01/01/1902 12:00:00 AM	-33.16667	·

Next steps: Generate code with `meteorites` View recommended plots

```
meteorites.name
```

```
0            Aachen
1            Aarhus
2              Abee
3           Acapulco
4            Achiras
            ...
45711    Zillah 002
45712        Zinder
45713          Zlin
45714     Zubkovsky
45715    Zulu Queen
Name: name, Length: 45716, dtype: object
```

```
meteorites.columns
```

```
Index(['name', 'id', 'nametype', 'recclass', 'mass (g)', 'fall', 'year',
       'reclat', 'reclong', 'GeoLocation'],
      dtype='object')
```

```
meteorites.index
```

```
RangeIndex(start=0, stop=45716, step=1)
```

```
import requests

response = requests.get(
    'https://data.nasa.gov/resource/gh4g-9sfh.json',
    params={'$limit': 50_000}
)

if response.ok:
  payload= response.json()
else:
  print(f'Request was not succesful and returned code:{response.status_code}')
  payload=None
```

```
import pandas as pd

df = pd.DataFrame(payload)
df.head(3)
```

	name	id	nametype	recclass	mass	fall	year	reclat	reclong
0	Aachen	1	Valid	L5	21	Fell	1880-01-01T00:00:00.000	50.775000	6.08333(
1	Aarhus	2	Valid	H6	720	Fell	1951-01-01T00:00:00.000	56.183330	10.23333(
2	Abee	6	Valid	EH4	107000	Fell	1952-01-01T00:00:00.000	54.216670	-113.00000(

Next steps: Generate code with df View recommended plots

```
meteorites.shape
```

```
(45716, 10)
```

```
meteorites.columns
```

```
Index(['name', 'id', 'nametype', 'recclass', 'mass (g)', 'fall', 'year',
       'reclat', 'reclong', 'GeoLocation'],
      dtype='object')
```

```
meteorites.dtypes
```

```
name            object
id               int64
nametype        object
recclass        object
mass (g)       float64
fall            object
year            object
reclat         float64
reclong        float64
GeoLocation     object
dtype: object
```

```
meteorites.head()
```

	name	id	nametype	recclass	mass (g)	fall	year	reclat	reclong
0	Aachen	1	Valid	L5	21.0	Fell	01/01/1880 12:00:00 AM	50.77500	6.08333
1	Aarhus	2	Valid	H6	720.0	Fell	01/01/1951 12:00:00 AM	56.18333	10.23333

Next steps: Generate code with meteorites View recommended plots

```
meteorites.tail()
```

	name	id	nametype	recclass	mass (g)	fall	year	reclat	rec
45711	Zillah 002	31356	Valid	Eucrite	172.0	Found	01/01/1990 12:00:00 AM	29.03700	17.(
45712	Zinder	30409	Valid	Pallasite, ungrouped	46.0	Found	01/01/1999 12:00:00 AM	13.78333	8.9

```
meteorites.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 45716 entries, 0 to 45715
Data columns (total 10 columns):
 #   Column       Non-Null Count  Dtype
---  ------       --------------  -----
 0   name         45716 non-null  object
```

```
 1   id          45716 non-null  int64
 2   nametype    45716 non-null  object
 3   recclass    45716 non-null  object
 4   mass (g)    45585 non-null  float64
 5   fall        45716 non-null  object
 6   year        45425 non-null  object
 7   reclat      38401 non-null  float64
 8   reclong     38401 non-null  float64
 9   GeoLocation  38401 non-null  object
dtypes: float64(3), int64(1), object(6)
memory usage: 3.5+ MB
```

```
meteorites.name
```

```
0           Aachen
1           Aarhus
2             Abee
3          Acapulco
4           Achiras
            ...
45711    Zillah 002
45712        Zinder
45713          Zlin
45714     Zubkovsky
45715    Zulu Queen
Name: name, Length: 45716, dtype: object
```

```
meteorites[['name','mass (g)','recclass']]
```

	name	mass (g)	recclass
0	Aachen	21.0	L5
1	Aarhus	720.0	H6
2	Abee	107000.0	EH4
3	Acapulco	1914.0	Acapulcoite
4	Achiras	780.0	L6
...	...	...	...
45711	Zillah 002	172.0	Eucrite
45712	Zinder	46.0	Pallasite, ungrouped
45713	Zlin	3.3	H4
45714	Zubkovsky	2167.0	L6
45715	Zulu Queen	200.0	L3.7

45716 rows × 3 columns

```
meteorites[100:104]
```

	name	id	nametype	recclass	mass (g)	fall	year	reclat	recl
100	Benton	5026	Valid	LL6	2840.0	Fell	01/01/1949 12:00:00 AM	45.95000	-67.55
101	Berduc	48975	Valid	L6	270.0	Fell	01/01/2008 12:00:00	-31.91000	-58.32

```
meteorites.iloc[100:104,[0,3,4,6]]
```

	name	recclass	mass (g)	year
100	Benton	LL6	2840.0	01/01/1949 12:00:00 AM
101	Berduc	L6	270.0	01/01/2008 12:00:00 AM
102	Béréba	Eucrite-mmict	18000.0	01/01/1924 12:00:00 AM
103	Berlanguillas	L6	1440.0	01/01/1811 12:00:00 AM

```
meteorites.loc[100:104, 'mass (g)':'year']
```

	mass (g)	fall	year
100	2840.0	Fell	01/01/1949 12:00:00 AM
101	270.0	Fell	01/01/2008 12:00:00 AM
102	18000.0	Fell	01/01/1924 12:00:00 AM
103	1440.0	Fell	01/01/1811 12:00:00 AM
104	960.0	Fell	01/01/2004 12:00:00 AM

```
(meteorites['mass (g)'] > 50) & (meteorites.fall == 'Found')
```

```
0        False
1        False
2        False
3        False
4        False
         ...
45711     True
45712    False
45713    False
45714     True
45715     True
Length: 45716, dtype: bool
```

```
meteorites[(meteorites['mass (g)'] > 1e6) & (meteorites.fall == 'Fell')]
```

	name	id	nametype	recclass	mass (g)	fall	year	reclat	recl
29	Allende	2278	Valid	CV3	2000000.0	Fell	01/01/1969 12:00:00 AM	26.96667	-105.31
419	Jilin	12171	Valid	H5	4000000.0	Fell	01/01/1976 12:00:00 AM	44.05000	126.16
							01/01/1998		

```
meteorites.query("`mass (g)` > 1e6 and fall == 'Fell'")
```

	name	id	nametype	recclass	mass (g)	fall	year	reclat	recl
29	Allende	2278	Valid	CV3	2000000.0	Fell	01/01/1969 12:00:00 AM	26.96667	-105.31
419	Jilin	12171	Valid	H5	4000000.0	Fell	01/01/1976 12:00:00 AM	44.05000	126.16
							01/01/1998		

```
meteorites.fall.value_counts()
```

```
Found    44609
Fell      1107
Name: fall, dtype: int64
```

```
meteorites.fall.value_counts(normalize=True)
```

```
Found    0.975785
Fell     0.024215
Name: fall, dtype: float64
```

```
meteorites.fall.value_counts(normalize=False)
```

```
Found    44609
Fell      1107
Name: fall, dtype: int64
```

```
meteorites['mass (g)'].mean()
```

```
13278.078548601512
```

```
meteorites['mass (g)'].quantile([0.01, 0.05, 0.5, 0.95, 0.99])
```

```
0.01        0.44
0.05        1.10
0.50       32.60
```

```
0.95     4000.00
0.99    50600.00
Name: mass (g), dtype: float64
```

```
meteorites['mass (g)'].median()
```

```
32.6
```

```
meteorites['mass (g)'].max()
```

```
60000000.0
```

```
meteorites.loc[meteorites['mass (g)'].idxmax()]
```

```
name                          Hoba
id                           11890
nametype                     Valid
recclass                 Iron, IVB
mass (g)                60000000.0
fall                         Found
year          01/01/1920 12:00:00 AM
reclat                    -19.58333
reclong                    17.91667
GeoLocation     (-19.58333, 17.91667)
Name: 16392, dtype: object
```

```
meteorites.recclass.nunique()
```

```
466
```

```
meteorites.recclass.unique()[:14]
```

```
array(['L5', 'H6', 'EH4', 'Acapulcoite', 'L6', 'LL3-6', 'H5', 'L',
       'Diogenite-pm', 'Unknown', 'H4', 'H', 'Iron, IVA', 'CR2-an'],
      dtype=object)
```

```
meteorites.describe(include='all')
```

	name	id	nametype	recclass	mass (g)	fall	year	
count	45716	45716.000000	45716	45716	4.558500e+04	45716	45425	384(
unique	45716	NaN	2	466	NaN	2	266	
top	Aachen	NaN	Valid	L6	NaN	Found	01/01/2003 12:00:00 AM	
freq	1	NaN	45641	8285	NaN	44609	3323	
mean	NaN	26889.735104	NaN	NaN	1.327808e+04	NaN	NaN	-3
std	NaN	16860.683030	NaN	NaN	5.749889e+05	NaN	NaN	4
min	NaN	1.000000	NaN	NaN	0.000000e+00	NaN	NaN	-8
25%	NaN	12688.750000	NaN	NaN	7.200000e+00	NaN	NaN	-7
50%	NaN	24261.500000	NaN	NaN	3.260000e+01	NaN	NaN	-7
75%	NaN	40656.750000	NaN	NaN	2.026000e+02	NaN	NaN	

Start coding or generate with AI.