In [1]:
```
import pandas as pd
import numpy as np
```

In [5]:
```
data = pd.read_csv("iris.csv")
data.head()
```

Out[5]:

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)	species
0	5.1	3.5	1.4	0.2	Iris-setosa
1	4.9	3.0	1.4	0.2	Iris-setosa
2	4.7	3.2	1.3	0.2	Iris-setosa
3	4.6	3.1	1.5	0.2	Iris-setosa
4	5.0	3.6	1.4	0.2	Iris-setosa

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

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
 #   Column             Non-Null Count  Dtype  
---  ------             --------------  -----  
 0   sepal length (cm)  150 non-null    float64
 1   sepal width (cm)   150 non-null    float64
 2   petal length (cm)  150 non-null    float64
 3   petal width (cm)   150 non-null    float64
 4   species            150 non-null    object 
dtypes: float64(4), object(1)
memory usage: 6.0+ KB
```

In [9]:
```
species_list = ['Iris-setosa', 'Iris-versicolor', 'Iris-virginica']

for species in species_list:
    print("="*50)
    print(f"Statistical Details for {species}")
    print("="*50)

    species_data = data[data['species'] == species]

    print("\nMean:")
    print(species_data.mean(numeric_only=True))

    print("\nStandard Deviation:")
    print(species_data.std(numeric_only=True))

    print("\nPercentiles (25%, 50%, 75%):")
    print(species_data.quantile([0.25, 0.50, 0.75], numeric_only=True))
```

```
==================================================
Statistical Details for Iris-setosa
==================================================

Mean:
sepal length (cm)    5.006
sepal width (cm)     3.428
petal length (cm)    1.462
petal width (cm)     0.246
dtype: float64

Standard Deviation:
sepal length (cm)    0.352490
sepal width (cm)     0.379064
petal length (cm)    0.173664
petal width (cm)     0.105386
dtype: float64

Percentiles (25%, 50%, 75%):
      sepal length (cm)  sepal width (cm)  petal length (cm)  petal width (cm)
0.25                4.8             3.200              1.400               0.2
0.50                5.0             3.400              1.500               0.2
0.75                5.2             3.675              1.575               0.3
==================================================
Statistical Details for Iris-versicolor
==================================================

Mean:
sepal length (cm)    5.936
sepal width (cm)     2.770
petal length (cm)    4.260
petal width (cm)     1.326
dtype: float64

Standard Deviation:
sepal length (cm)    0.516171
sepal width (cm)     0.313798
petal length (cm)    0.469911
petal width (cm)     0.197753
dtype: float64

Percentiles (25%, 50%, 75%):
      sepal length (cm)  sepal width (cm)  petal length (cm)  petal width (cm)
0.25                5.6             2.525               4.00               1.2
0.50                5.9             2.800               4.35               1.3
0.75                6.3             3.000               4.60               1.5
==================================================
Statistical Details for Iris-virginica
==================================================

Mean:
sepal length (cm)    6.588
sepal width (cm)     2.974
petal length (cm)    5.552
petal width (cm)     2.026
dtype: float64

Standard Deviation:
sepal length (cm)    0.635880
sepal width (cm)     0.322497
petal length (cm)    0.551895
petal width (cm)     0.274650
dtype: float64

Percentiles (25%, 50%, 75%):
      sepal length (cm)  sepal width (cm)  petal length (cm)  petal width (cm)
```

0.25	6.225	2.800	5.100	1.8
0.50	6.500	3.000	5.550	2.0
0.75	6.900	3.175	5.875	2.3

In [11]:
```
setosa = data[data['species'] == 'Iris-setosa']

setosa.describe()
```

Out[11]:

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)
count	50.00000	50.000000	50.000000	50.000000
mean	5.00600	3.428000	1.462000	0.246000
std	0.35249	0.379064	0.173664	0.105386
min	4.30000	2.300000	1.000000	0.100000
25%	4.80000	3.200000	1.400000	0.200000
50%	5.00000	3.400000	1.500000	0.200000
75%	5.20000	3.675000	1.575000	0.300000
max	5.80000	4.400000	1.900000	0.600000

In [ ]:
```

```