

assi3b

January 27, 2026

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

[3]: data = pd.read_csv("Iris.csv")

[6]: print(data.head())

   Id SepalLengthCm SepalWidthCm PetalLengthCm PetalWidthCm    Species
0   1          5.1         3.5          1.4         0.2  Iris-setosa
1   2          4.9         3.0          1.4         0.2  Iris-setosa
2   3          4.7         3.2          1.3         0.2  Iris-setosa
3   4          4.6         3.1          1.5         0.2  Iris-setosa
4   5          5.0         3.6          1.4         0.2  Iris-setosa
```

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[10]: species_list = data['Species'].unique()

[16]: for Species in species_list:

    print("\n====")
    print("Statistics for:", Species)
    print("====")

    species_data = data[data['Species'] == Species]

    numeric_data = species_data.iloc[:, :-1]

    print("\nMean:\n", numeric_data.mean())

    print("\nStandard Deviation:\n", numeric_data.std())

    print("\nPercentiles (25%, 50%, 75%):\n")
    print(numeric_data.quantile([0.25, 0.50, 0.75]))
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Statistics for: Iris-setosa
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Mean:

```
Id           25.500
SepalLengthCm      5.006
SepalWidthCm       3.418
PetalLengthCm      1.464
PetalWidthCm       0.244
dtype: float64
```

Standard Deviation:

```
Id           14.577380
SepalLengthCm      0.352490
SepalWidthCm       0.381024
PetalLengthCm      0.173511
PetalWidthCm       0.107210
dtype: float64
```

Percentiles (25%, 50%, 75%):

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm
0.25	13.25	4.8	3.125	1.400	0.2
0.50	25.50	5.0	3.400	1.500	0.2
0.75	37.75	5.2	3.675	1.575	0.3

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Statistics for: Iris-versicolor

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Mean:

```
Id           75.500
SepalLengthCm      5.936
SepalWidthCm       2.770
PetalLengthCm      4.260
PetalWidthCm       1.326
dtype: float64
```

Standard Deviation:

```
Id           14.577380
SepalLengthCm      0.516171
SepalWidthCm       0.313798
PetalLengthCm      0.469911
PetalWidthCm       0.197753
dtype: float64
```

Percentiles (25%, 50%, 75%):

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm
0.25	63.25	5.6	2.525	4.00	1.2
0.50	75.50	5.9	2.800	4.35	1.3
0.75	87.75	6.3	3.000	4.60	1.5

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Statistics for: Iris-virginica
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Mean:

```
    Id          125.500
SepalLengthCm      6.588
SepalWidthCm       2.974
PetalLengthCm      5.552
PetalWidthCm       2.026
dtype: float64
```

Standard Deviation:

```
    Id          14.577380
SepalLengthCm      0.635880
SepalWidthCm       0.322497
PetalLengthCm      0.551895
PetalWidthCm       0.274650
dtype: float64
```

Percentiles (25%, 50%, 75%):

	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm
0.25	113.25	6.225	2.800	5.100	1.8
0.50	125.50	6.500	3.000	5.550	2.0
0.75	137.75	6.900	3.175	5.875	2.3

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