```python
import pandas as pd
import numpy as np
df= pd.read_csv("iris.csv")
df
```

	sepal-length	sepal-width	petal-length	petal-width	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
...	...	...	...	...	...
145	6.7	3.0	5.2	2.3	Iris-virginica
146	6.3	2.5	5.0	1.9	Iris-virginica
147	6.5	3.0	5.2	2.0	Iris-virginica
148	6.2	3.4	5.4	2.3	Iris-virginica
149	5.9	3.0	5.1	1.8	Iris-virginica

150 rows × 5 columns

```python
summary_stats = df.groupby('species')['sepal-length'].agg(['mean', 'median', 'min', 'max', 'std'])
species_list = df['species'].unique().tolist()
species_numeric = {species: i for i, species in enumerate(species_list)}
print(summary_stats)
print("\nNumeric values for species:", species_numeric)
```

```
                    mean  median  min  max       std
species
Iris-setosa        5.006     5.0  4.3  5.8  0.352490
Iris-versicolor    5.936     5.9  4.9  7.0  0.516171
Iris-virginica     6.588     6.5  4.9  7.9  0.635880

Numeric values for species: {'Iris-setosa': 0, 'Iris-versicolor': 1, 'Iris-virginica': 2}
```

```python
setosa_data = df[df['species'] == 'Iris-setosa']
versicolor_data = df[df['species'] == 'Iris-versicolor']
virginica_data = df[df['species'] == 'Iris-virginica']

def display_stats(data, species_name):
  print(f"\nStatistical Details for {species_name}:")

  numeric_data = data.select_dtypes(include=np.number)
  print(f"Mean: {numeric_data.mean()}")
  print(f"Standard Deviation: {numeric_data.std()}")
  print(f"Percentiles (25th, 50th, 75th): {numeric_data.quantile([0.25, 0.5, 0.75])}")


display_stats(setosa_data, 'Iris-setosa')
display_stats(versicolor_data, 'Iris-versicolor')
display_stats(virginica_data, 'Iris-virginica')
```

```
Statistical Details for Iris-setosa:
Mean: sepal-length    5.006
sepal-width     3.418
petal-length    1.464
petal-width     0.244
dtype: float64
Standard Deviation: sepal-length    0.352490
sepal-width     0.381024
petal-length    0.173511
petal-width     0.107210
dtype: float64
Percentiles (25th, 50th, 75th):       sepal-length  sepal-width  petal-length  petal-width
0.25           4.8        3.125         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    5.936
sepal-width     2.770
petal-length    4.260
petal-width     1.326
dtype: float64
Standard Deviation: sepal-length    0.516171
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    sepal-width      0.313798
    petal-length     0.469911
    petal-width      0.197753
    dtype: float64
    Percentiles (25th, 50th, 75th):        sepal-length  sepal-width  petal-length  petal-width
    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      6.588
    sepal-width      2.974
    petal-length     5.552
    petal-width      2.026
    dtype: float64
    Standard Deviation: sepal-length      0.635880
    sepal-width      0.322497
    petal-length     0.551895
    petal-width      0.274650
    dtype: float64
    Percentiles (25th, 50th, 75th):        sepal-length  sepal-width  petal-length  petal-width
    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
```

Start coding or generate with AI.