```python
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
import numpy as np
```

```python
df = pd.read_csv("iris.csv")
df.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

Next steps: [Generate code with df]   [◯ View recommended plots]

```python
df = df.drop('Id',axis=1)
df.head()
```

	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	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

Next steps: **Generate code with** `df`   🔘 **View recommended plots**

```
df.shape
```

```
(150, 5)
```

```
df.isnull().sum()
```

```
SepalLengthCm    0
SepalWidthCm     0
PetalLengthCm    0
PetalWidthCm     0
Species          0
dtype: int64
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
 #   Column         Non-Null Count  Dtype
---  ------         --------------  -----
 0   SepalLengthCm  150 non-null    float64
 1   SepalWidthCm   150 non-null    float64
```

```
 2    PetalLengthCm  150 non-null     float64
 3    PetalWidthCm   150 non-null     float64
 4    Species        150 non-null     object
dtypes: float64(4), object(1)
memory usage: 6.0+ KB
```

```
df.describe(include = "all")
```
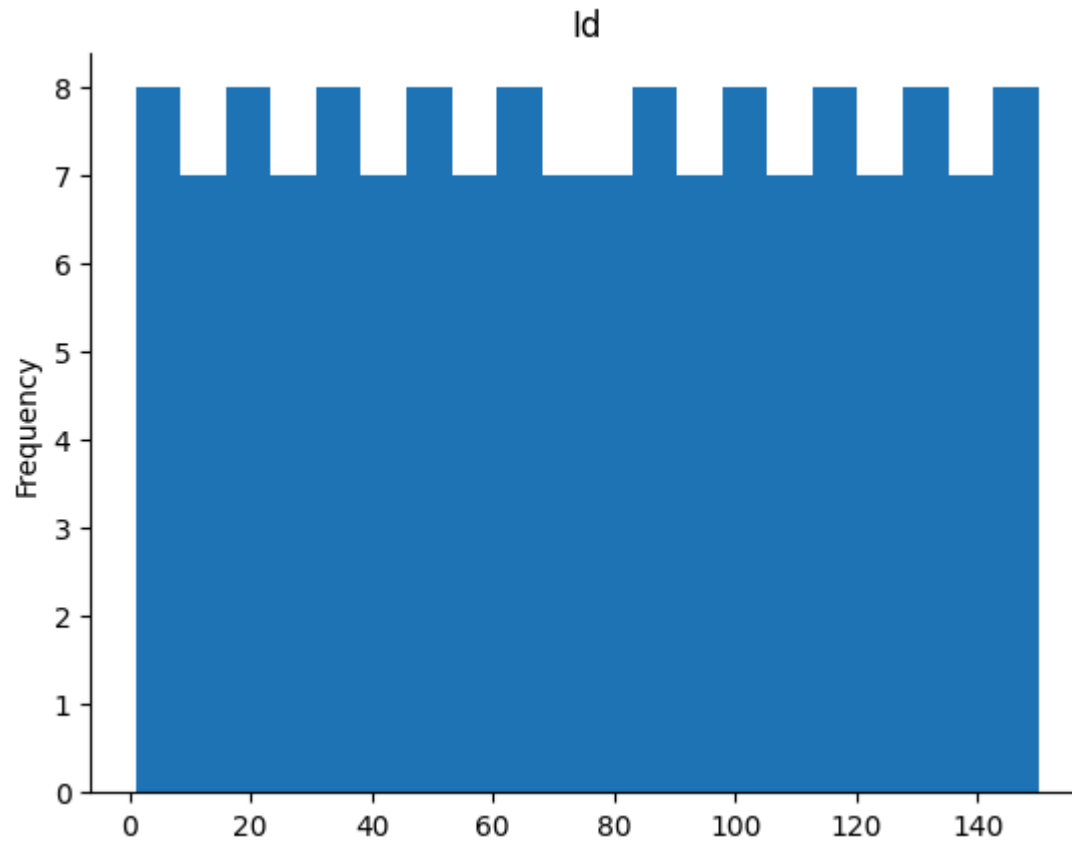
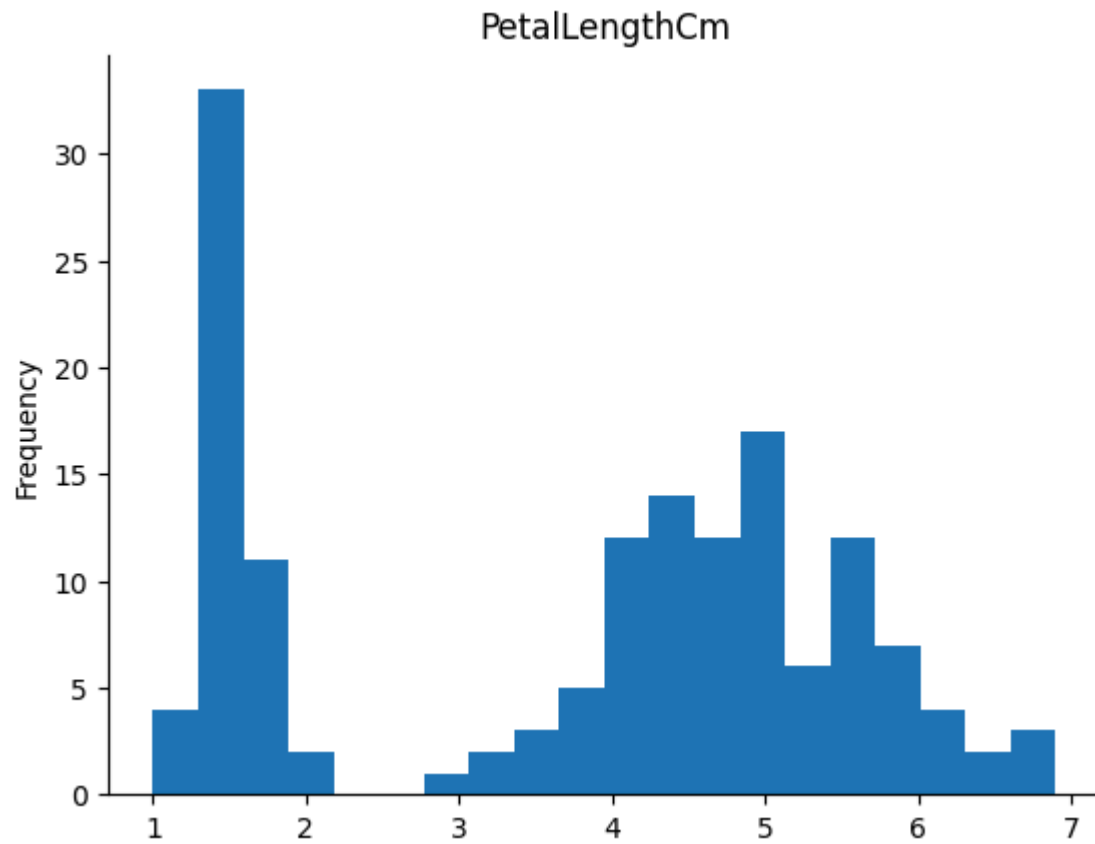|	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
count	150.000000	150.000000	150.000000	150.000000	150
unique	NaN	NaN	NaN	NaN	3
top	NaN	NaN	NaN	NaN	Iris-setosa
freq	NaN	NaN	NaN	NaN	50
mean	5.843333	3.054000	3.758667	1.198667	NaN
std	0.828066	0.433594	1.764420	0.763161	NaN
min	4.300000	2.000000	1.000000	0.100000	NaN
25%	5.100000	2.800000	1.600000	0.300000	NaN
50%	5.800000	3.000000	4.350000	1.300000	NaN
75%	6.400000	3.300000	5.100000	1.800000	NaN
max	7.900000	4.400000	6.900000	2.500000	NaN

```
from matplotlib import pyplot as plt
df['Id'].plot(kind='hist', bins=20, title='Id')
plt.gca().spines[['top', 'right',]].set_visible(False)
```
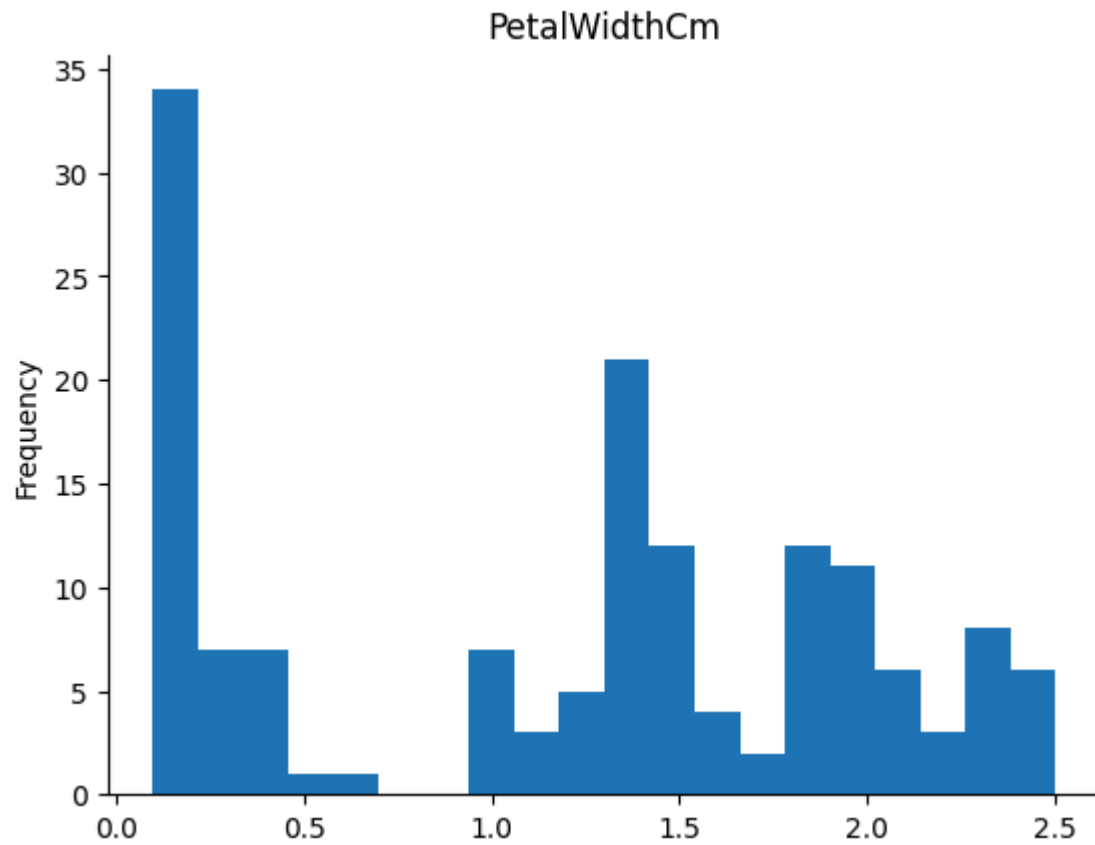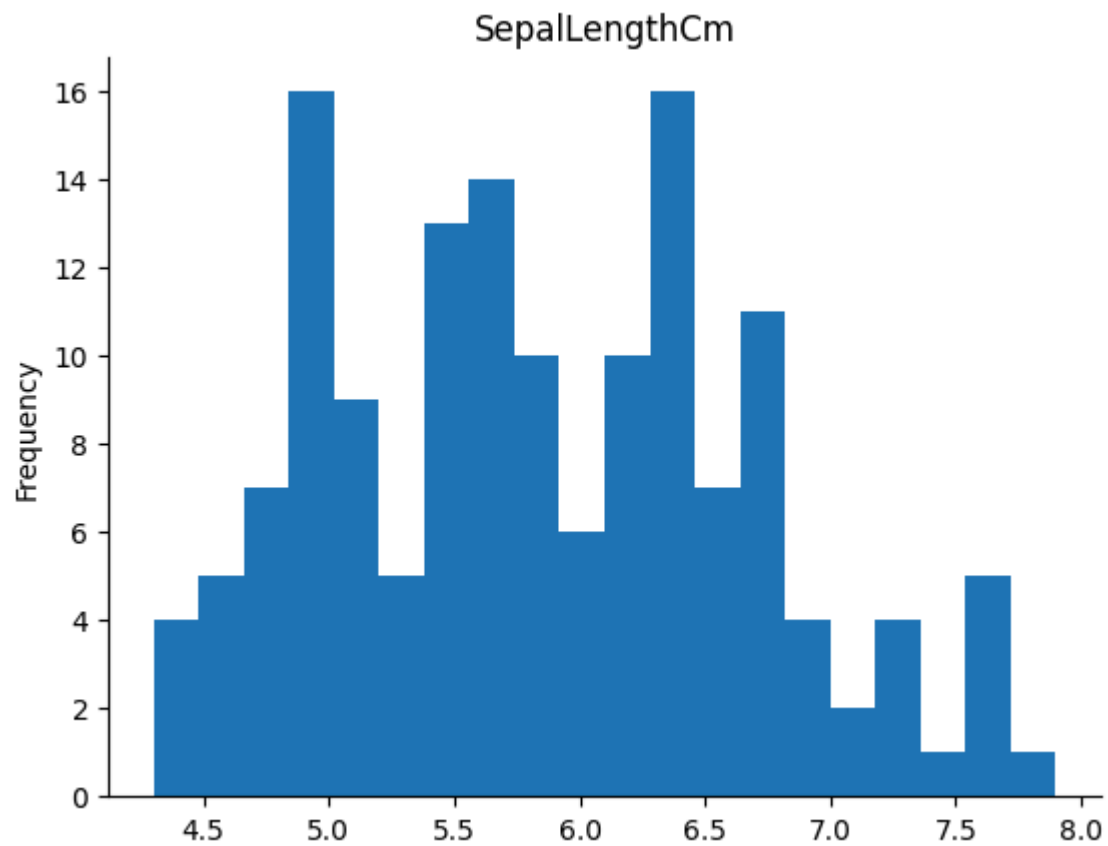
Id

```
from matplotlib import pyplot as plt
df['PetalLengthCm'].plot(kind='hist', bins=20, title='PetalLengthCm')
plt.gca().spines[['top', 'right',]].set_visible(False)
```
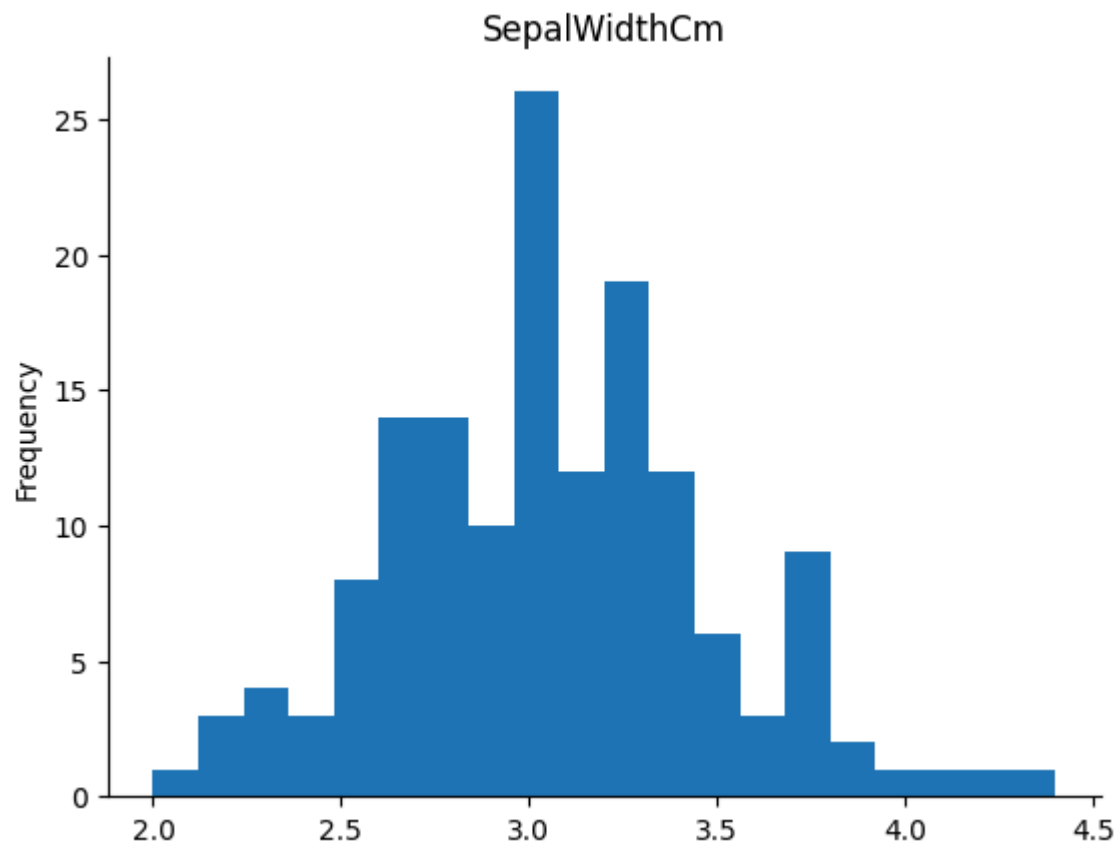
PetalLengthCm

```
from matplotlib import pyplot as plt
df['PetalWidthCm'].plot(kind='hist', bins=20, title='PetalWidthCm')
plt.gca().spines[['top', 'right',]].set_visible(False)
```

PetalWidthCm

```
from matplotlib import pyplot as plt
df['SepalLengthCm'].plot(kind='hist', bins=20, title='SepalLengthCm')
plt.gca().spines[['top', 'right',]].set_visible(False)
```
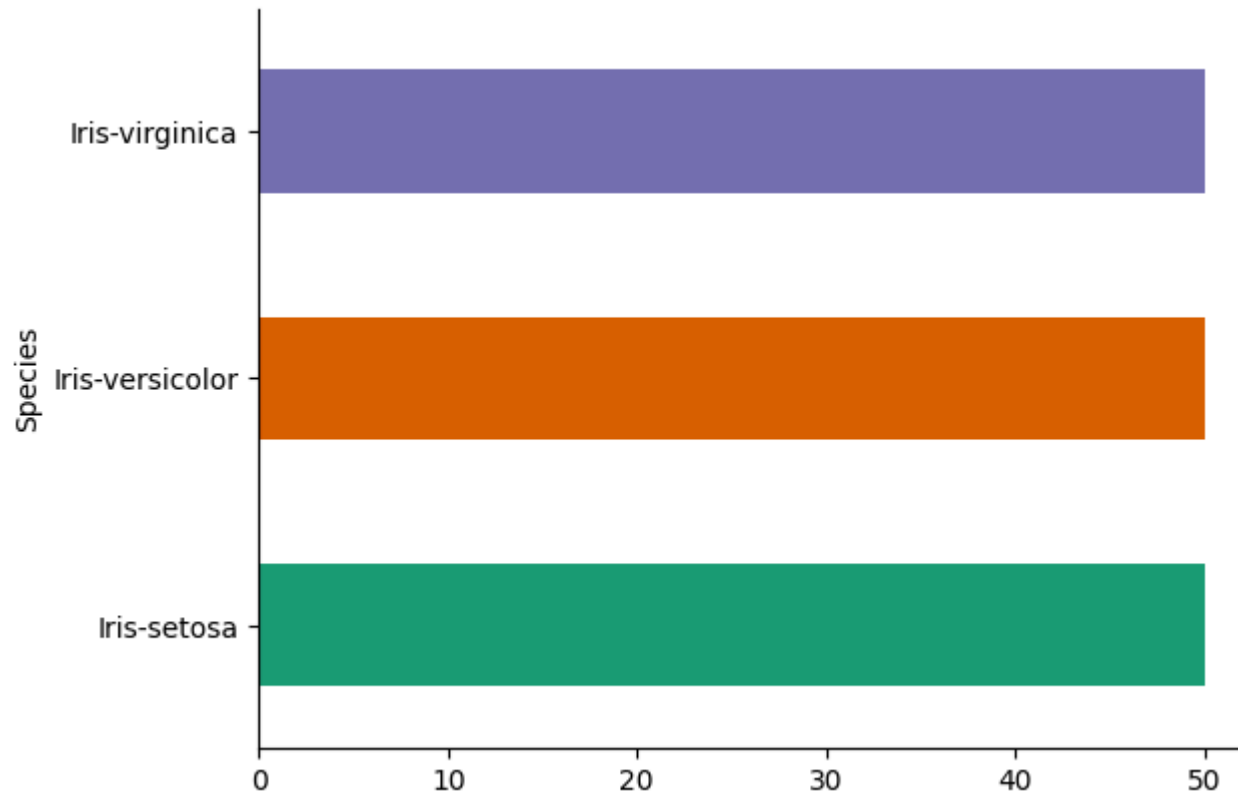
SepalLengthCm

```
from matplotlib import pyplot as plt
df['SepalWidthCm'].plot(kind='hist', bins=20, title='SepalWidthCm')
plt.gca().spines[['top', 'right',]].set_visible(False)
```
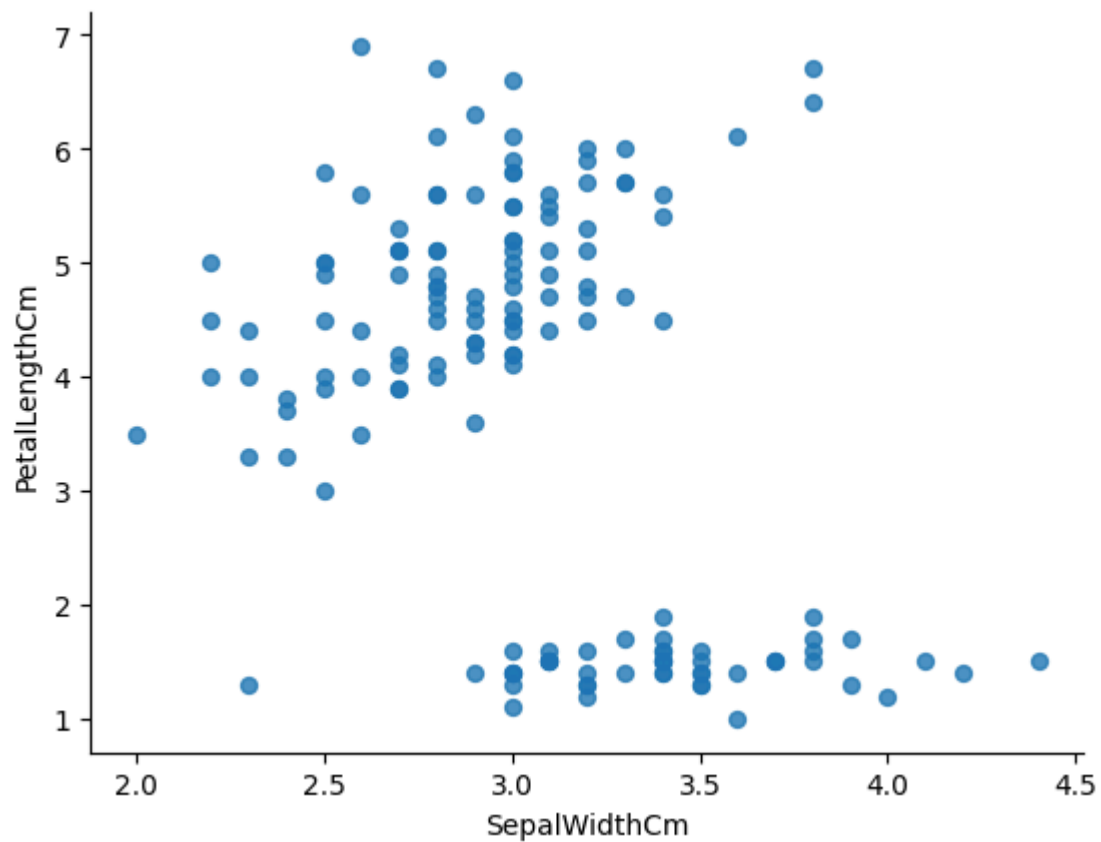
```
from matplotlib import pyplot as plt
import seaborn as sns
df.groupby('Species').size().plot(kind='barh', color=sns.palettes.mpl_palette('Dark2'))
plt.gca().spines[['top', 'right',]].set_visible(False)
```

```python
from matplotlib import pyplot as plt
df.plot(kind='scatter', x='SepalWidthCm', y='PetalLengthCm', s=32, alpha=.8)
plt.gca().spines[['top', 'right',]].set_visible(False)
```
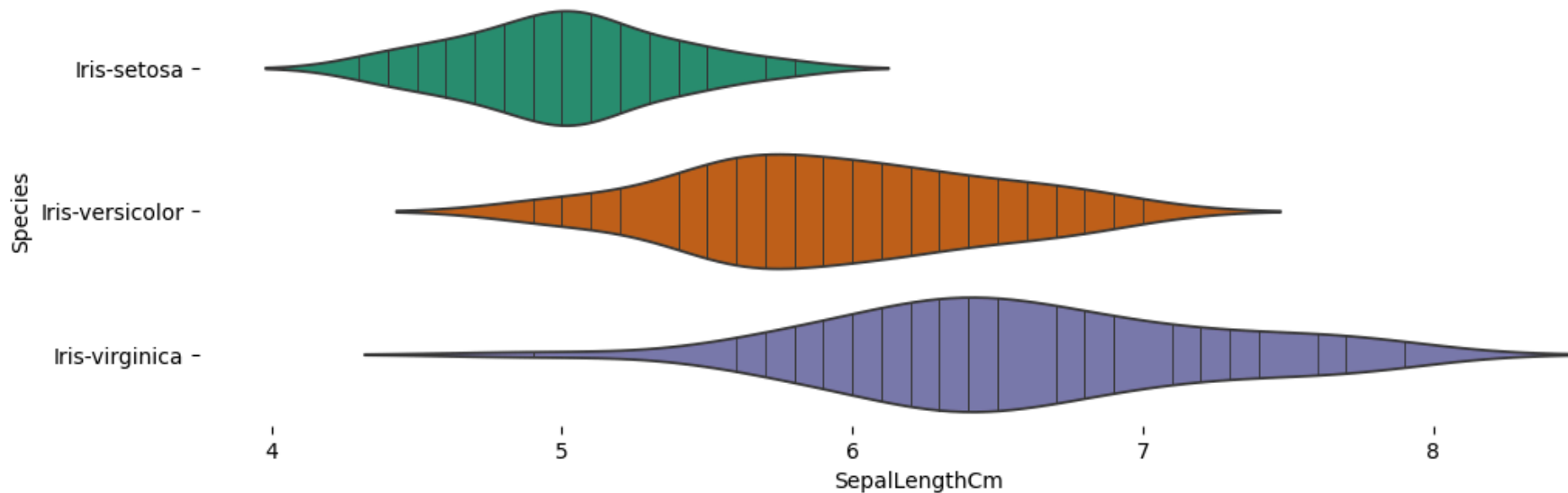
```
from matplotlib import pyplot as plt
import seaborn as sns
figsize = (12, 1.2 * len(df['Species'].unique()))
plt.figure(figsize=figsize)
sns.violinplot(df, x='SepalLengthCm', y='Species', inner='stick', palette='Dark2')
sns.despine(top=True, right=True, bottom=True, left=True)
```

<ipython-input-26-1cff999b24bf>:5: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `y` variable to `hue` and set

sns.violinplot(df, x='SepalLengthCm', y='Species', inner='stick', palette='Dark2')
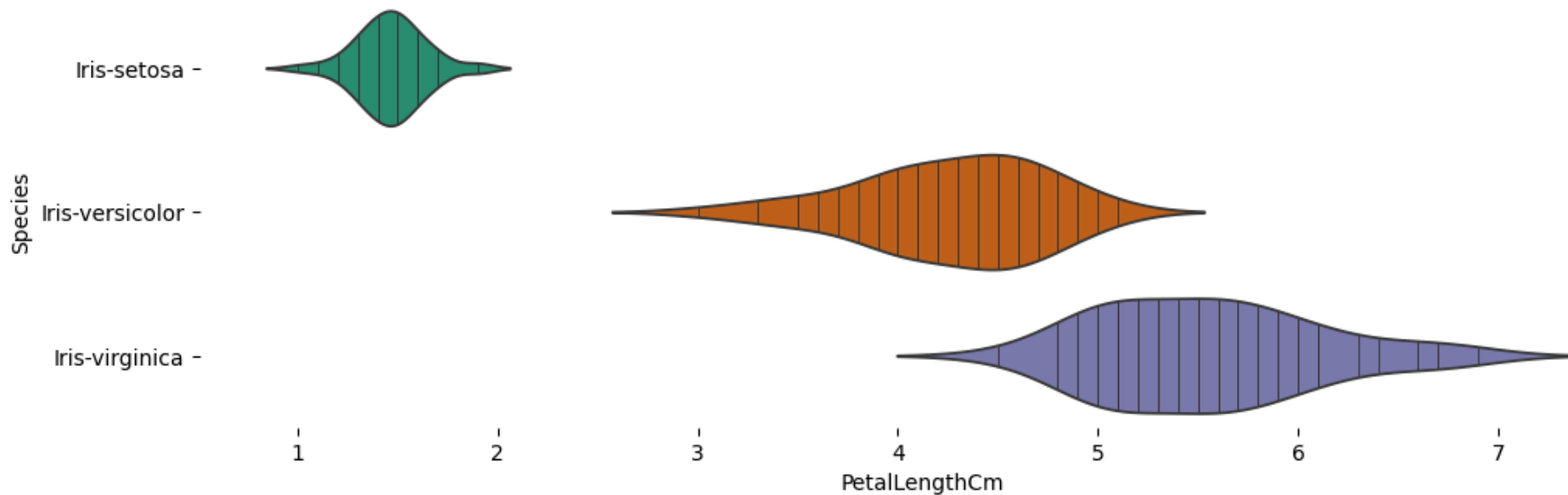


```
from matplotlib import pyplot as plt
import seaborn as sns
figsize = (12, 1.2 * len(df['Species'].unique()))
plt.figure(figsize=figsize)
sns.violinplot(df, x='PetalLengthCm', y='Species', inner='stick', palette='Dark2')
sns.despine(top=True, right=True, bottom=True, left=True)
```

```
<ipython-input-30-cba9aab54c1f>:5: FutureWarning:

    Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `y` variable to `hue` and set

        sns.violinplot(df, x='PetalLengthCm', y='Species', inner='stick', palette='Dark2')
```



```
from matplotlib import pyplot as plt
import seaborn as sns
figsize = (12, 1.2 * len(df['Species'].unique()))
plt.figure(figsize=figsize)
sns.violinplot(df, x='SepalWidthCm', y='Species', inner='stick', palette='Dark2')
sns.despine(top=True, right=True, bottom=True, left=True)
```

```
<ipython-input-32-d5b9a72244c6>:5: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `y` variable to `hue` and set

  sns.violinplot(df, x='SepalWidthCm', y='Species', inner='stick', palette='Dark2')
```

Iris-setosa –