```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
data=pd.read_csv('Iris.csv')
data
```

```
      Id  SepalLengthCm  SepalWidthCm  PetalLengthCm  PetalWidthCm  \
0      1            5.1           3.5            1.4           0.2
1      2            4.9           3.0            1.4           0.2
2      3            4.7           3.2            1.3           0.2
3      4            4.6           3.1            1.5           0.2
4      5            5.0           3.6            1.4           0.2
..   ...            ...           ...            ...           ...
145  146            6.7           3.0            5.2           2.3
146  147            6.3           2.5            5.0           1.9
147  148            6.5           3.0            5.2           2.0
148  149            6.2           3.4            5.4           2.3
149  150            5.9           3.0            5.1           1.8

            Species
0       Iris-setosa
1       Iris-setosa
2       Iris-setosa
3       Iris-setosa
4       Iris-setosa
..              ...
145  Iris-virginica
146  Iris-virginica
147  Iris-virginica
148  Iris-virginica
149  Iris-virginica

[150 rows x 6 columns]
```

```
data.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 6 columns):
 #   Column         Non-Null Count  Dtype
---  ------         --------------  -----
 0   Id             150 non-null    int64
 1   SepalLengthCm  150 non-null    float64
 2   SepalWidthCm   150 non-null    float64
 3   PetalLengthCm  150 non-null    float64
 4   PetalWidthCm   150 non-null    float64
 5   Species        150 non-null    object
```

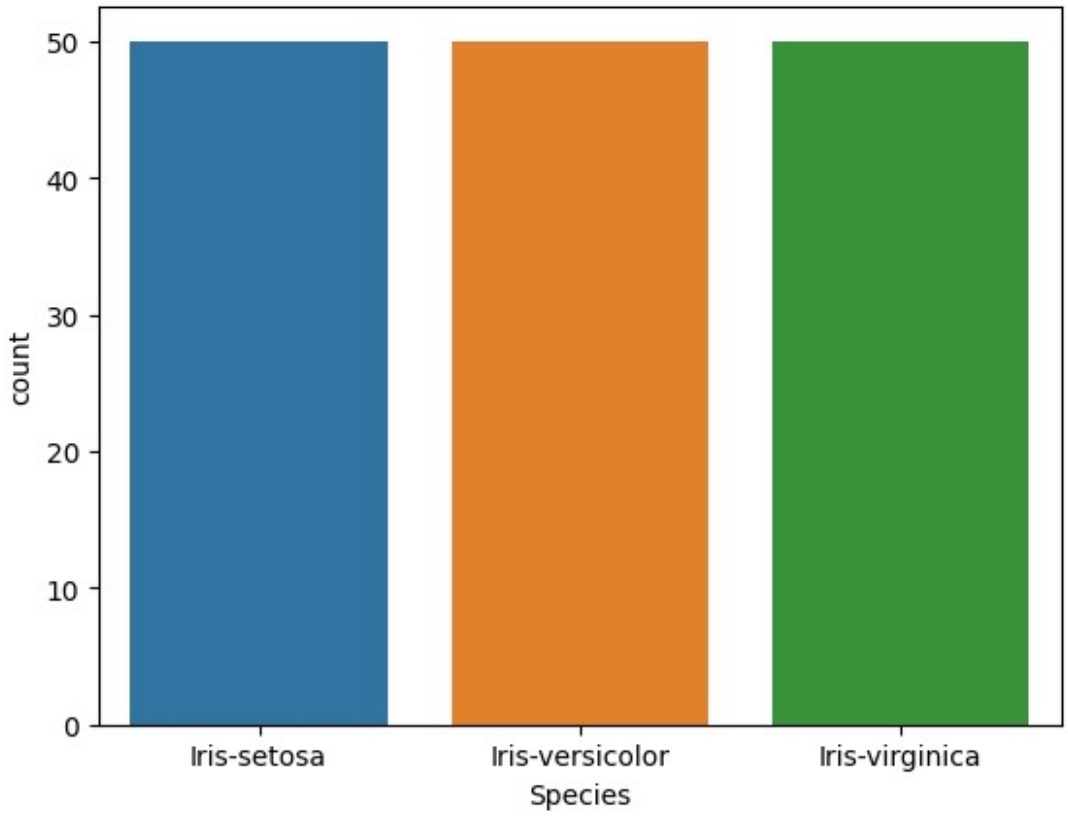
```
dtypes: float64(4), int64(1), object(1)
memory usage: 7.2+ KB

data.value_counts('Species')

Species
Iris-setosa        50
Iris-versicolor    50
Iris-virginica     50
dtype: int64

sns.countplot(x='Species',data=data,)
plt.show()

dummies=pd.get_dummies(data.Species)
FinalDataset=pd.concat([pd.get_dummies(data.Species),data.iloc[:,
[0,1,2,3]]],axis=1)
FinalDataset.head()
```



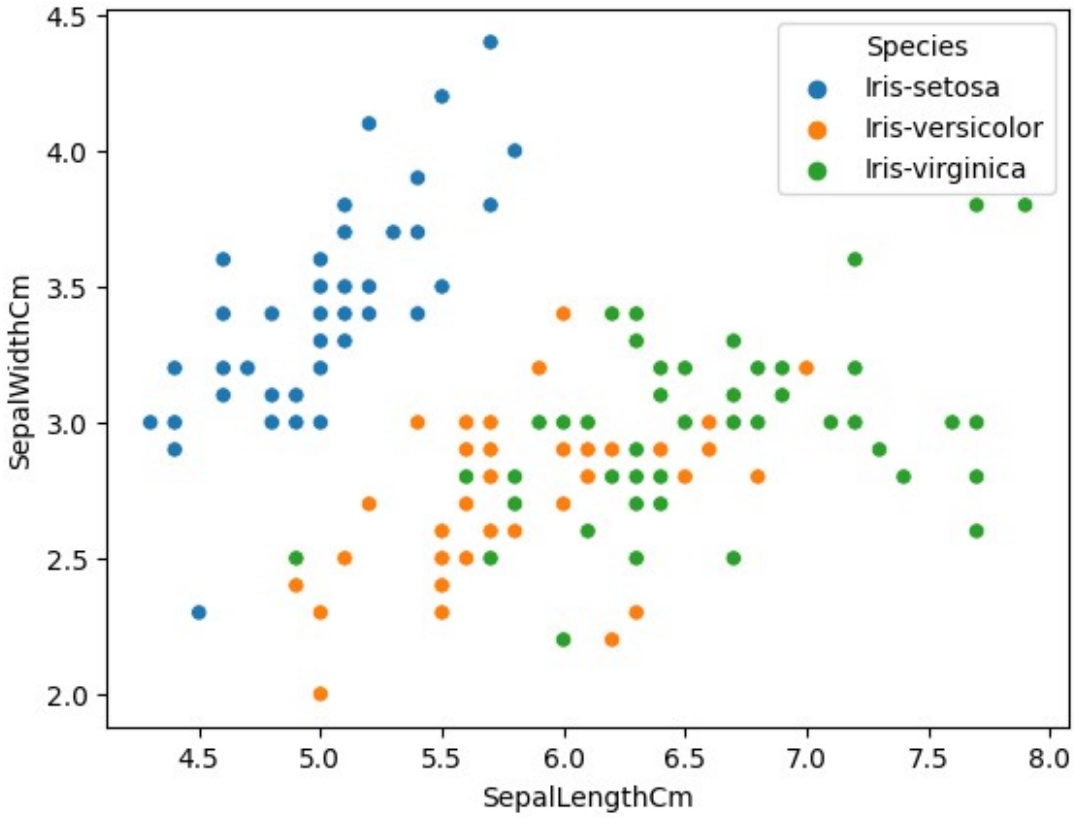
	Iris-setosa	Iris-versicolor	Iris-virginica	Id	SepalLengthCm	\
0	1	0	0	1	5.1	
1	1	0	0	2	4.9	
2	1	0	0	3	4.7	
3	1	0	0	4	4.6	

```
4             1                  0                0   5             5.0

   SepalWidthCm  PetalLengthCm
0           3.5            1.4
1           3.0            1.4
2           3.2            1.3
3           3.1            1.5
4           3.6            1.4
```

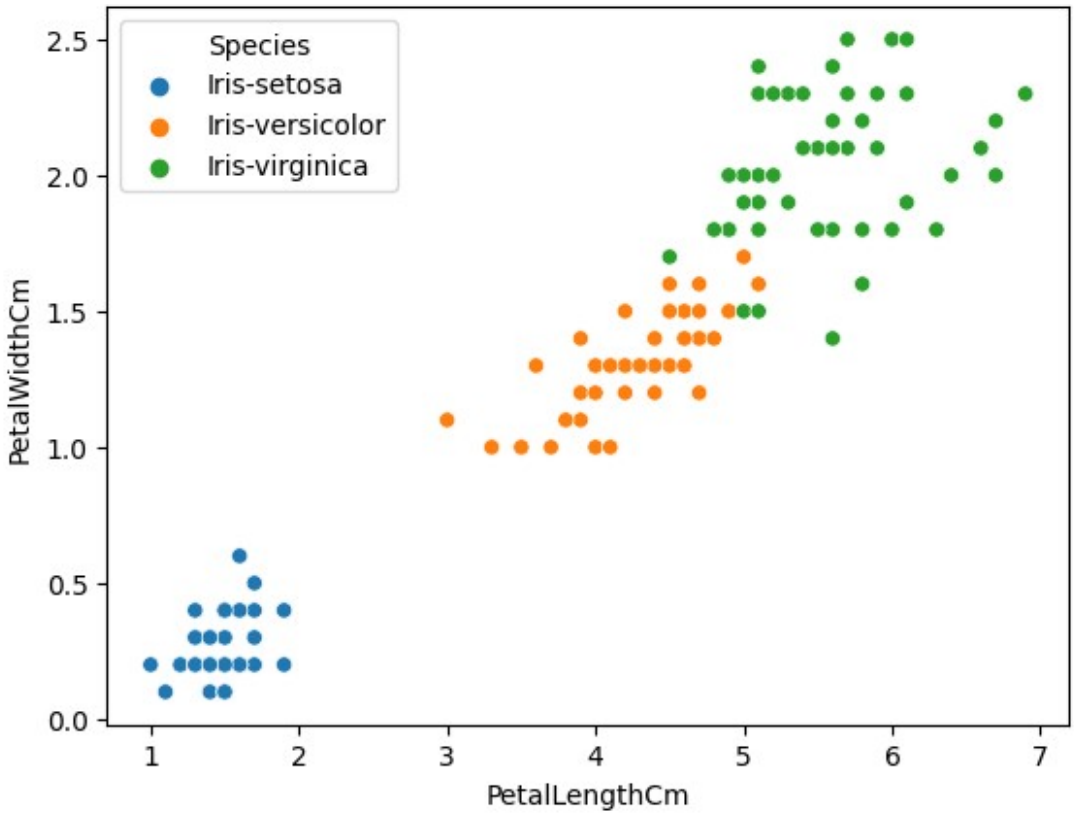
```
sns.scatterplot(x='SepalLengthCm',y='SepalWidthCm',hue='Species',data=
data)
```

```
<AxesSubplot:xlabel='SepalLengthCm', ylabel='SepalWidthCm'>
```

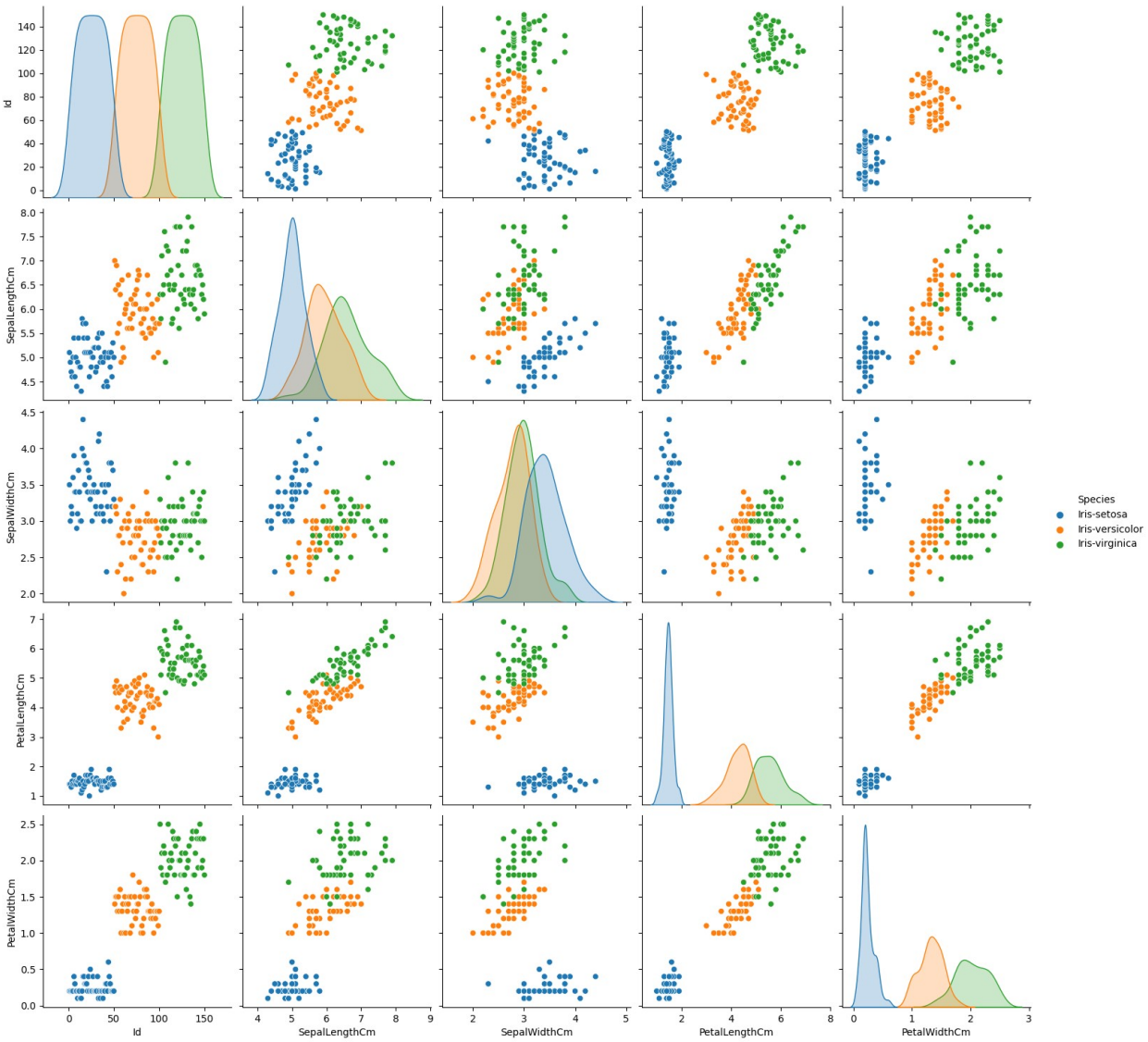



```
sns.scatterplot(x='PetalLengthCm',y='PetalWidthCm',hue='Species',data=
data)
```

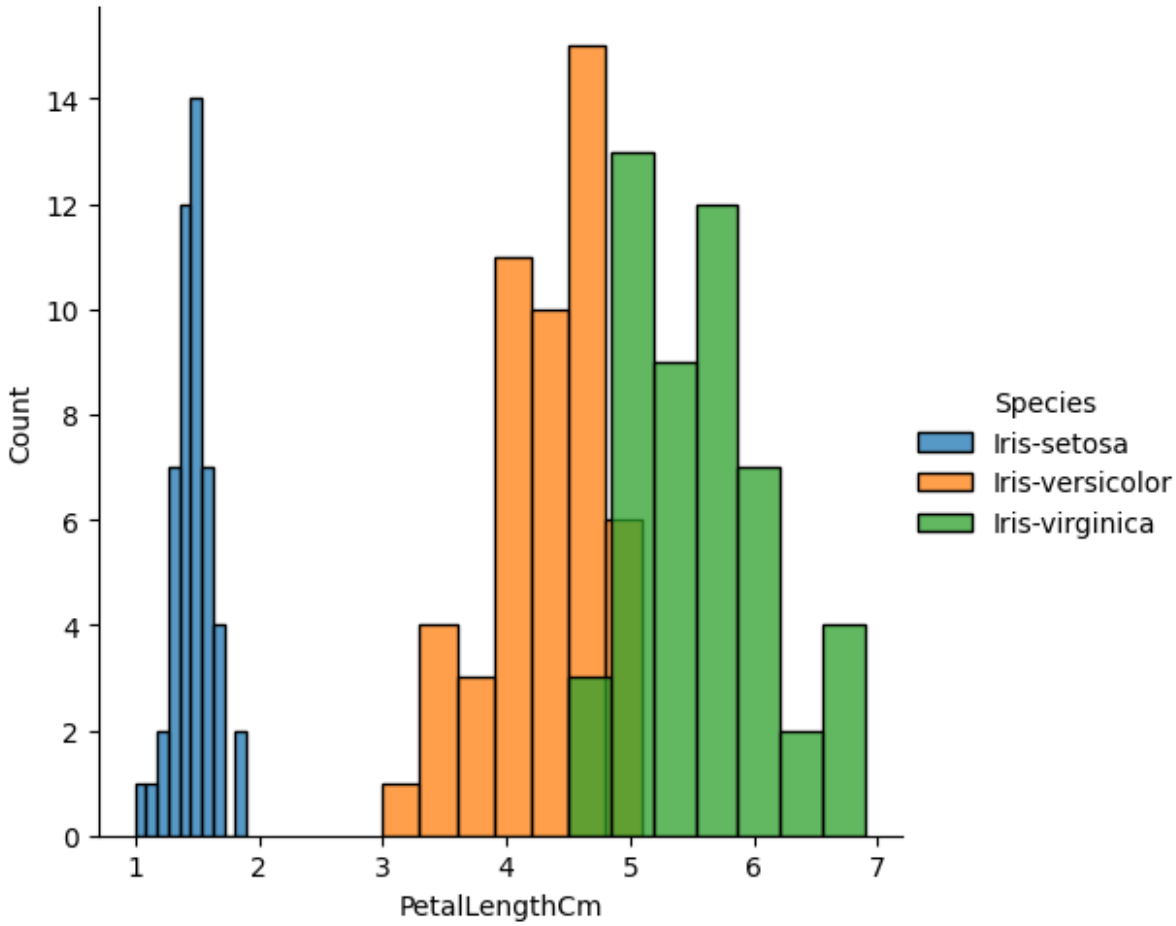
```
<AxesSubplot:xlabel='PetalLengthCm', ylabel='PetalWidthCm'>
```



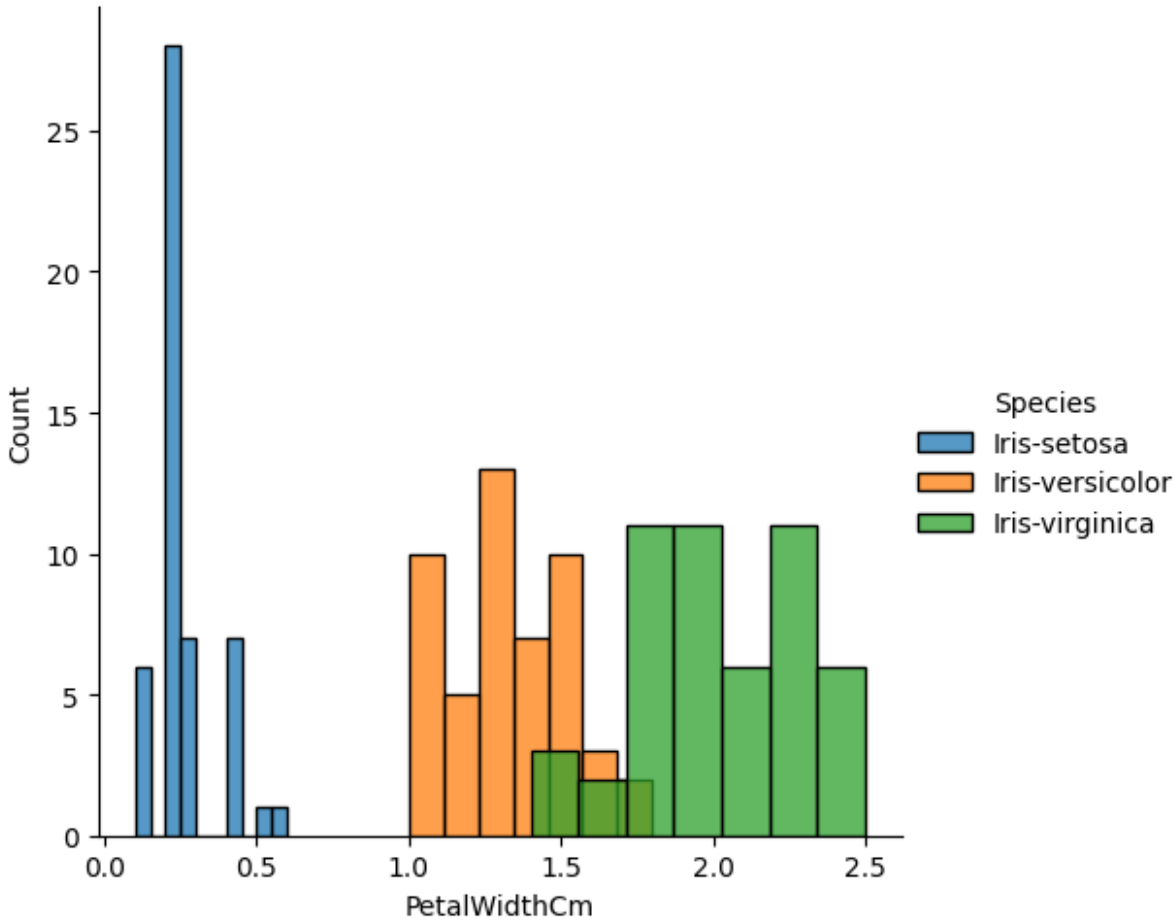

```
sns.pairplot(data,hue='Species',height=3);
```



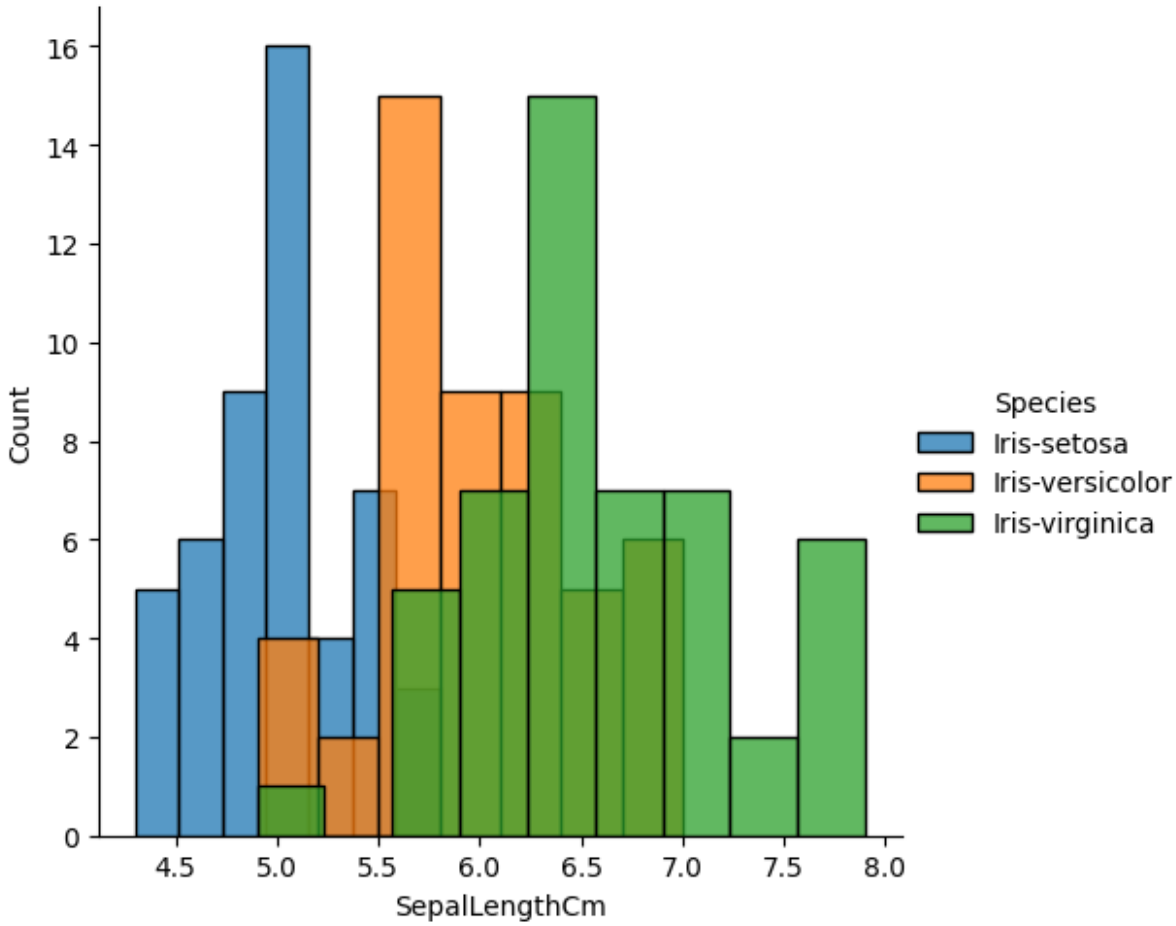

```
sns.FacetGrid(data,hue='Species',height=5).map(sns.histplot,'PetalLeng
thCm').add_legend(); plt.show();
```



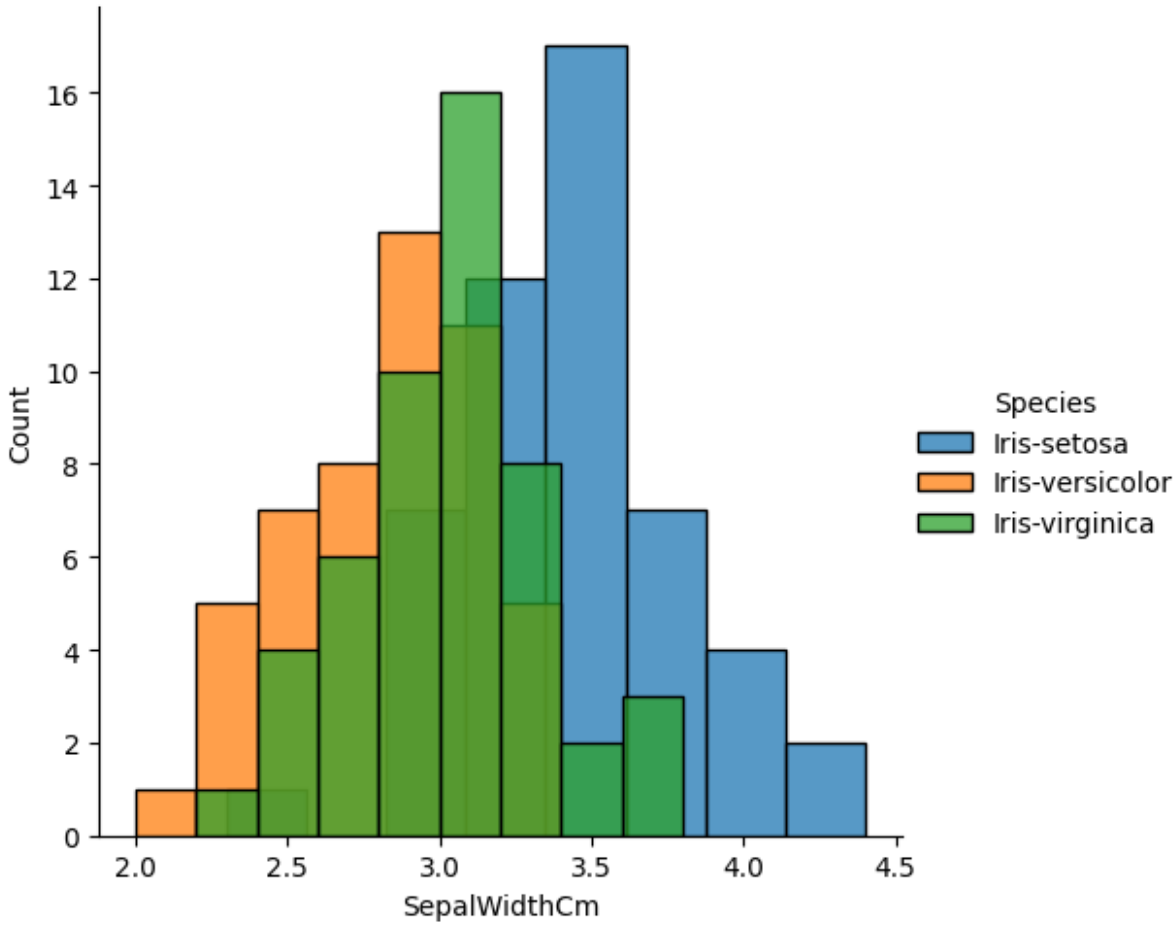

```
sns.FacetGrid(data,hue='Species',height=5).map(sns.histplot,'PetalWidthCm').add_legend(); plt.show();
```




```
sns.FacetGrid(data,hue='Species',height=5).map(sns.histplot,'SepalLeng
thCm').add_legend(); plt.show();
```




```
sns.FacetGrid(data,hue='Species',height=5).map(sns.histplot,'SepalWidthCm').add_legend();
plt.show();
```


Count
16
14
12
10
8
6
4
2
0
2.0
2.5
3.0
3.5
4.0
4.5
SepalWidthCm
Species
Iris-setosa
Iris-versicolor
Iris-virginica