

In [1]:

```
import numpy as np
```

In [2]:

```
import pandas as pd
```

In [3]:

```
import matplotlib.pyplot as plt
```

In [4]:

```
import seaborn as sns
```

In [5]:

```
import warnings  
warnings.filterwarnings('ignore')
```

In [6]:

```
iris=pd.read_csv(r"C:\Users\user\Downloads\25th,26th\IRIS DATASET _ ADVANCE VISUALIZA
```

In [7]:

```
iris
```

Out[7]:

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

150 rows × 6 columns

In [8]:

iris.head()

Out[8]:

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

In [9]:

iris.tail()

Out[9]:

	<b>Id</b>	<b>SepalLengthCm</b>	<b>SepalWidthCm</b>	<b>PetalLengthCm</b>	<b>PetalWidthCm</b>	<b>Species</b>
<b>145</b>	146	6.7	3.0	5.2	2.3	Iris-virginica
<b>146</b>	147	6.3	2.5	5.0	1.9	Iris-virginica
<b>147</b>	148	6.5	3.0	5.2	2.0	Iris-virginica
<b>148</b>	149	6.2	3.4	5.4	2.3	Iris-virginica
<b>149</b>	150	5.9	3.0	5.1	1.8	Iris-virginica

In [10]:

iris.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
```

In [11]:

iris.Species=iris.Species.astype('category')

In [12]:

```
iris.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    category
dtypes: category(1), float64(4), int64(1)
memory usage: 6.3 KB
```

In [13]:

```
iris.describe()
```

Out[13]:

	<b>Id</b>	<b>SepalLengthCm</b>	<b>SepalWidthCm</b>	<b>PetalLengthCm</b>	<b>PetalWidthCm</b>
<b>count</b>	150.000000	150.000000	150.000000	150.000000	150.000000
<b>mean</b>	75.500000	5.843333	3.054000	3.758667	1.198667
<b>std</b>	43.445368	0.828066	0.433594	1.764420	0.763161
<b>min</b>	1.000000	4.300000	2.000000	1.000000	0.100000
<b>25%</b>	38.250000	5.100000	2.800000	1.600000	0.300000
<b>50%</b>	75.500000	5.800000	3.000000	4.350000	1.300000
<b>75%</b>	112.750000	6.400000	3.300000	5.100000	1.800000
<b>max</b>	150.000000	7.900000	4.400000	6.900000	2.500000

In [14]:

```
iris.columns
```

Out[14]:

```
Index(['Id', 'SepalLengthCm', 'SepalWidthCm', 'PetalLengthCm', 'PetalWidthCm',
       'Species'],
      dtype='object')
```

In [15]:

```
iris.Species.value_counts()
```

Out[15]:

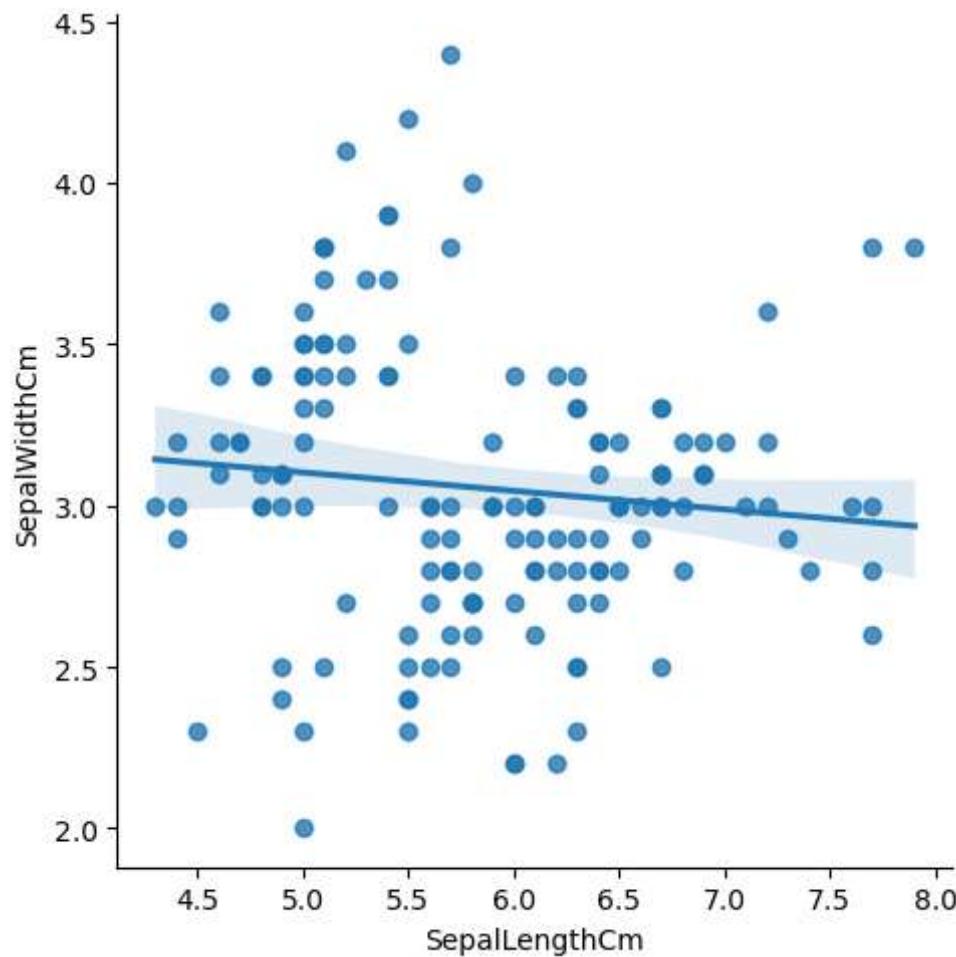
```
Iris-setosa      50
Iris-versicolor 50
Iris-virginica  50
Name: Species, dtype: int64
```

In [16]:

```
sns.lmplot(data=iris,x='SepalLengthCm',y='SepalWidthCm')
```

Out[16]:

```
<seaborn.axisgrid.FacetGrid at 0x2558b420b80>
```

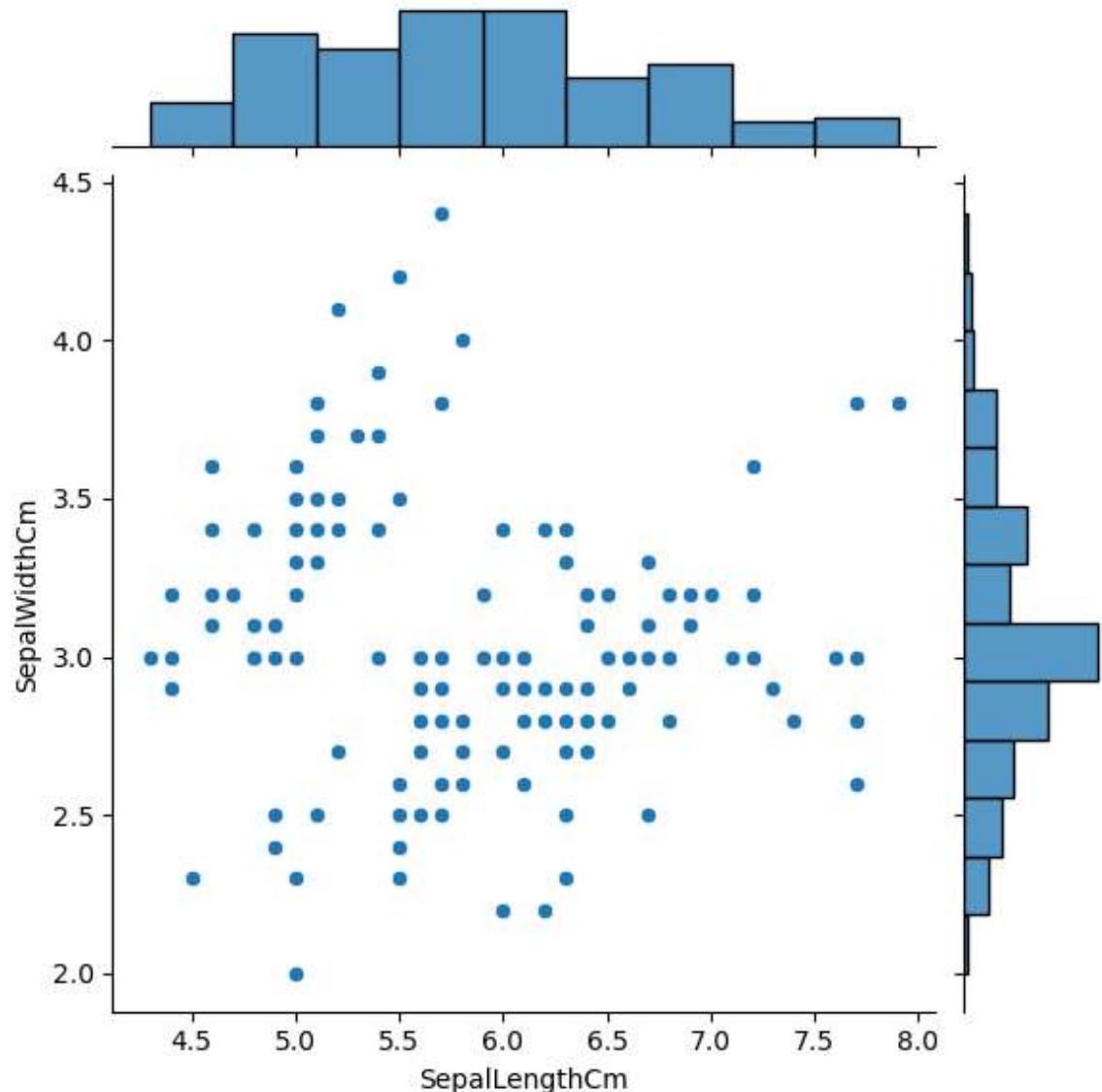


In [17]:

```
sns.jointplot(data=iris,x='SepalLengthCm',y='SepalWidthCm')
```

Out[17]:

```
<seaborn.axisgrid.JointGrid at 0x2558b541de0>
```

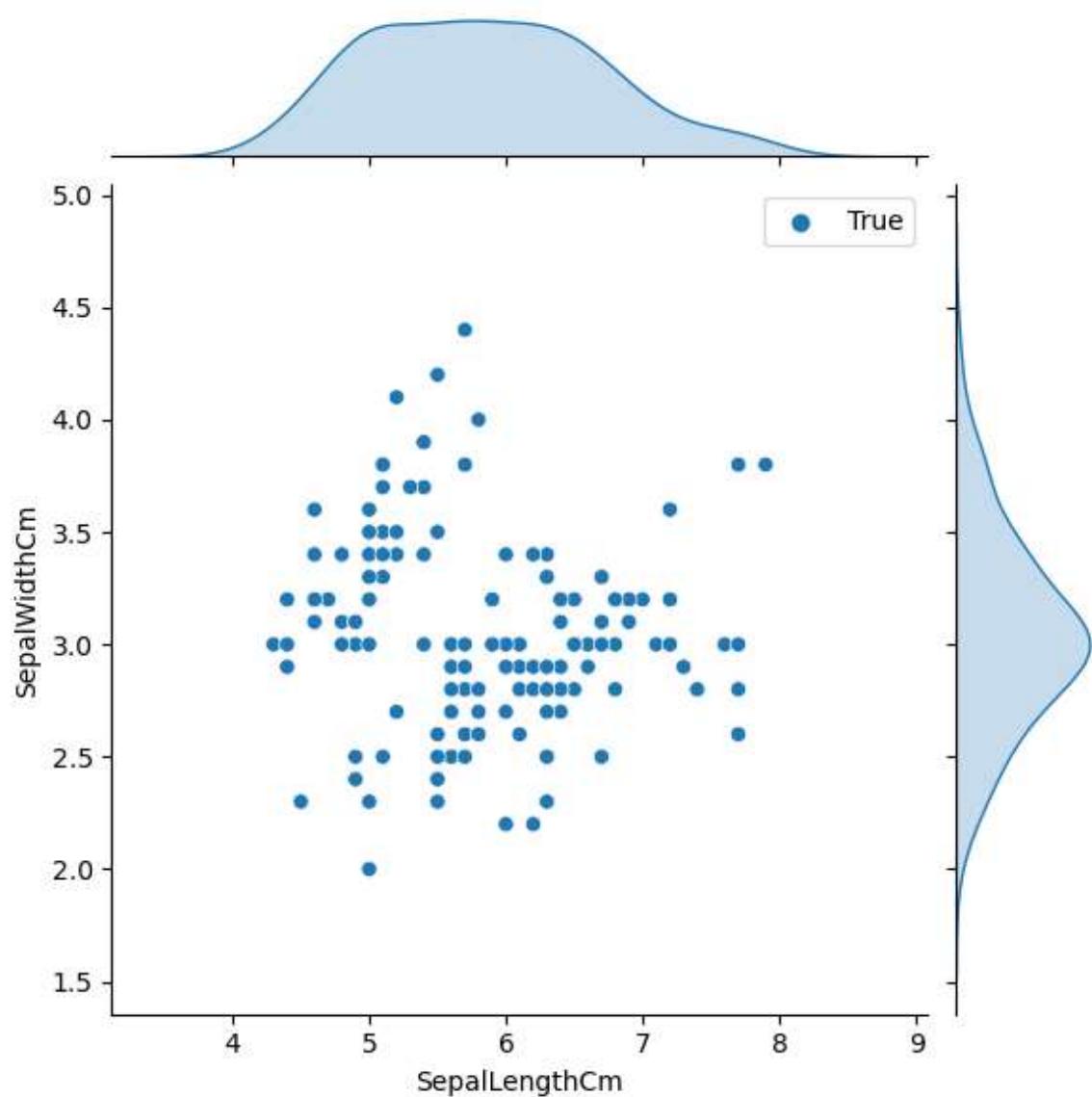


In [18]:

```
sns.jointplot(data=iris,x='SepalLengthCm',y='SepalWidthCm',hue=True)
```

Out[18]:

```
<seaborn.axisgrid.JointGrid at 0x2558bf6d3f0>
```

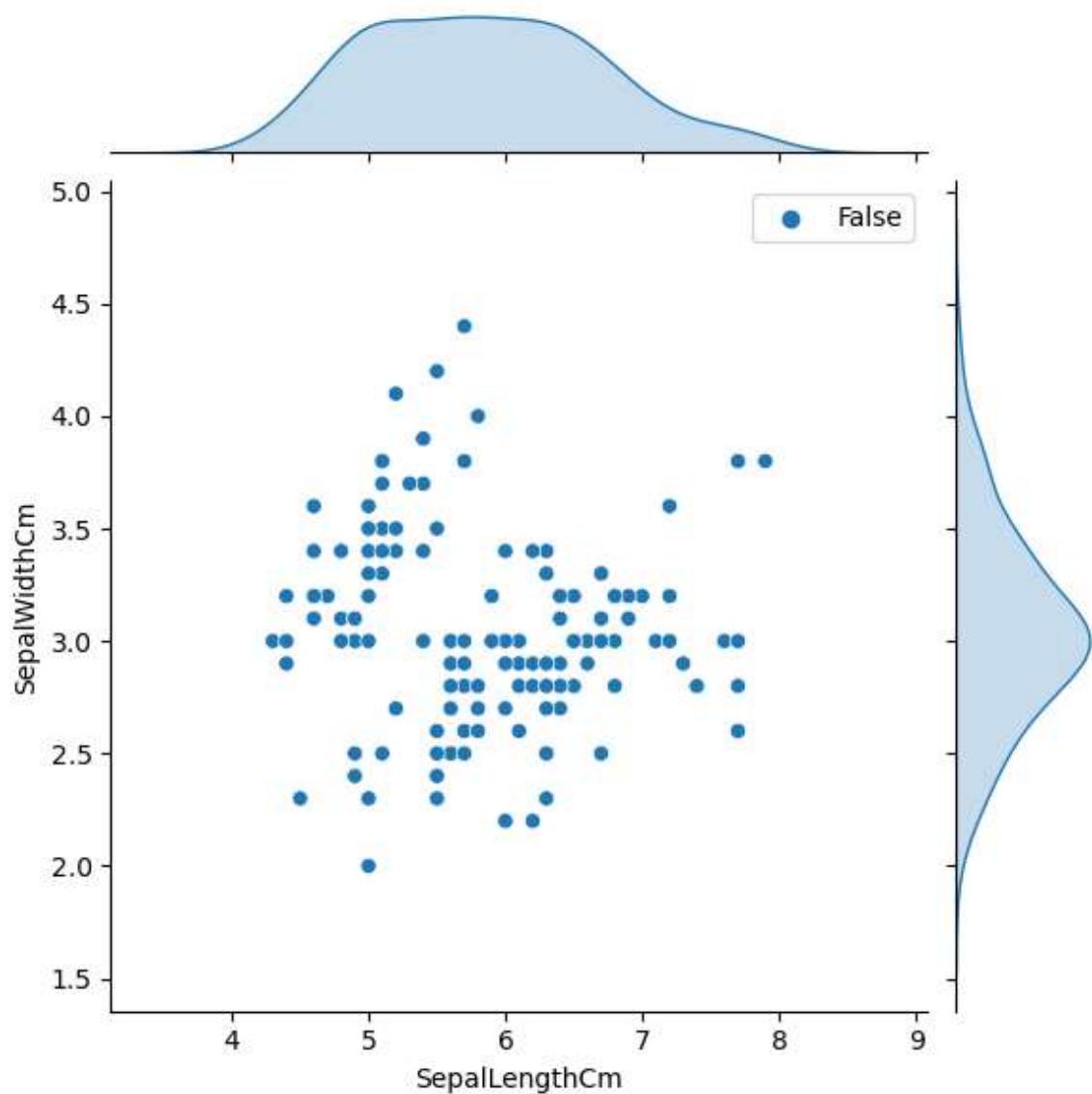


In [19]:

```
sns.jointplot(data=iris,x='SepalLengthCm',y='SepalWidthCm',hue=False)
```

Out[19]:

```
<seaborn.axisgrid.JointGrid at 0x2558c231960>
```

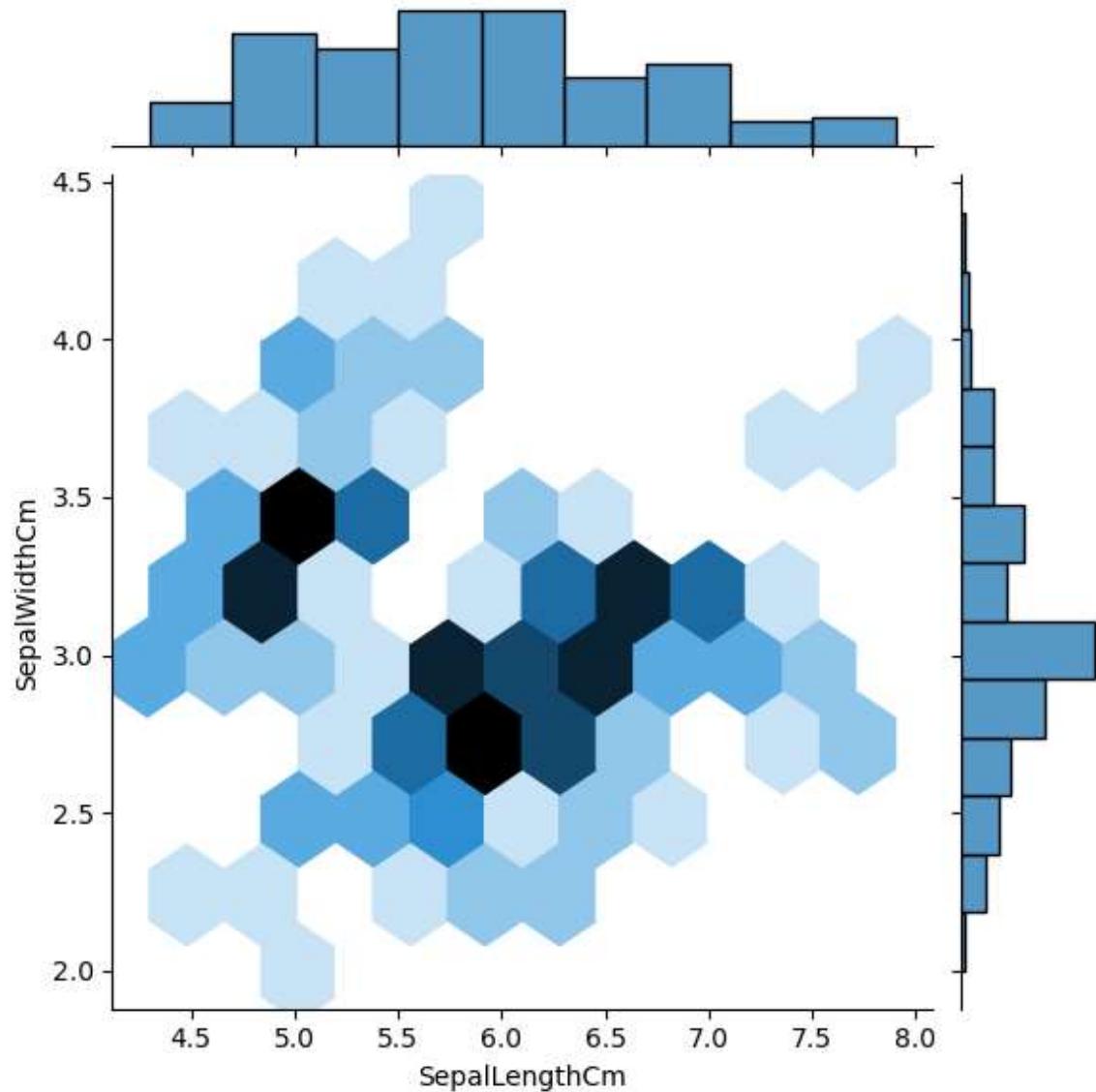


In [20]:

```
sns.jointplot(data=iris,x='SepalLengthCm',y='SepalWidthCm',kind='hex')
```

Out[20]:

```
<seaborn.axisgrid.JointGrid at 0x2558b540f10>
```

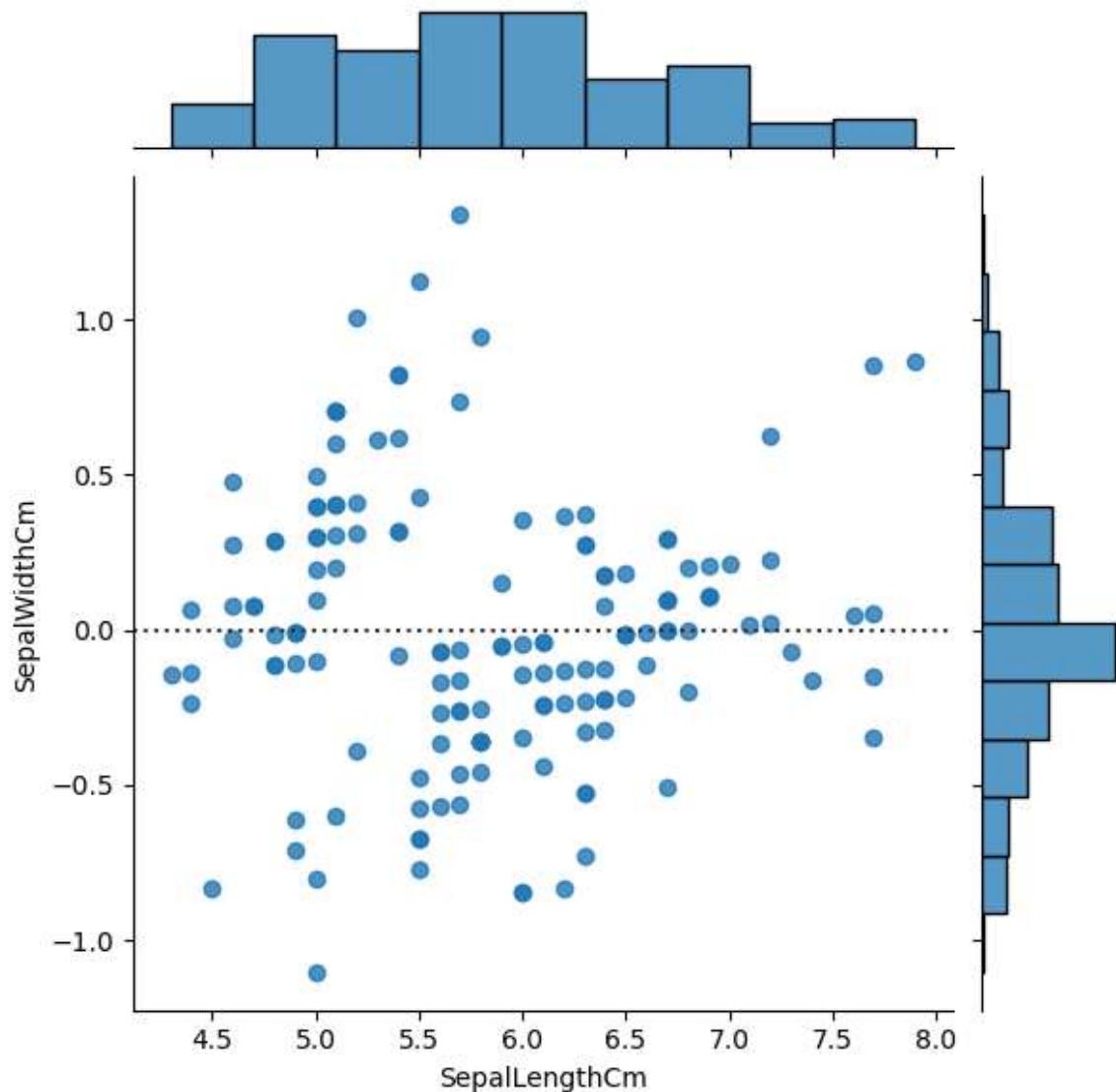


In [21]:

```
sns.jointplot(data=iris,x='SepalLengthCm',y='SepalWidthCm',kind='resid')
```

Out[21]:

```
<seaborn.axisgrid.JointGrid at 0x2558d83dc30>
```

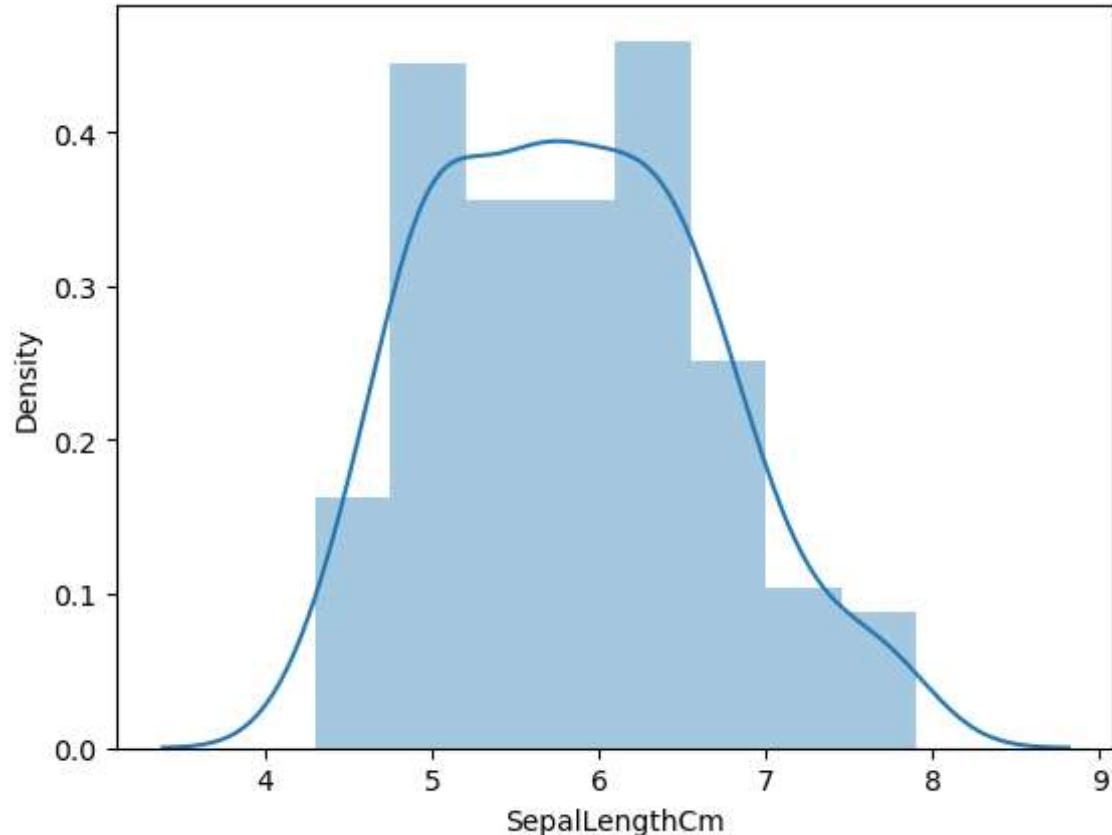


In [22]:

```
sns.distplot(iris.SepalLengthCm)
```

Out[22]:

```
<Axes: xlabel='SepalLengthCm', ylabel='Density'>
```

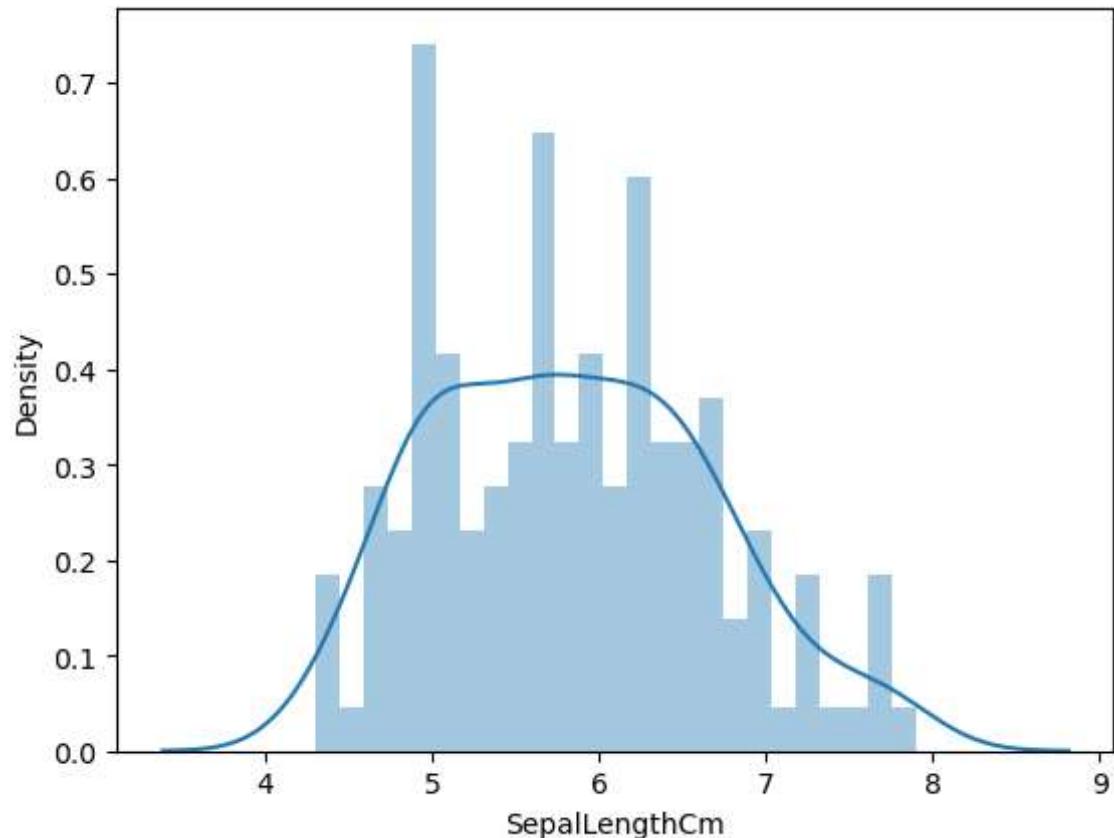


In [23]:

```
sns.distplot(iris.SepalLengthCm,bins=25)
```

Out[23]:

```
<Axes: xlabel='SepalLengthCm', ylabel='Density'>
```

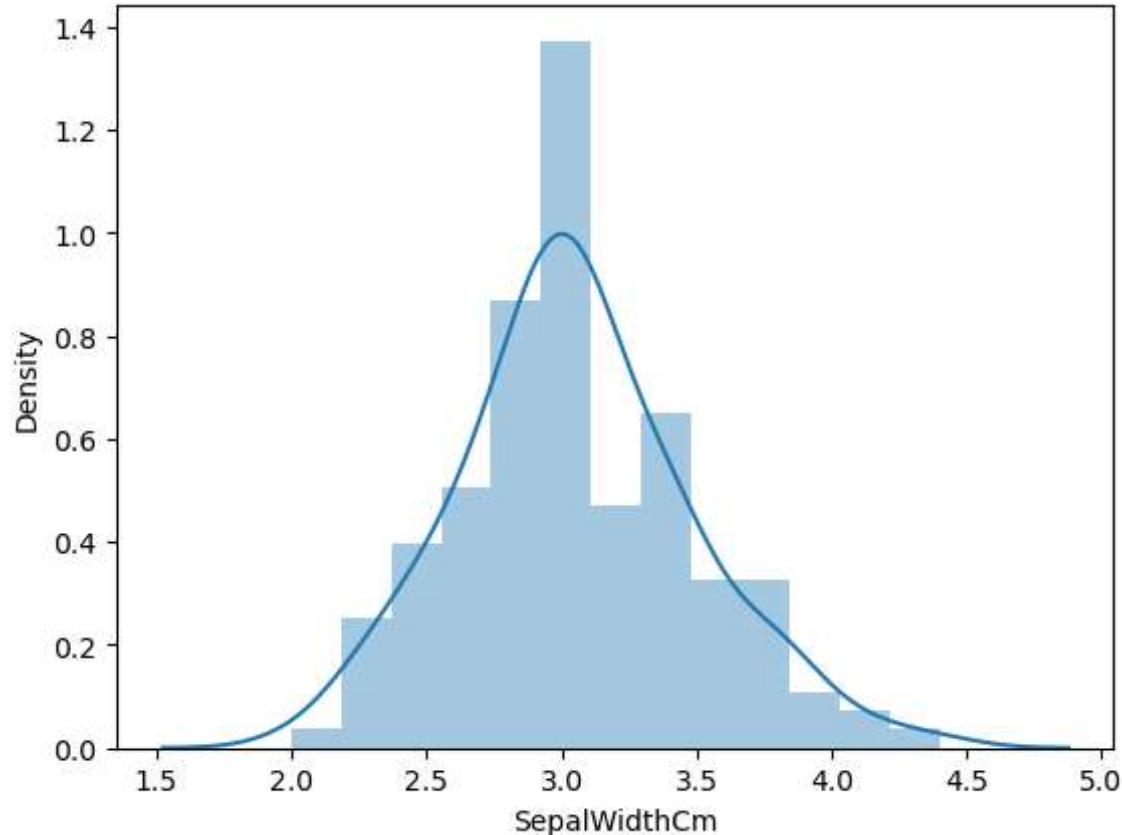


In [24]:

```
sns.distplot(iris.SepalWidthCm)
```

Out[24]:

```
<Axes: xlabel='SepalWidthCm', ylabel='Density'>
```

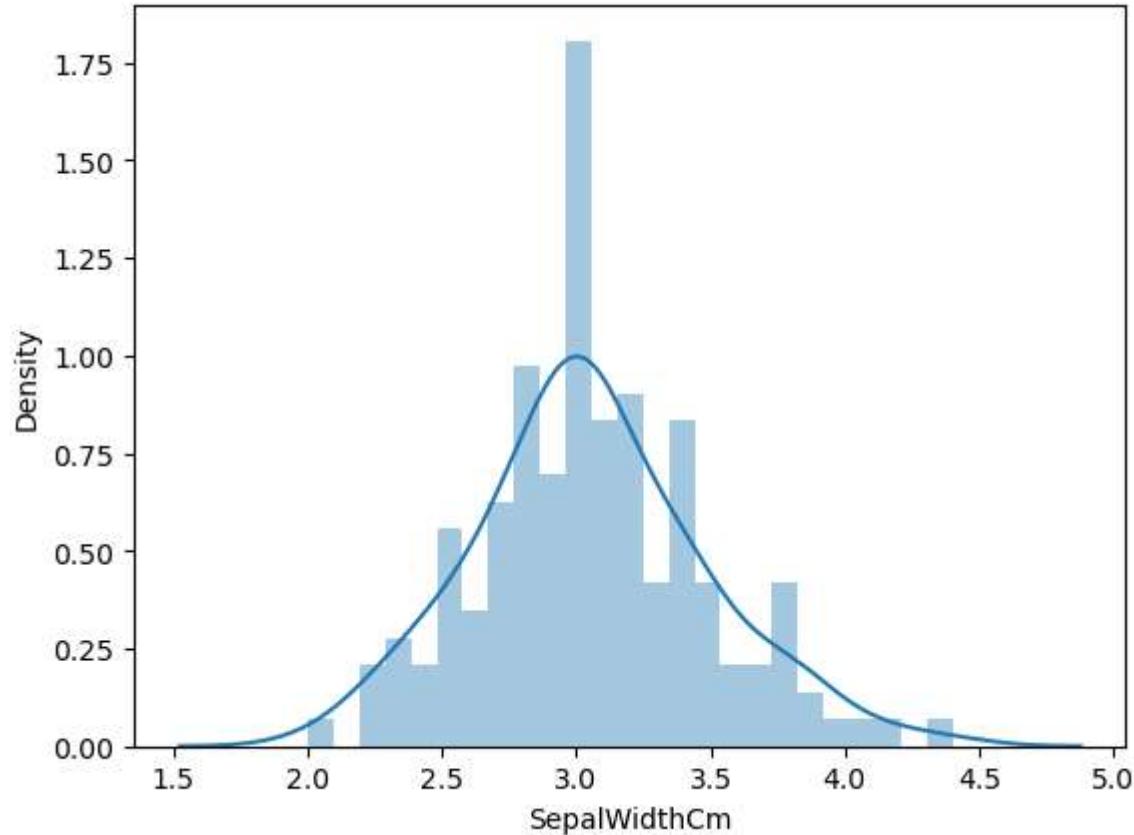


In [25]:

```
sns.distplot(iris.SepalWidthCm,bins=25)
```

Out[25]:

```
<Axes: xlabel='SepalWidthCm', ylabel='Density'>
```

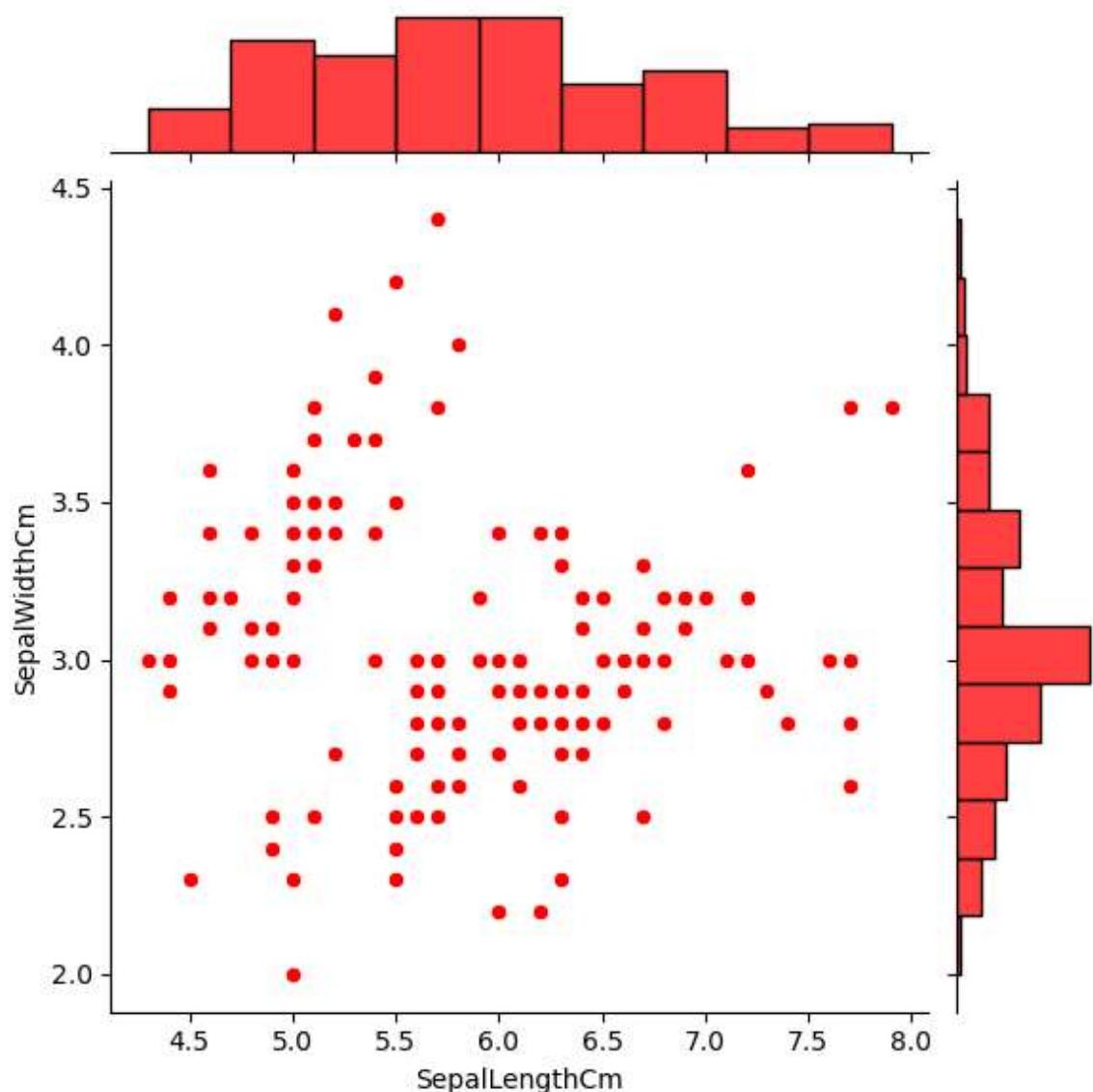


In [26]:

```
sns.jointplot(data=iris,x='SepalLengthCm',y='SepalWidthCm',color='red')
```

Out[26]:

```
<seaborn.axisgrid.JointGrid at 0x2558f1564d0>
```

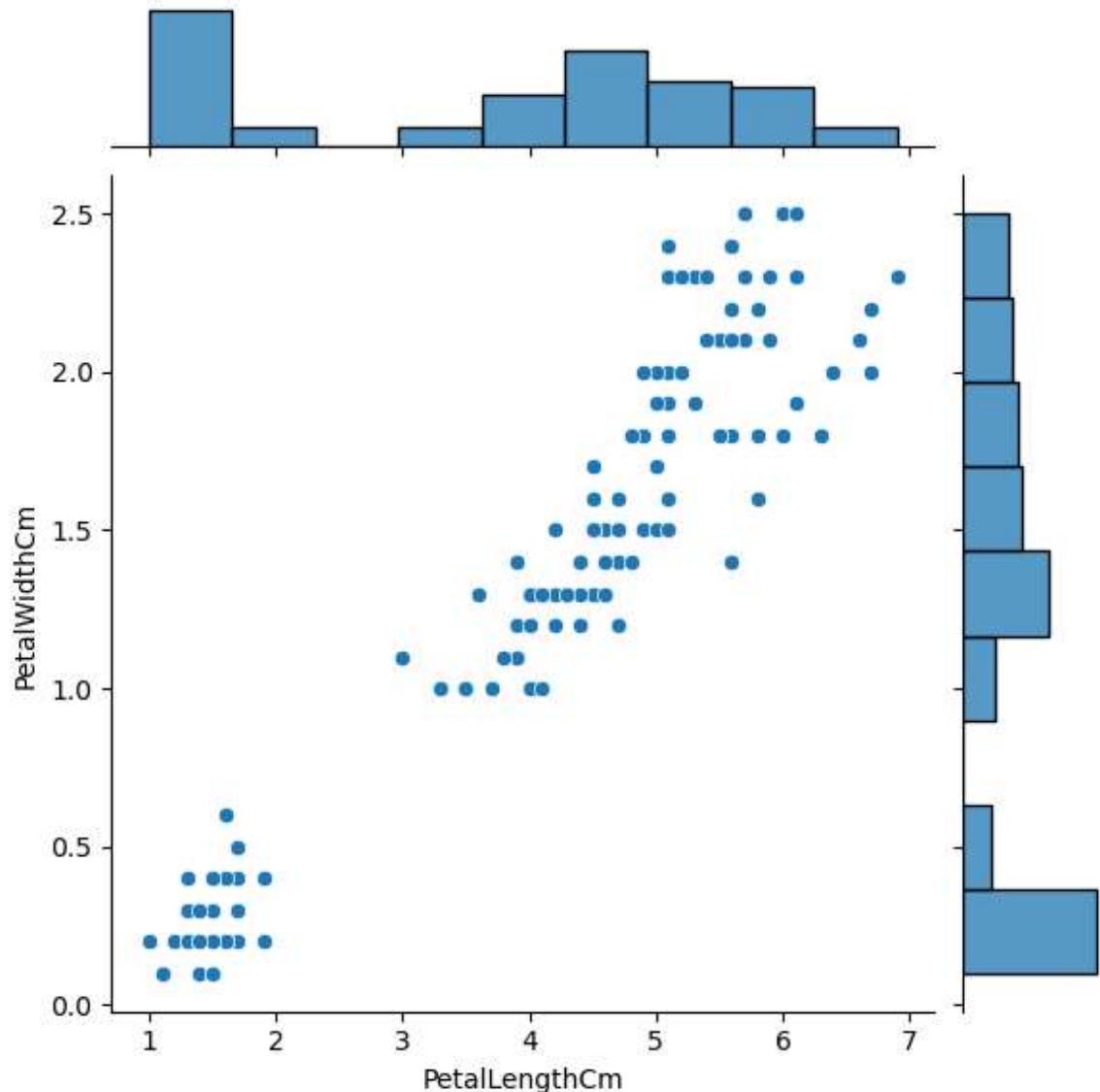


In [27]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm')
```

Out[27]:

```
<seaborn.axisgrid.JointGrid at 0x2558f4571c0>
```

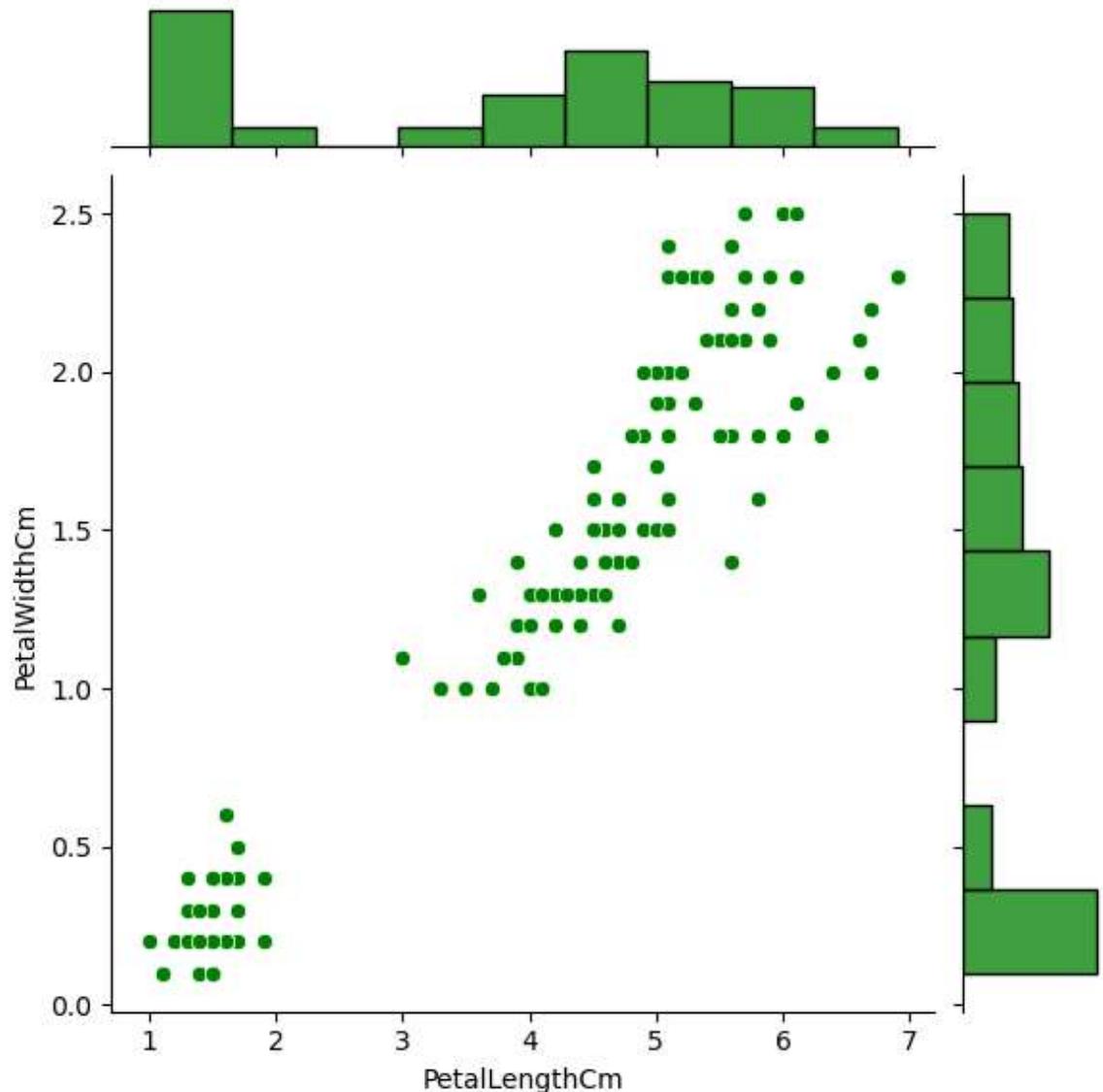


In [28]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm',color='green')
```

Out[28]:

```
<seaborn.axisgrid.JointGrid at 0x2558fb81240>
```

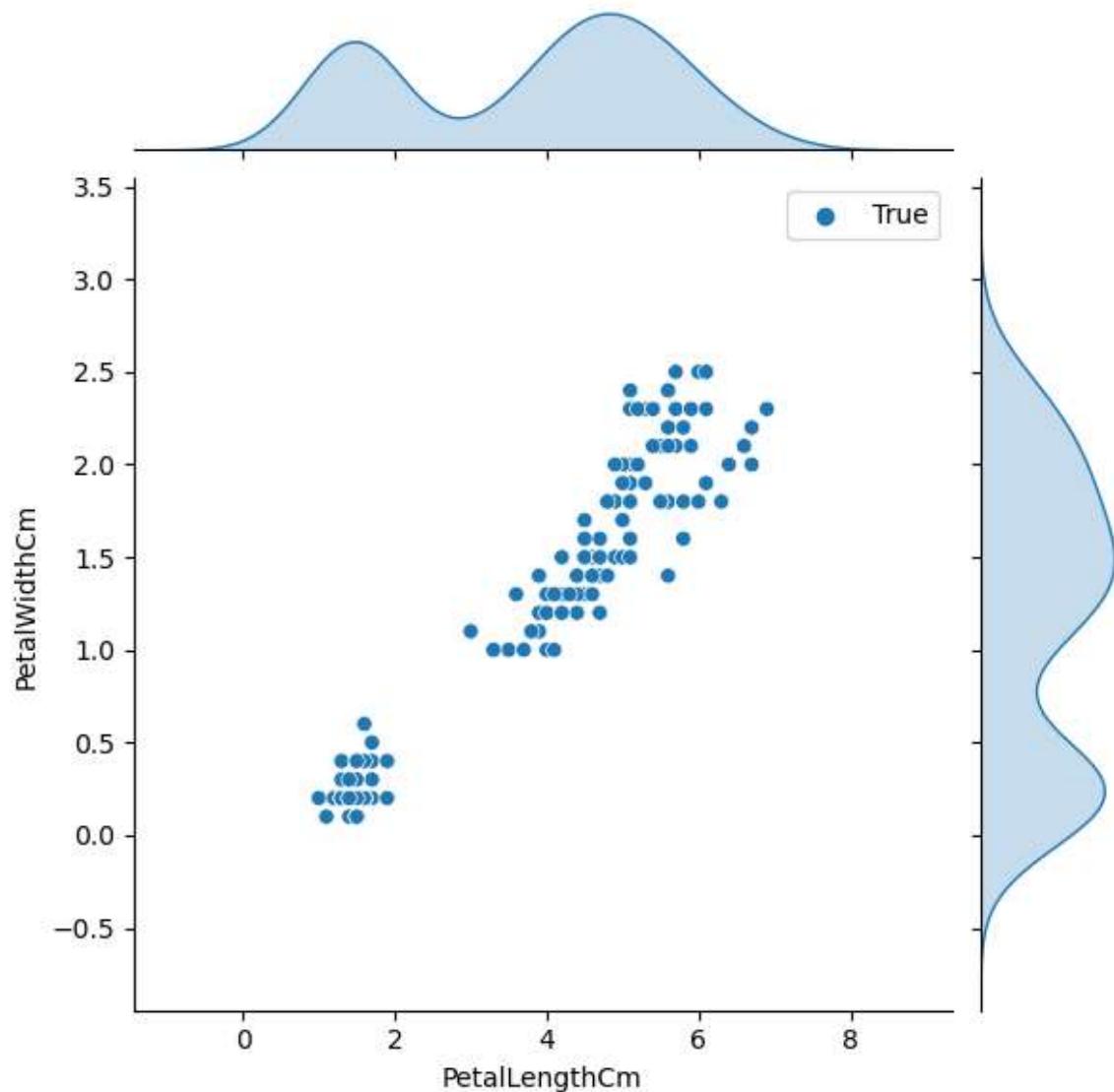


In [29]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm',hue=True)
```

Out[29]:

```
<seaborn.axisgrid.JointGrid at 0x2558fe38cd0>
```

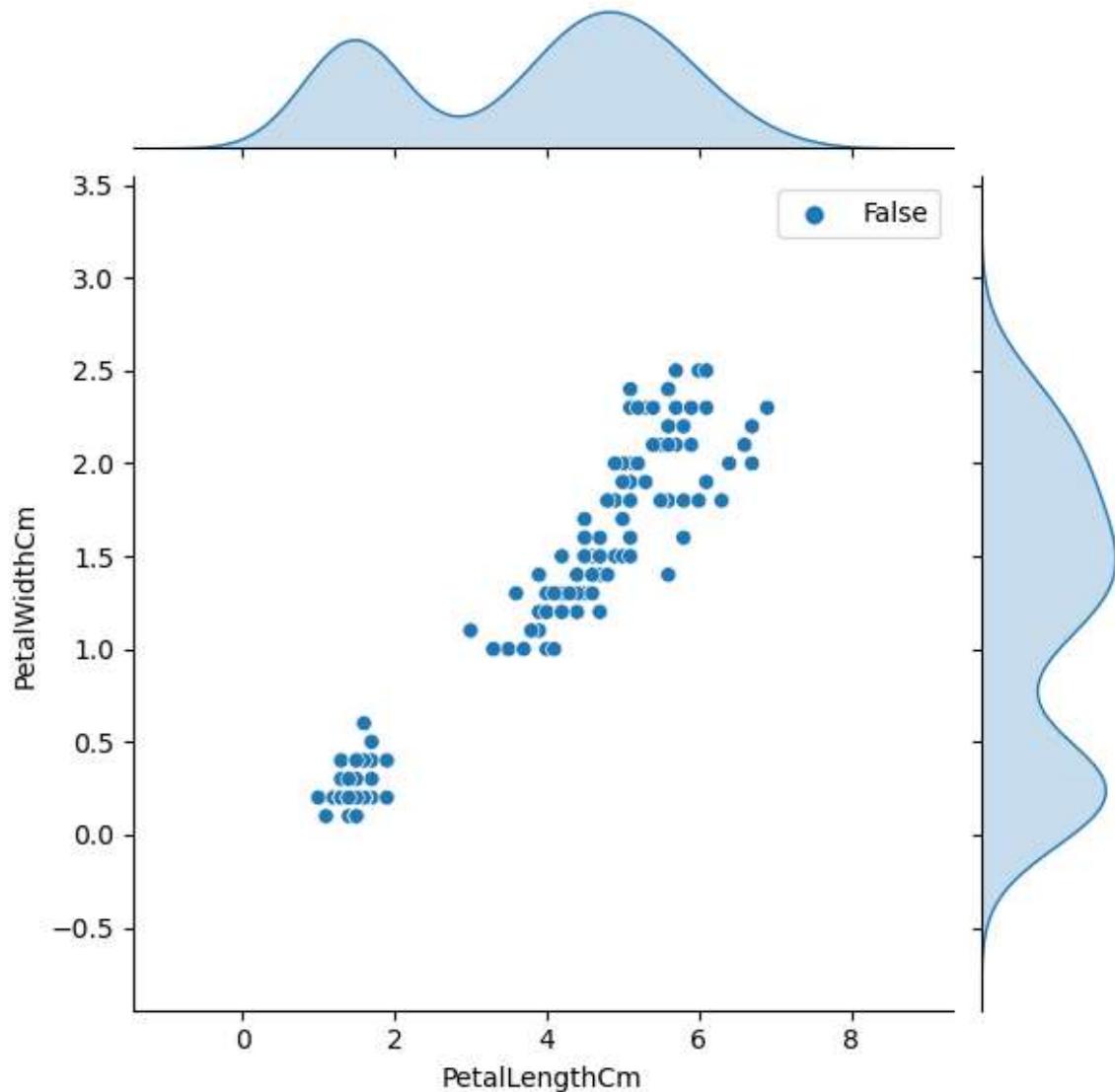


In [30]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm',hue=False)
```

Out[30]:

```
<seaborn.axisgrid.JointGrid at 0x25590261930>
```

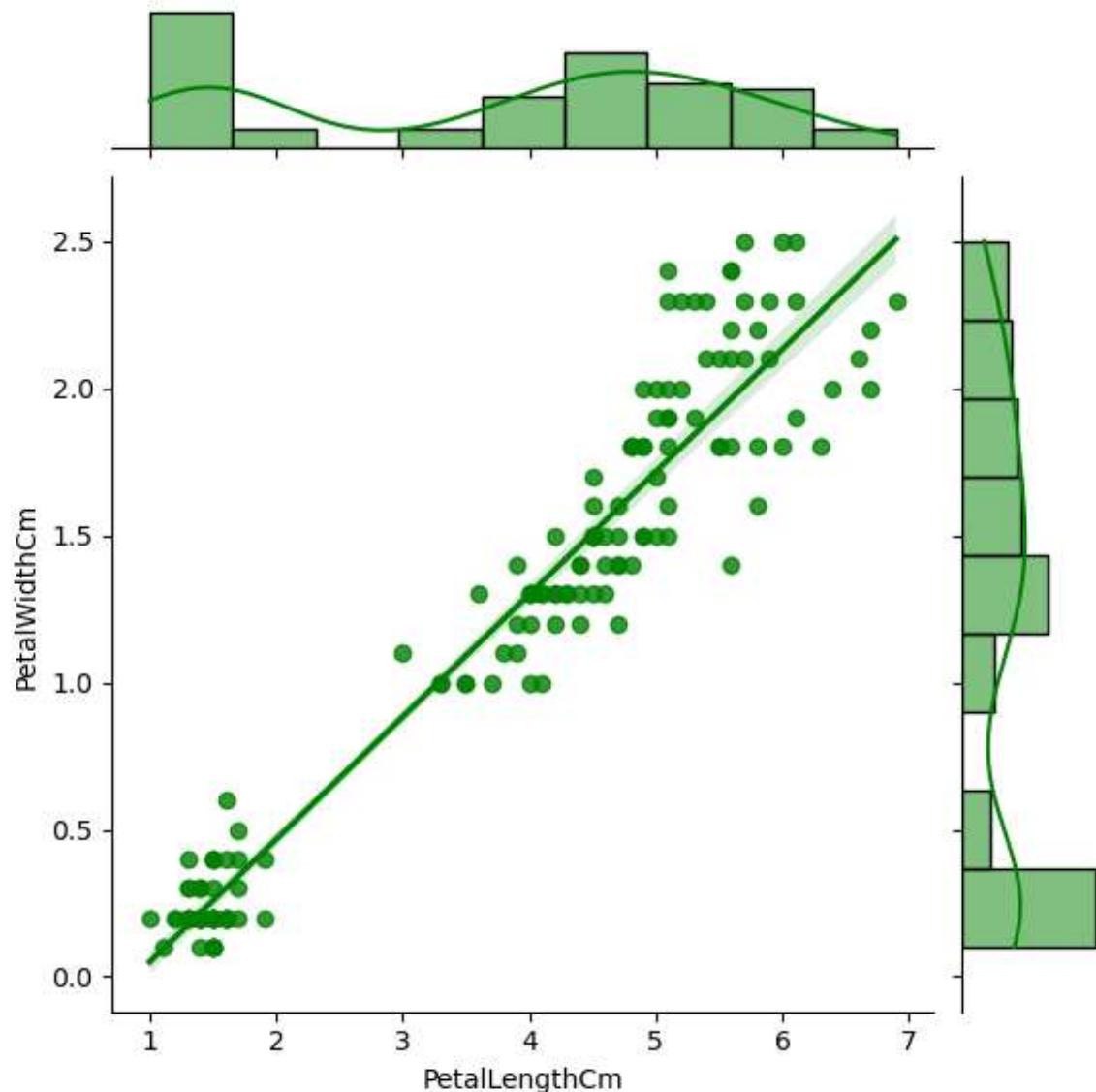


In [31]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm',color='green',kind='reg')
```

Out[31]:

```
<seaborn.axisgrid.JointGrid at 0x25590624730>
```

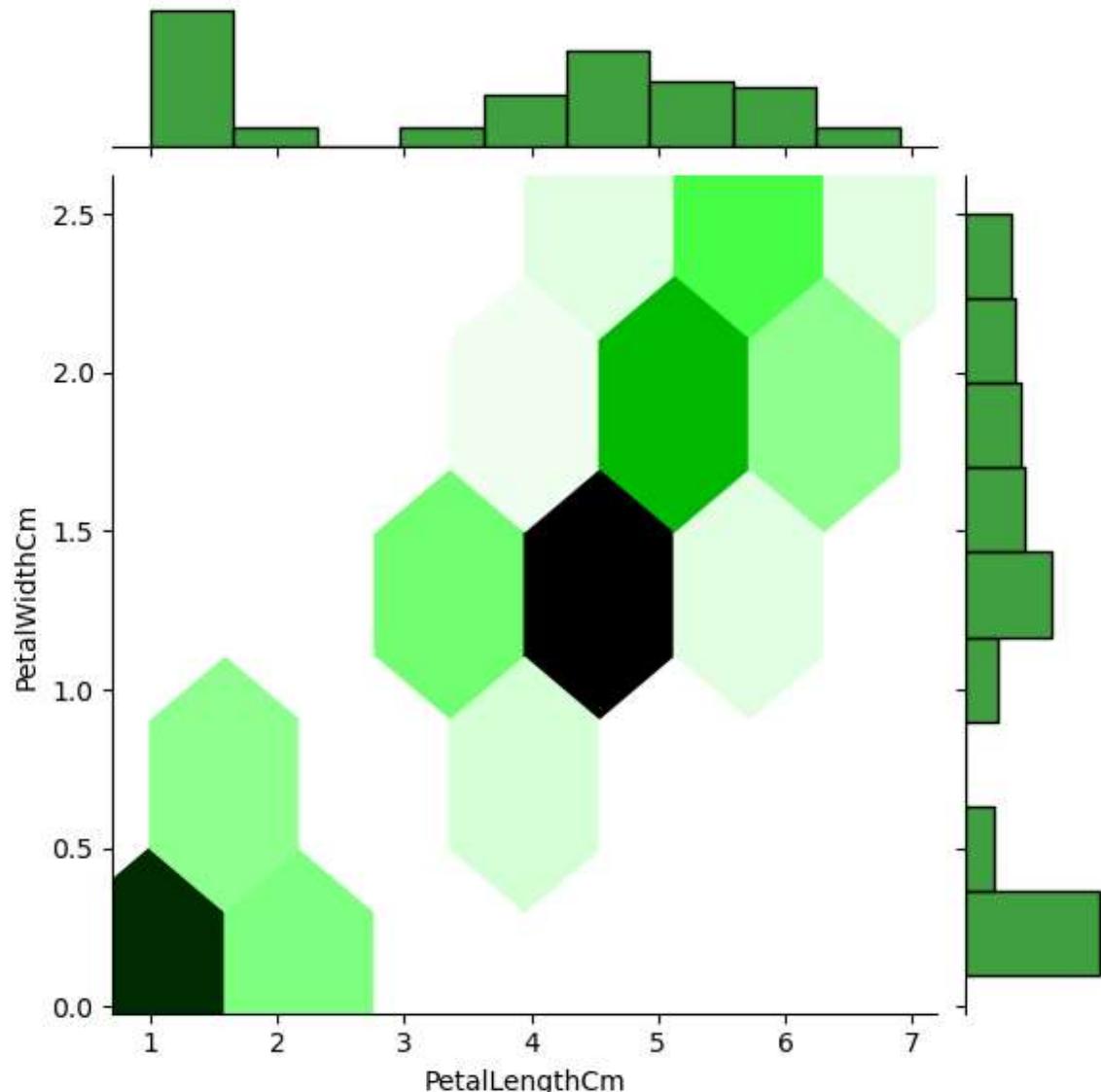


In [32]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm',color='green',kind='hex')
```

Out[32]:

```
<seaborn.axisgrid.JointGrid at 0x25590c15810>
```

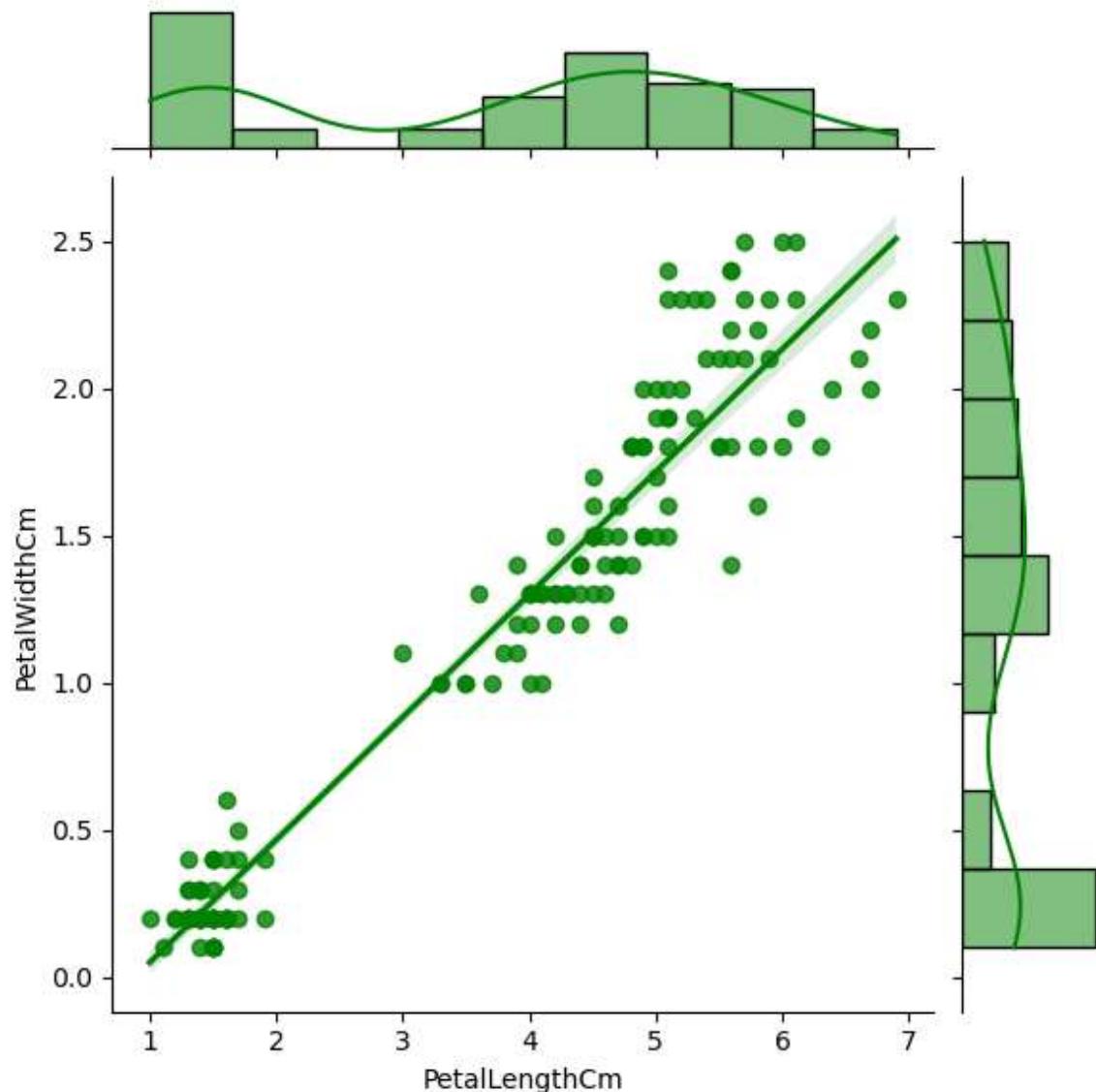


In [33]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm',color='green',kind='reg')
```

Out[33]:

```
<seaborn.axisgrid.JointGrid at 0x25590ea2f80>
```

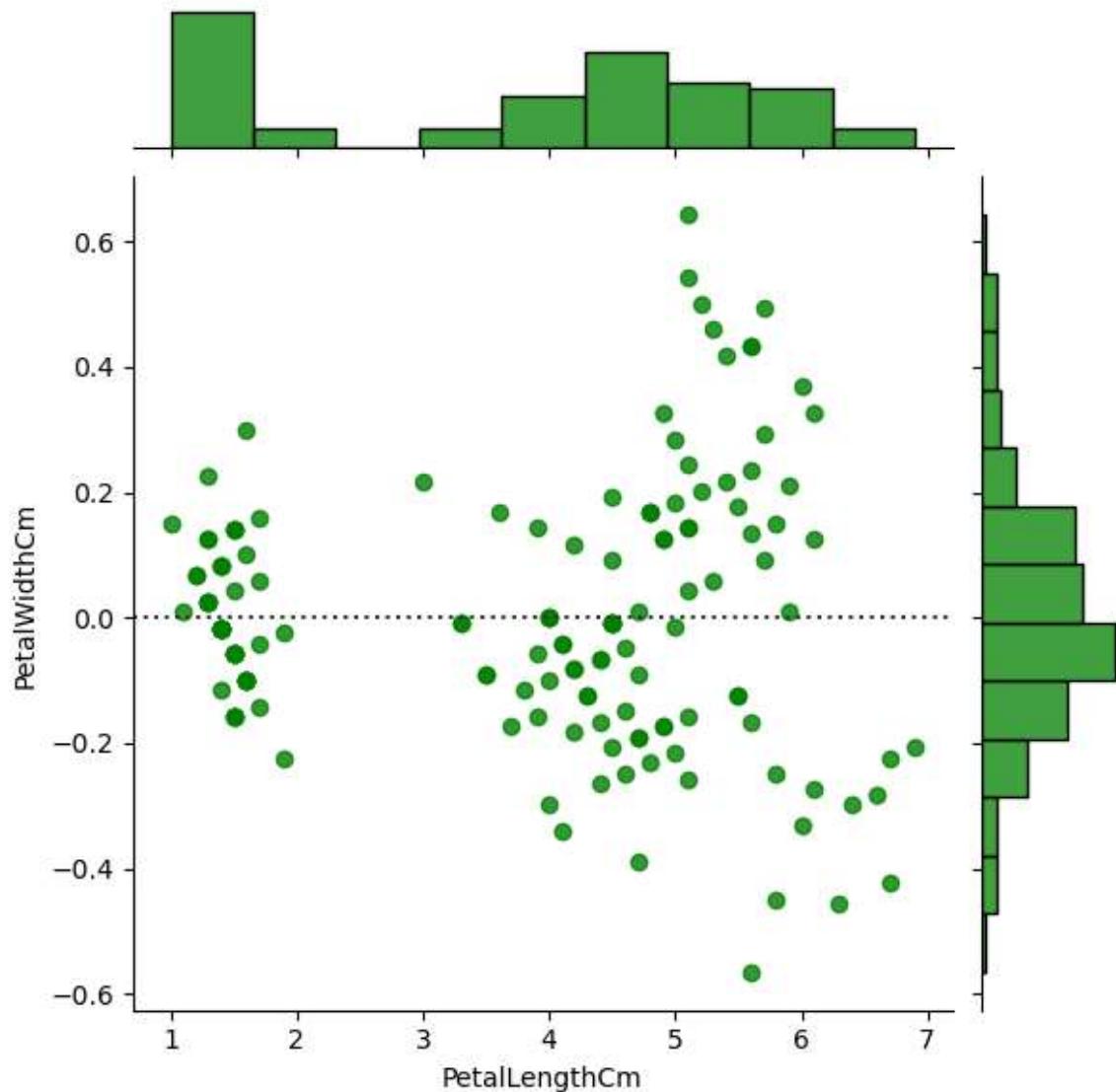


In [34]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm',color='green',kind='resid')
```

Out[34]:

```
<seaborn.axisgrid.JointGrid at 0x255912d3160>
```

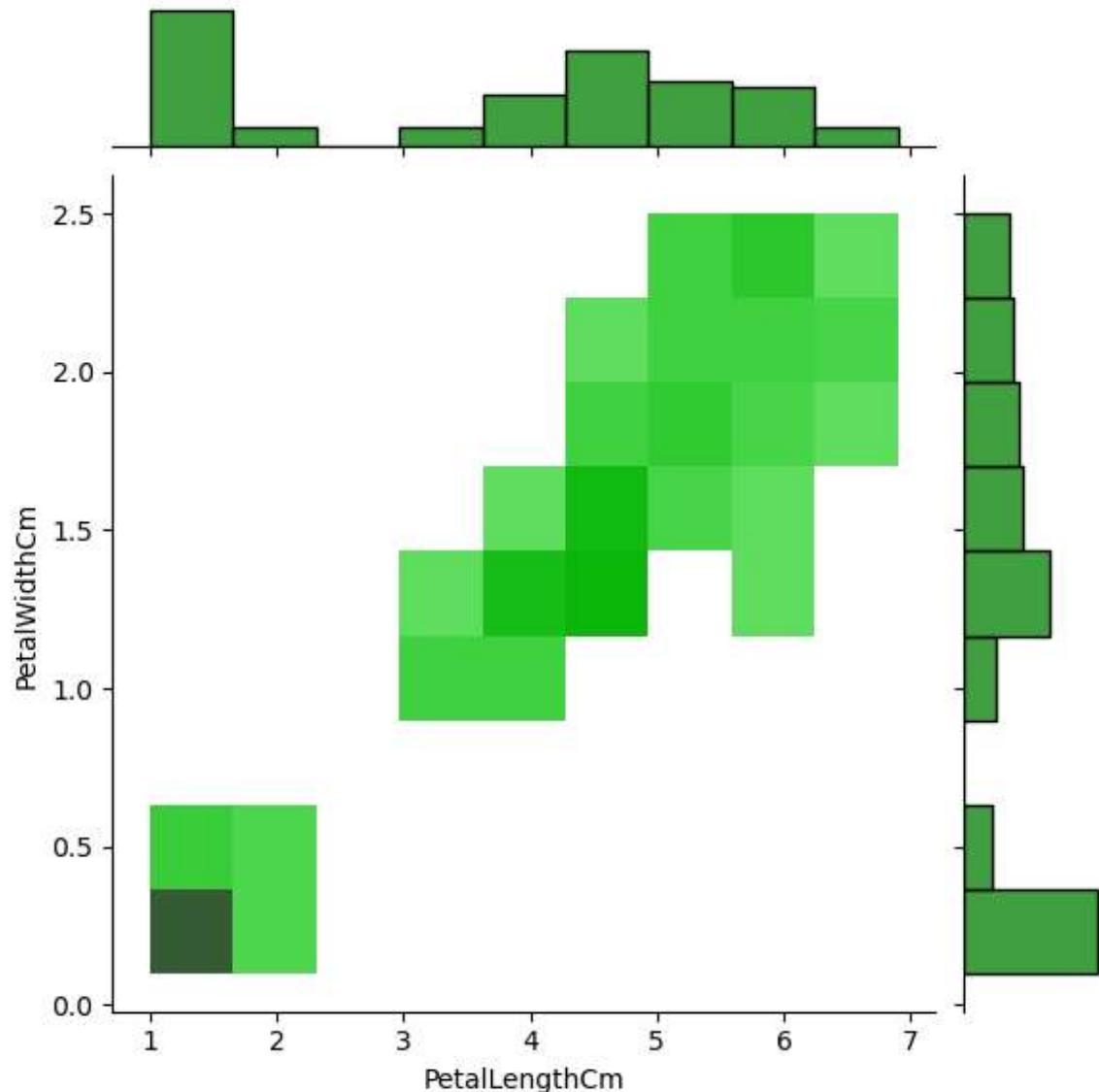


In [35]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm',color='green',kind='hist')
```

Out[35]:

```
<seaborn.axisgrid.JointGrid at 0x2559285e2f0>
```

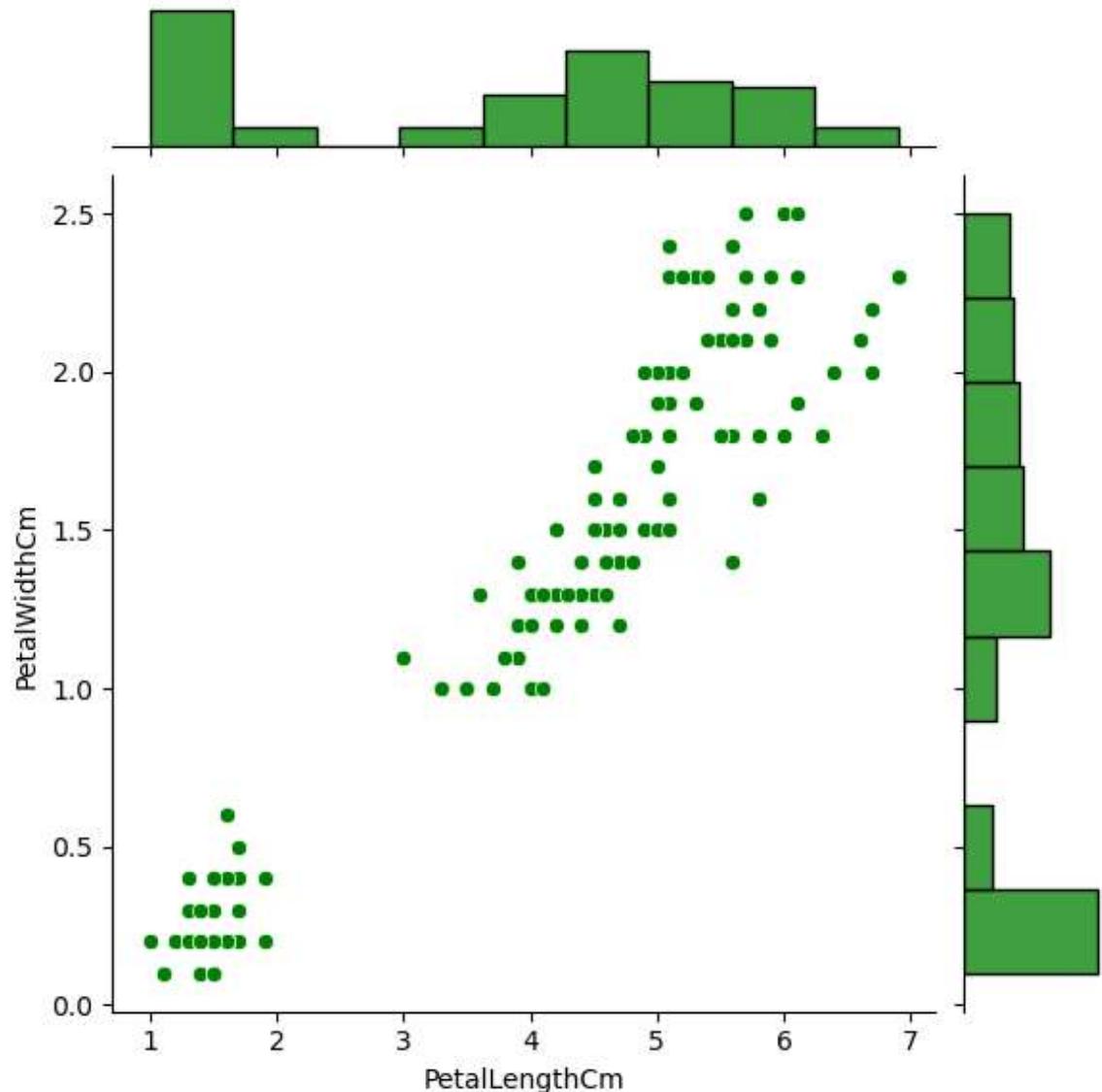


In [36]:

```
sns.jointplot(data=iris,x='PetalLengthCm',y='PetalWidthCm',color='green',kind='scatter')
```

Out[36]:

```
<seaborn.axisgrid.JointGrid at 0x25592af7f70>
```

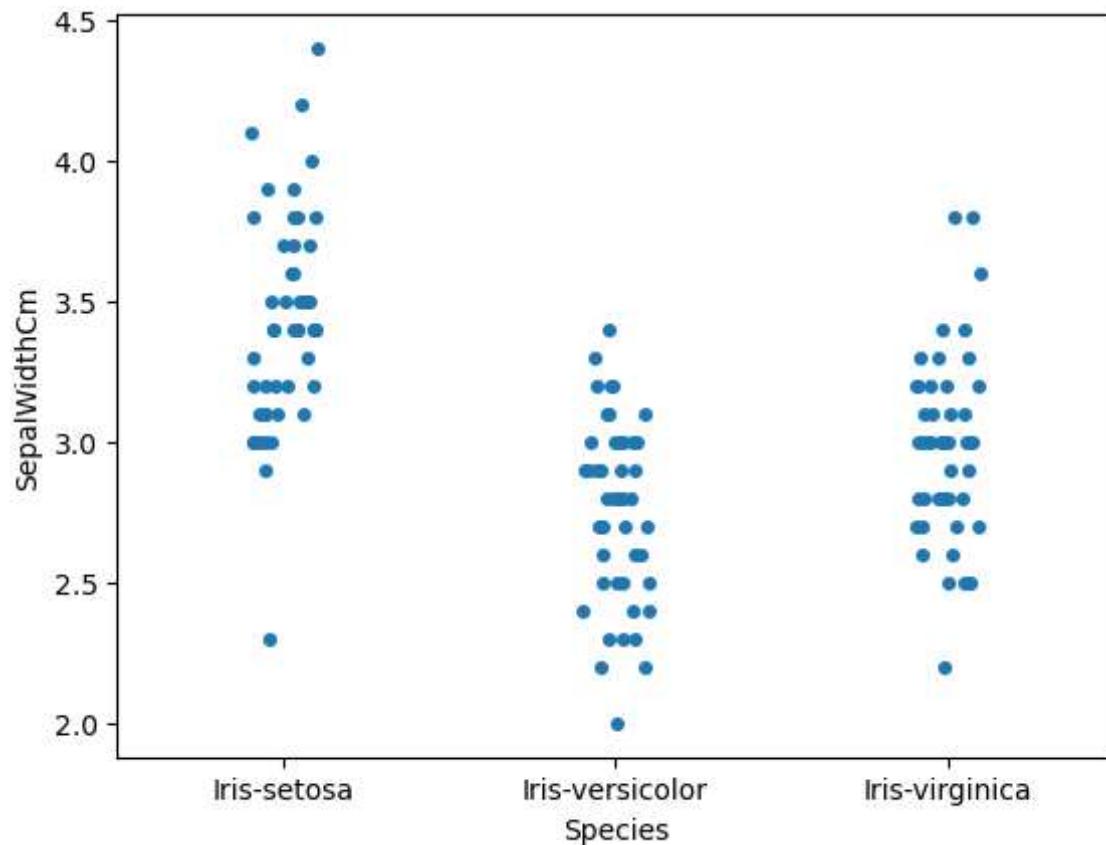


In [37]:

```
sns.stripplot(data=iris,x='Species',y='SepalWidthCm')
```

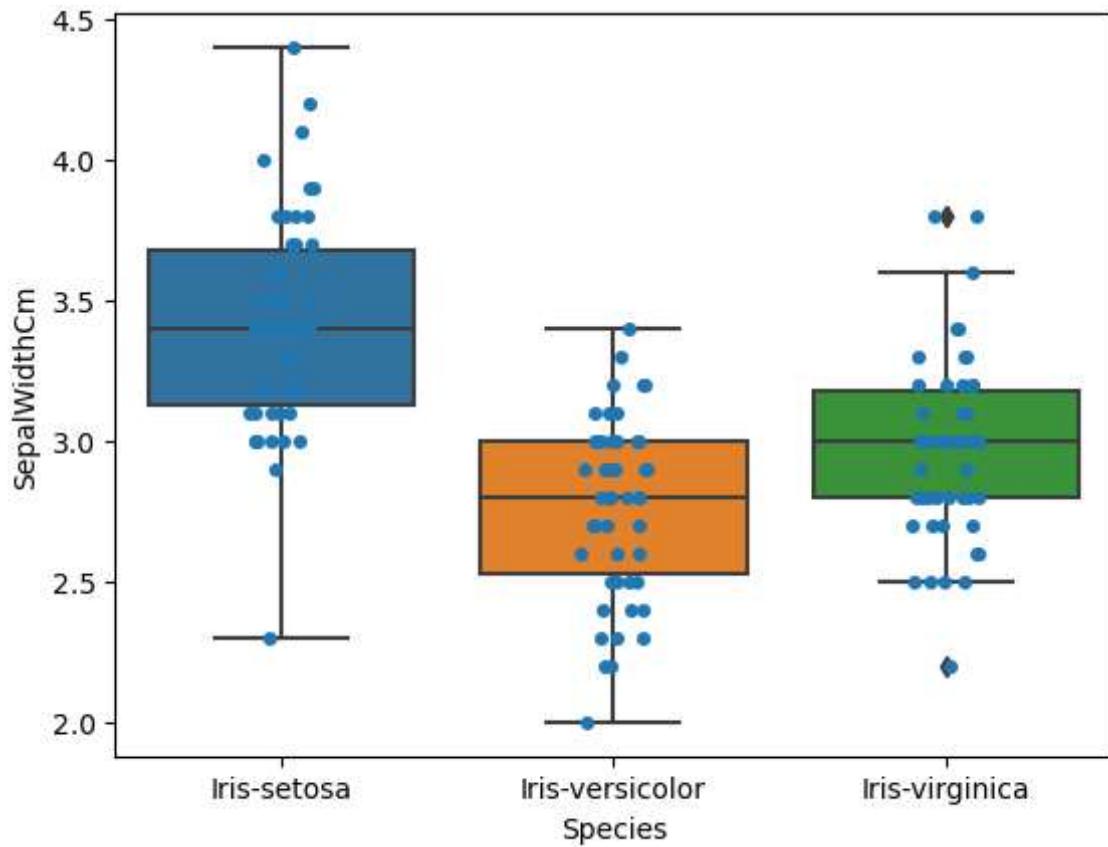
Out[37]:

```
<Axes: xlabel='Species', ylabel='SepalWidthCm'>
```



In [38]:

```
sns.stripplot(data=iris,x='Species',y='SepalWidthCm')
sns.boxplot(data=iris,x='Species',y='SepalWidthCm')
plt.show()
```

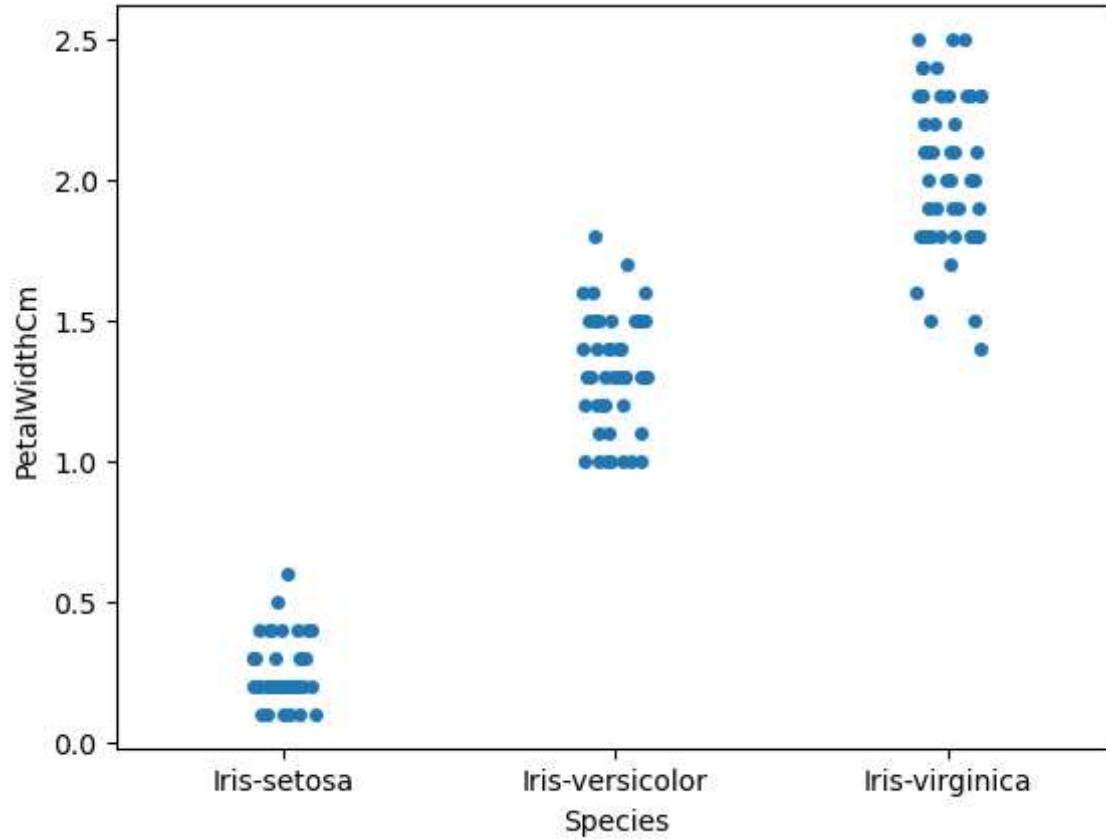


In [39]:

```
sns.stripplot(data=iris,x='Species',y='PetalWidthCm')
```

Out[39]:

```
<Axes: xlabel='Species', ylabel='PetalWidthCm'>
```

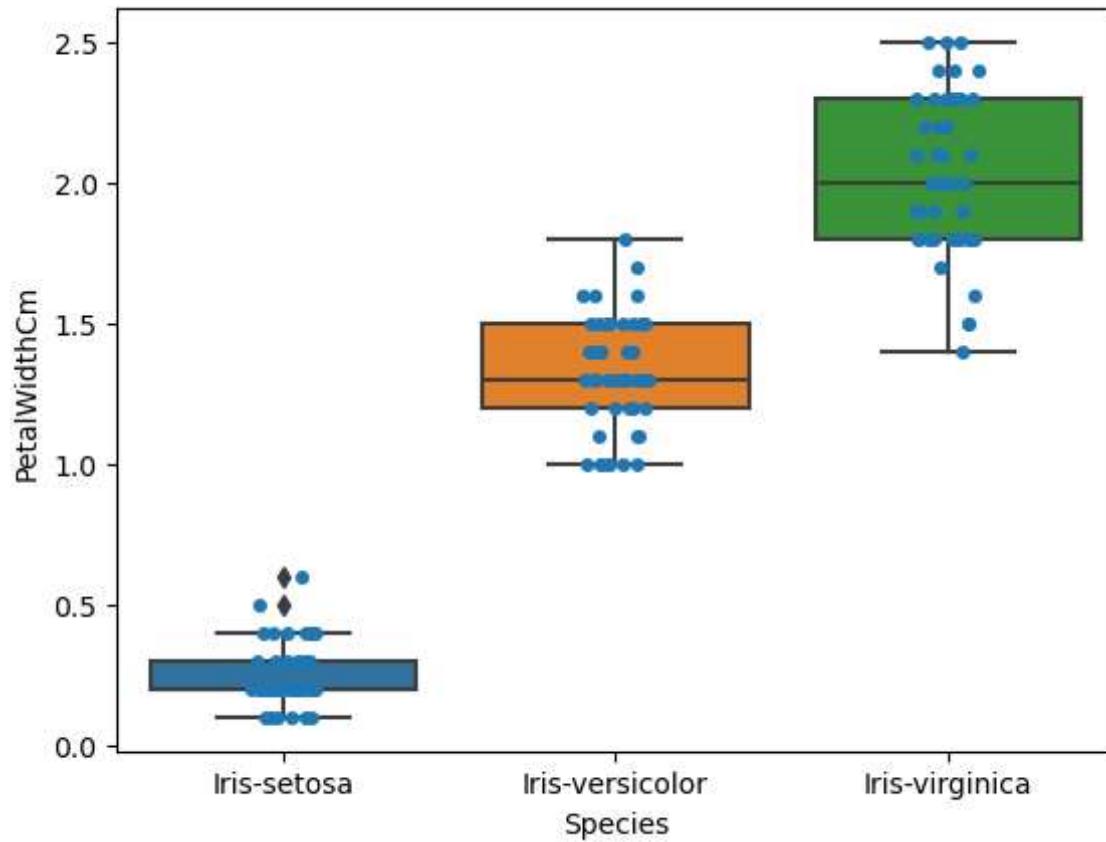


In [40]:

```
sns.stripplot(data=iris,x='Species',y='PetalWidthCm')  
sns.boxplot(data=iris,x='Species',y='PetalWidthCm')
```

Out[40]:

```
<Axes: xlabel='Species', ylabel='PetalWidthCm'>
```

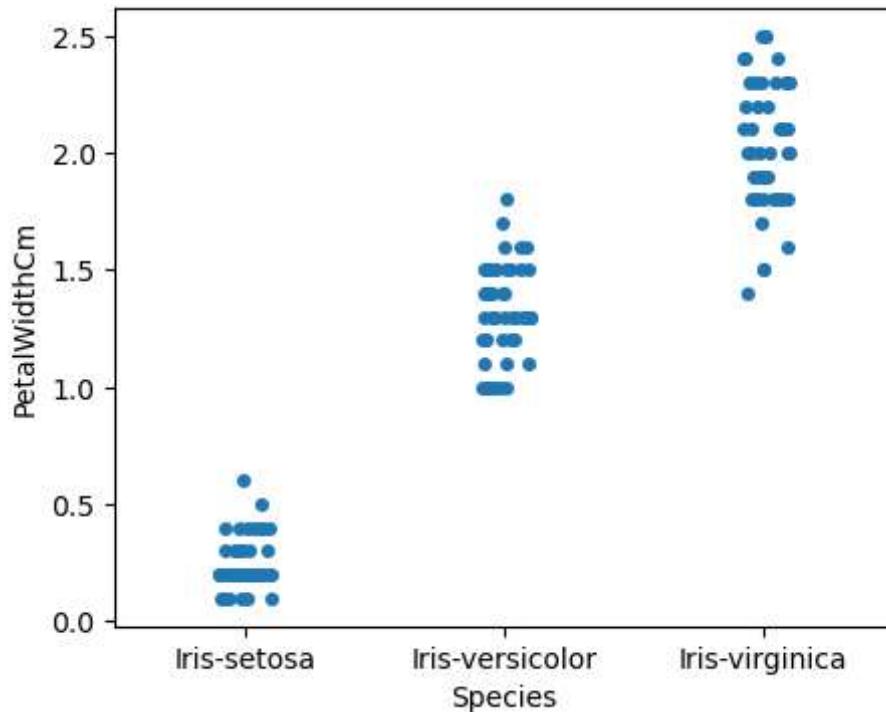


In [41]:

```
f=plt.gcf()
f.set_size_inches(5,4)
sns.stripplot(data=iris,x='Species',y='PetalWidthCm')
```

Out[41]:

```
<Axes: xlabel='Species', ylabel='PetalWidthCm'>
```

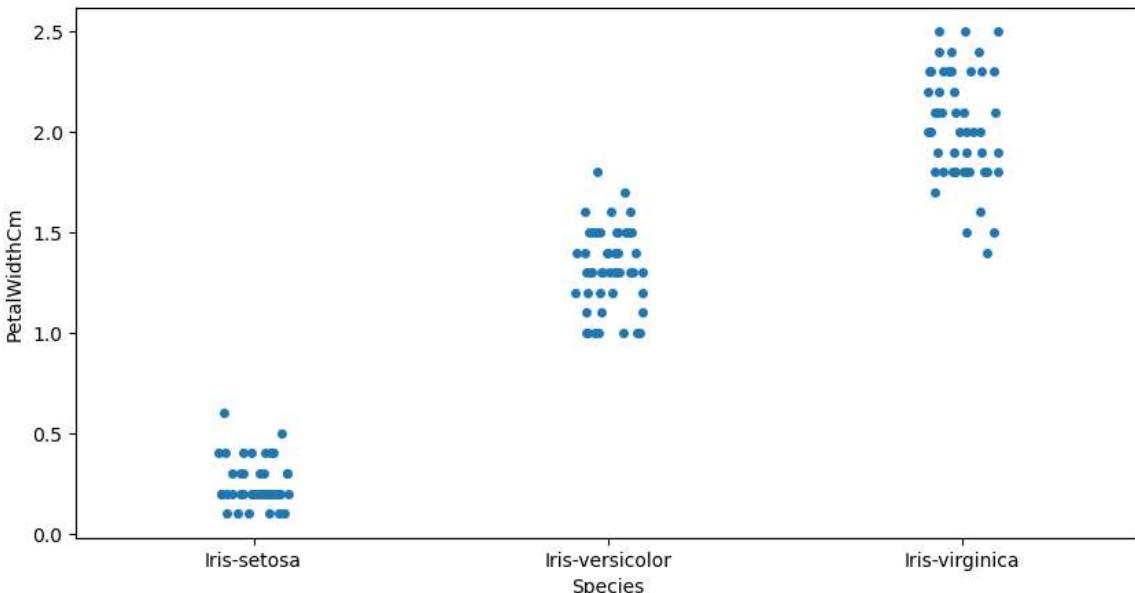


In [42]:

```
f=plt.gcf()
f.set_size_inches(10,5)
sns.stripplot(data=iris,x='Species',y='PetalWidthCm')
```

Out[42]:

```
<Axes: xlabel='Species', ylabel='PetalWidthCm'>
```

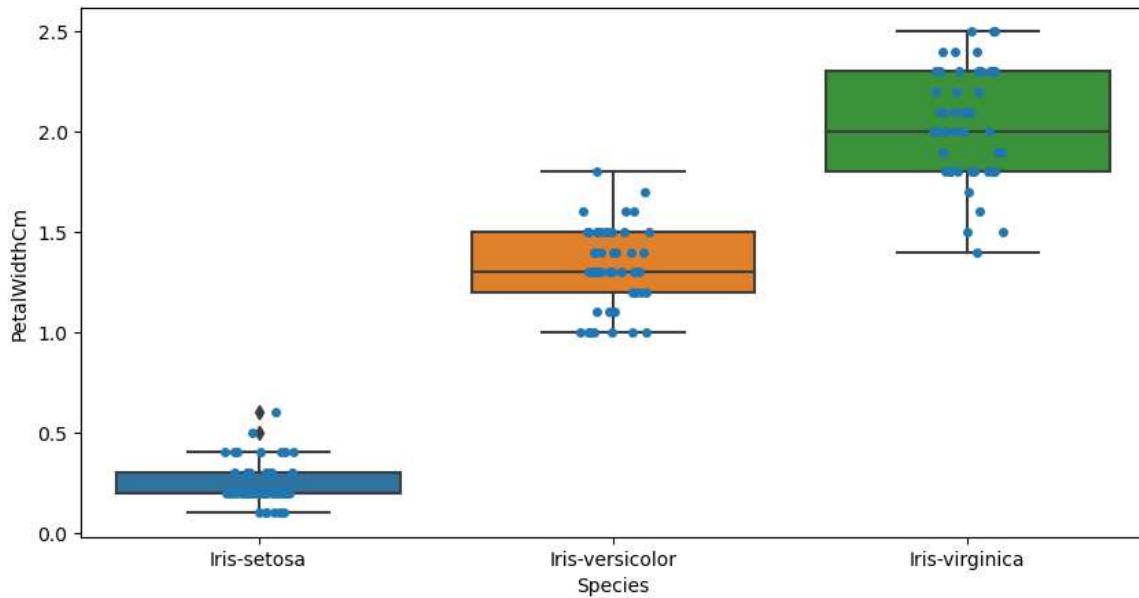


In [43]:

```
f=plt.gcf()
f.set_size_inches(10,5)
sns.stripplot(data=iris,x='Species',y='PetalWidthCm')
sns.boxplot(data=iris,x='Species',y='PetalWidthCm')
```

Out[43]:

&lt;Axes: xlabel='Species', ylabel='PetalWidthCm'&gt;

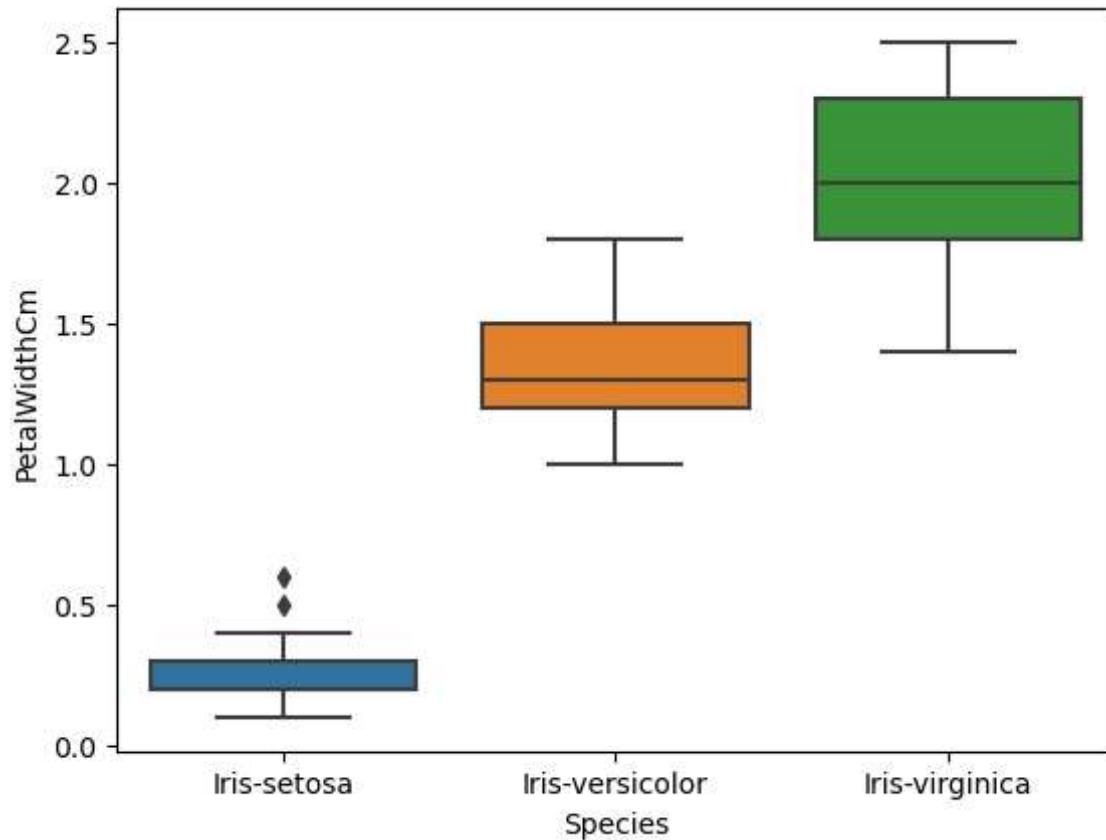


In [44]:

```
sns.boxplot(data=iris,x='Species',y='PetalWidthCm')
```

Out[44]:

```
<Axes: xlabel='Species', ylabel='PetalWidthCm'>
```

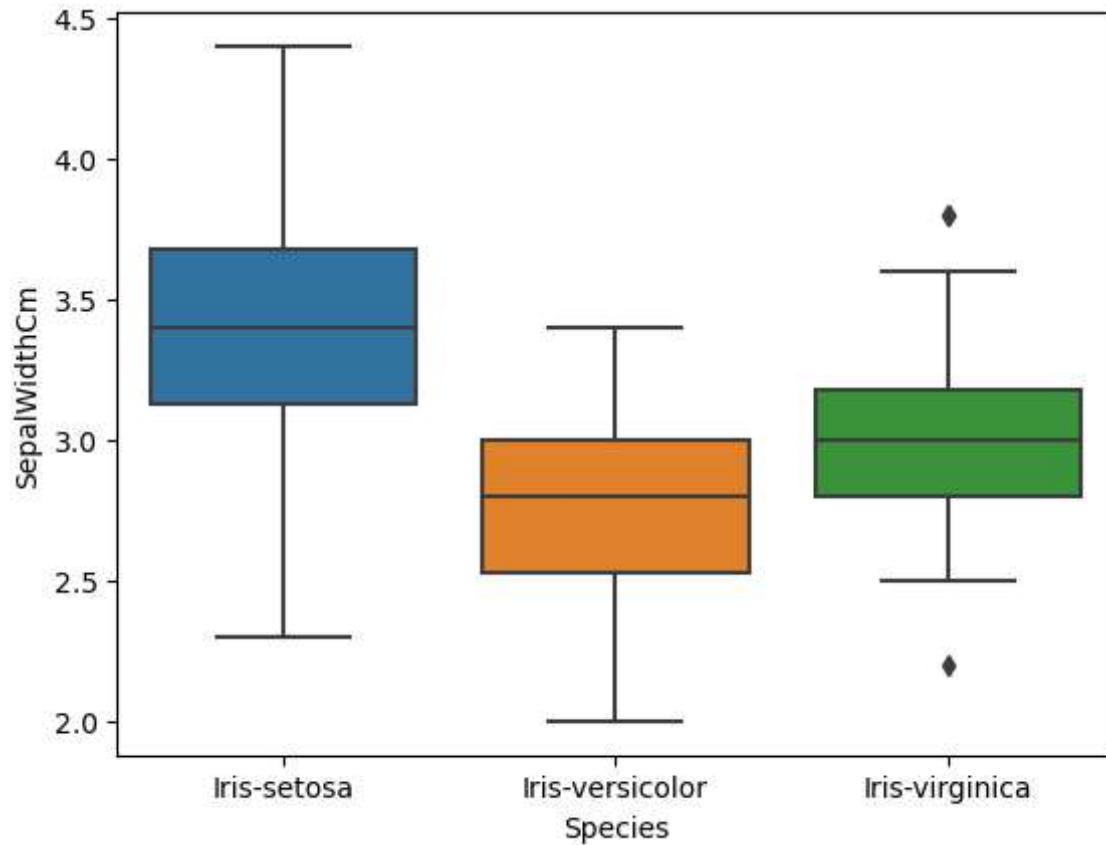


In [45]:

```
sns.boxplot(data=iris,x='Species',y='SepalWidthCm')
```

Out[45]:

```
<Axes: xlabel='Species', ylabel='SepalWidthCm'>
```

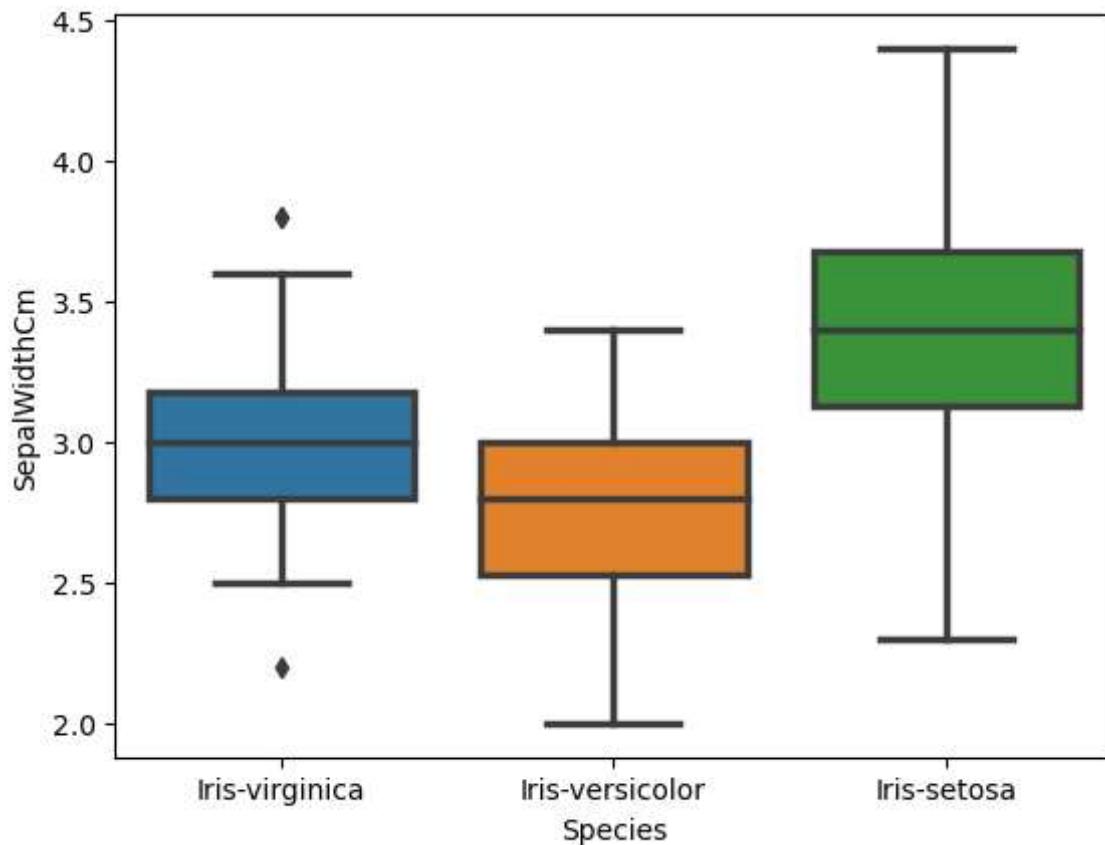


In [46]:

```
sns.boxplot(data=iris,x='Species',y='SepalWidthCm',order=['Iris-virginica','Iris-versicolor','Iris-setosa'])
```

Out[46]:

```
<Axes: xlabel='Species', ylabel='SepalWidthCm'>
```

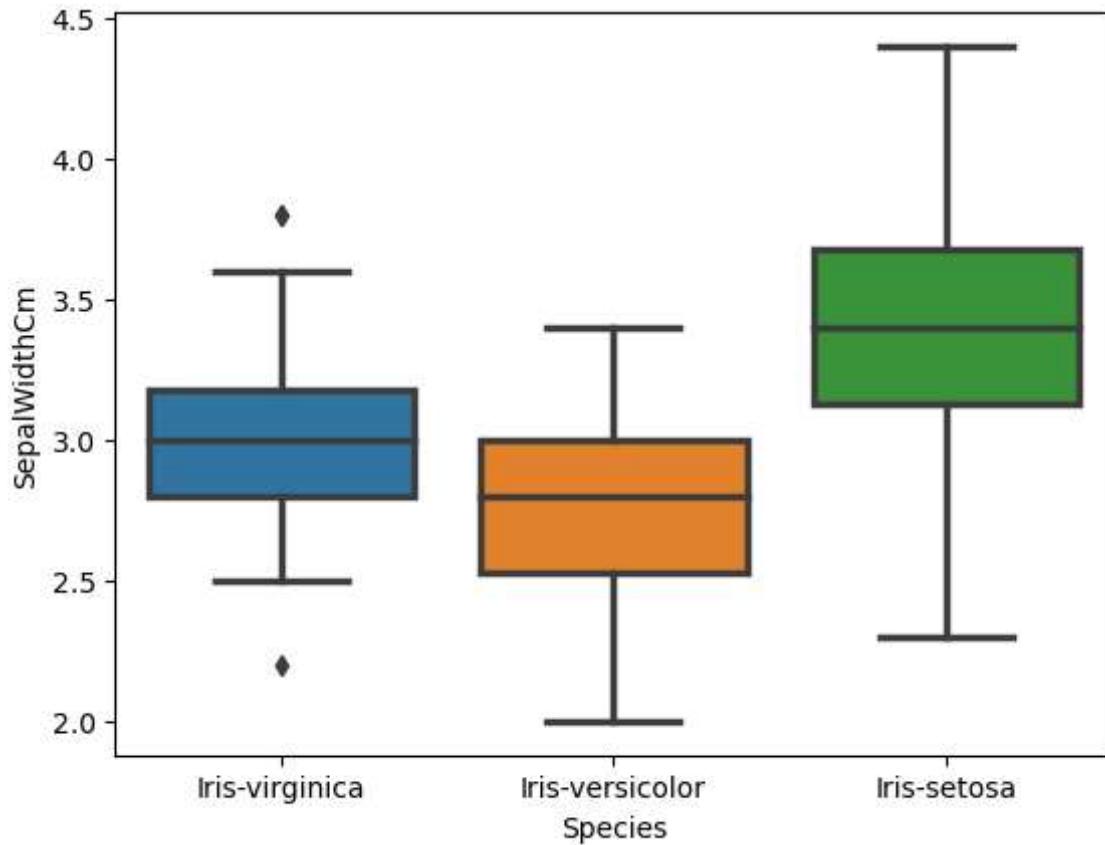


In [47]:

```
sns.boxplot(data=iris,x='Species',y='SepalWidthCm',order=['Iris-virginica','Iris-versicolor','Iris-setosa'])
```

Out[47]:

```
<Axes: xlabel='Species', ylabel='SepalWidthCm'>
```



In [48]:

iris

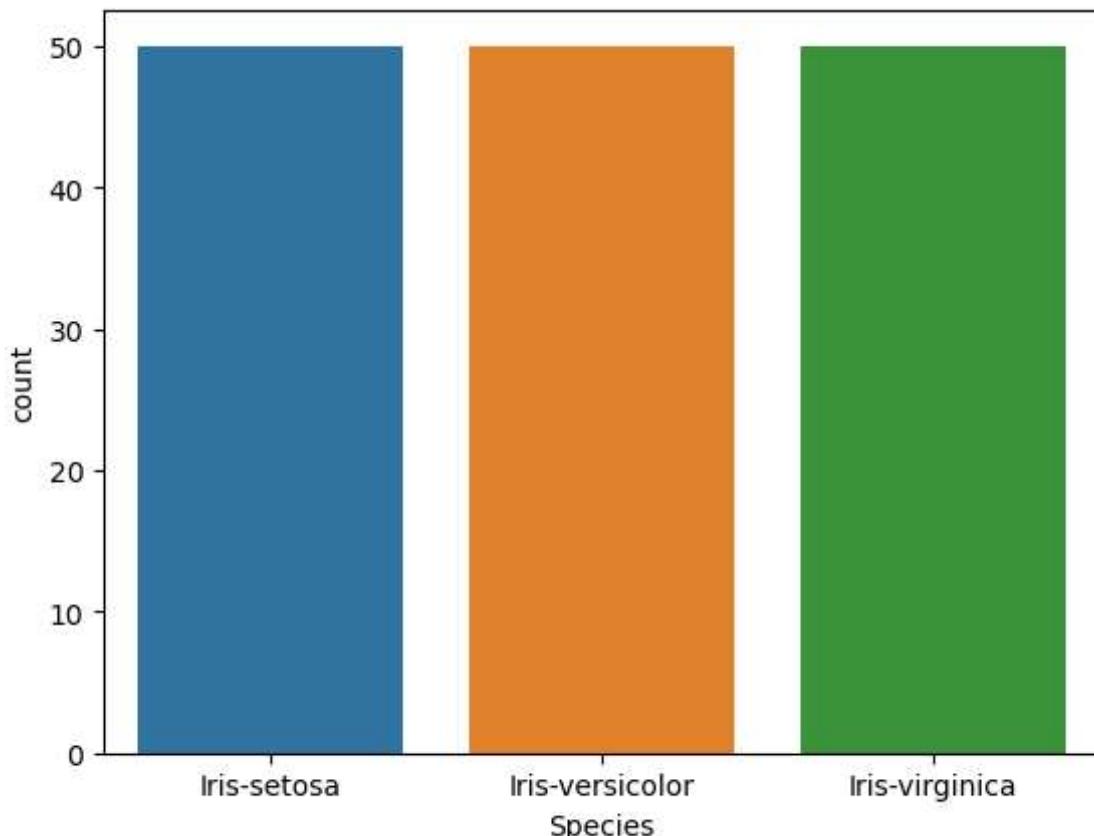
Out[48]:

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

150 rows × 6 columns

In [49]:

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

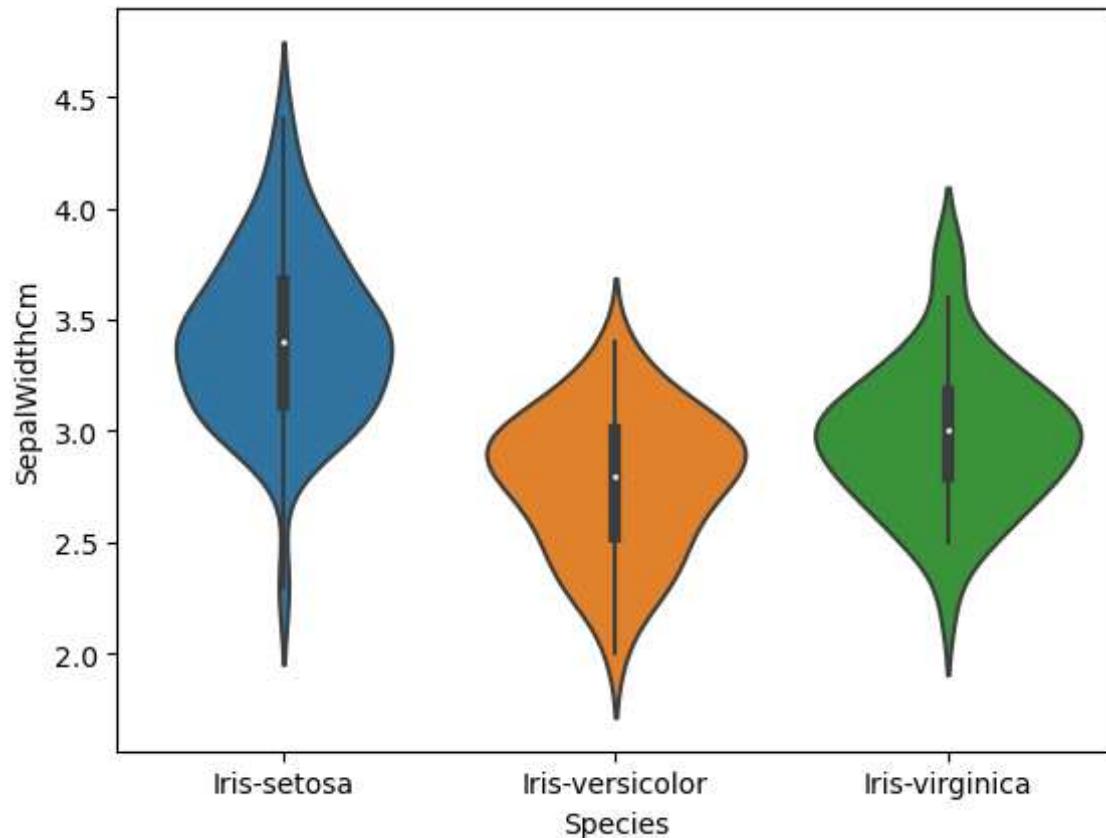


In [50]:

```
sns.violinplot(data=iris,x='Species',y='SepalWidthCm',)
```

Out[50]:

```
<Axes: xlabel='Species', ylabel='SepalWidthCm'>
```

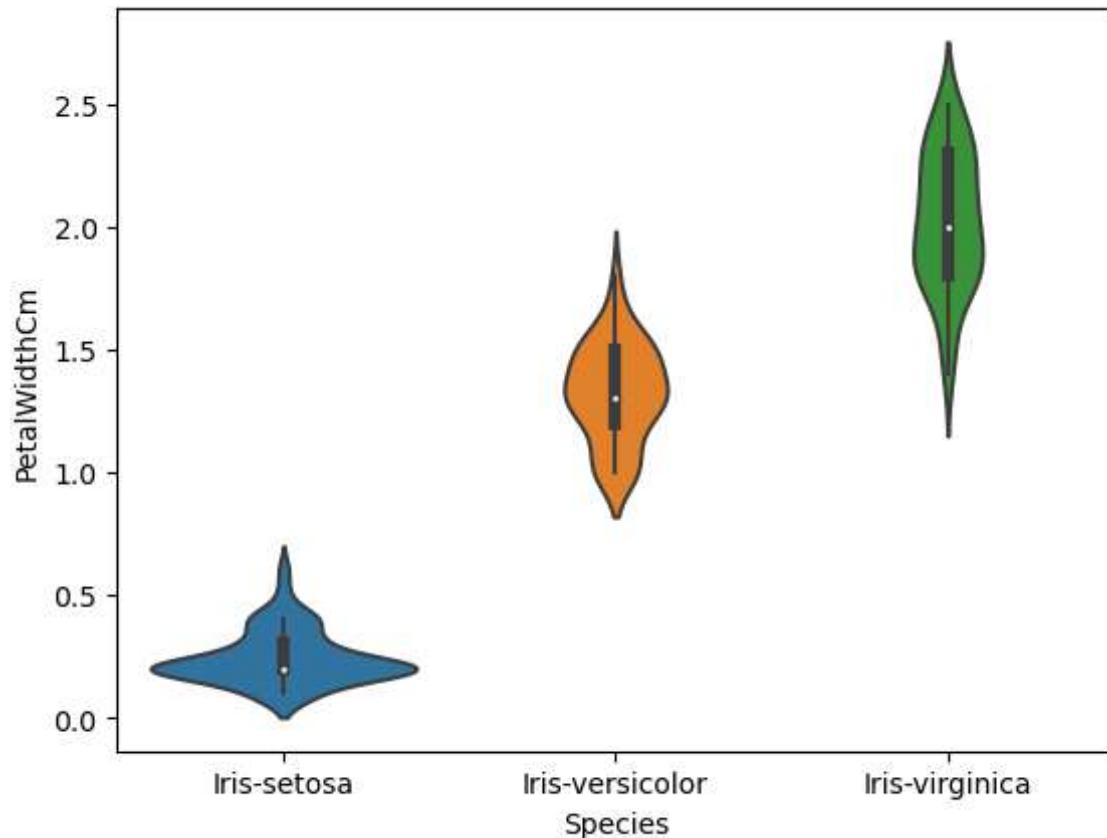


In [51]:

```
sns.violinplot(data=iris,x="Species",y="PetalWidthCm",)
```

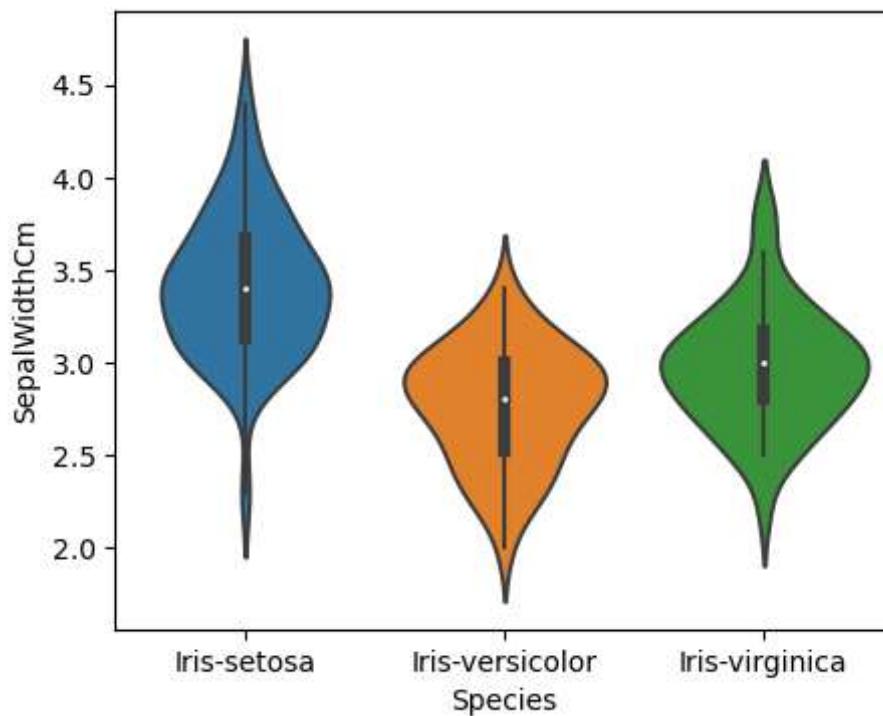
Out[51]:

```
<Axes: xlabel='Species', ylabel='PetalWidthCm'>
```



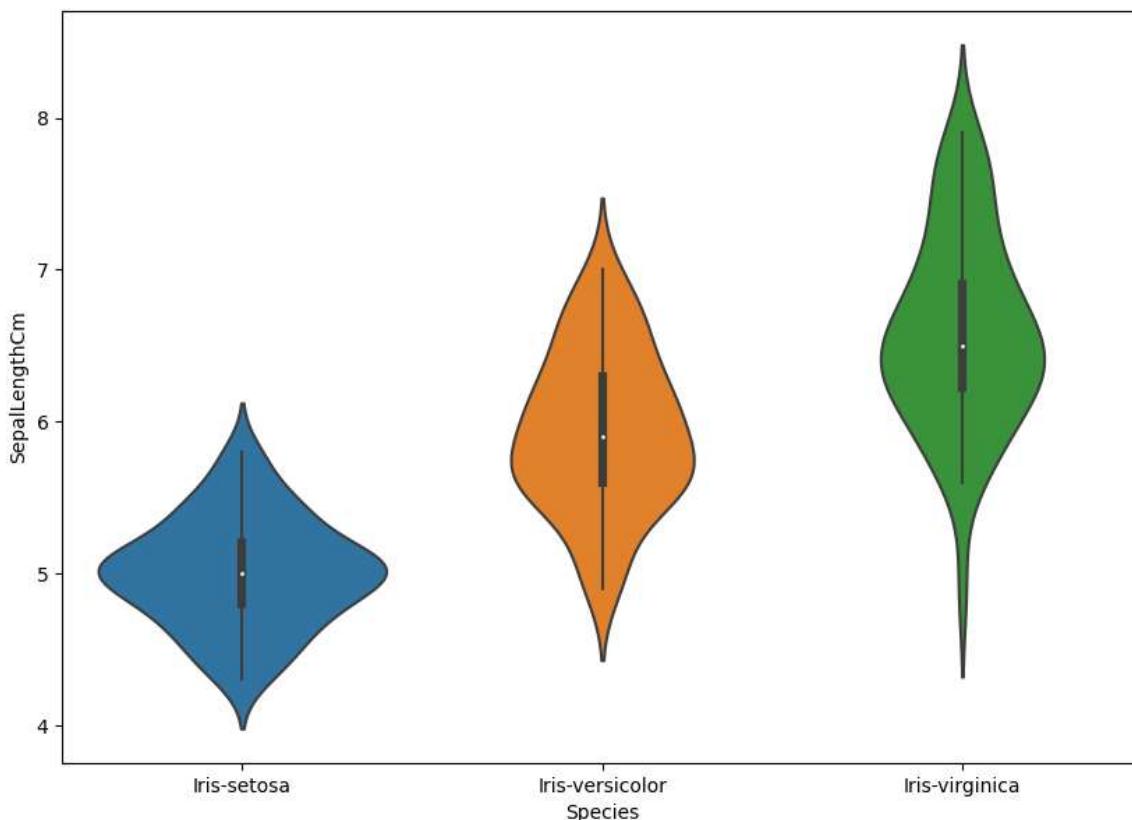
In [52]:

```
fig=plt.gcf()
fig.set_size_inches(5,4)
fig=sns.violinplot(data=iris,x="Species",y="SepalWidthCm")
```



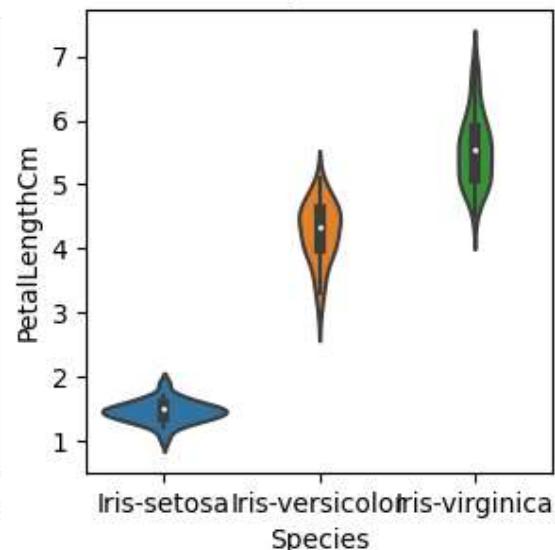
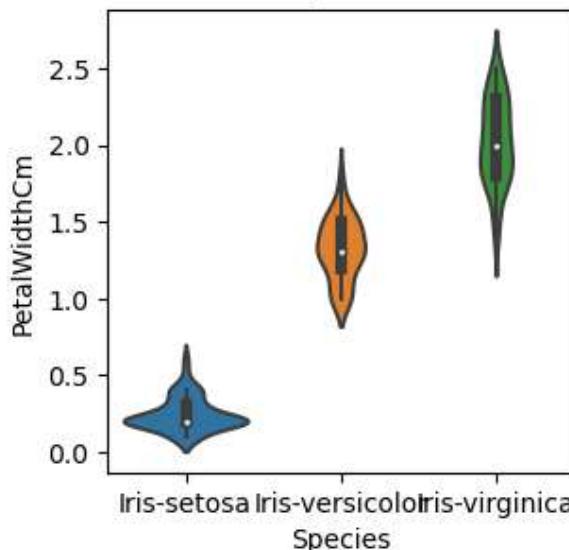
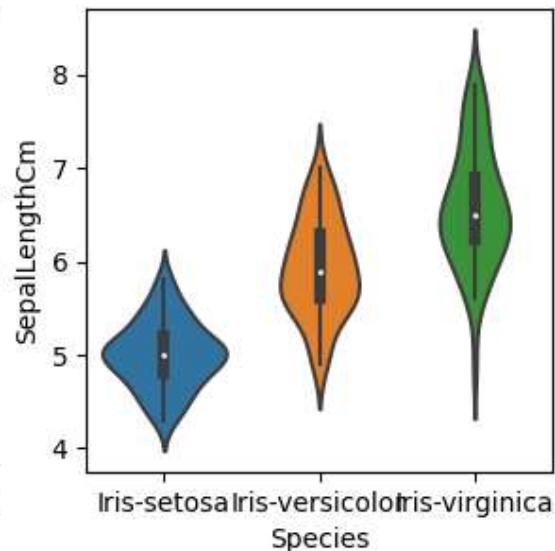
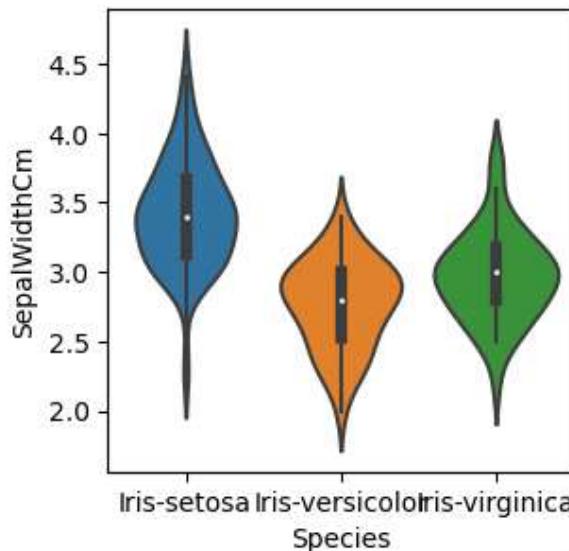
In [53]:

```
fig=plt.gcf()
fig.set_size_inches(10,7)
fig=sns.violinplot(x='Species',y='SepalLengthCm',data=iris)
```



In [54]:

```
plt.figure(figsize=(7,7))
plt.subplot(2,2,1)
sns.violinplot(x="Species",y="SepalWidthCm",data=iris)
plt.subplot(2,2,2)
sns.violinplot(x="Species",y="SepalLengthCm",data=iris)
plt.subplot(2,2,3)
sns.violinplot(x="Species",y="PetalWidthCm",data=iris)
plt.subplot(2,2,4)
sns.violinplot(x='Species',y='PetalLengthCm',data=iris)
plt.show()
```

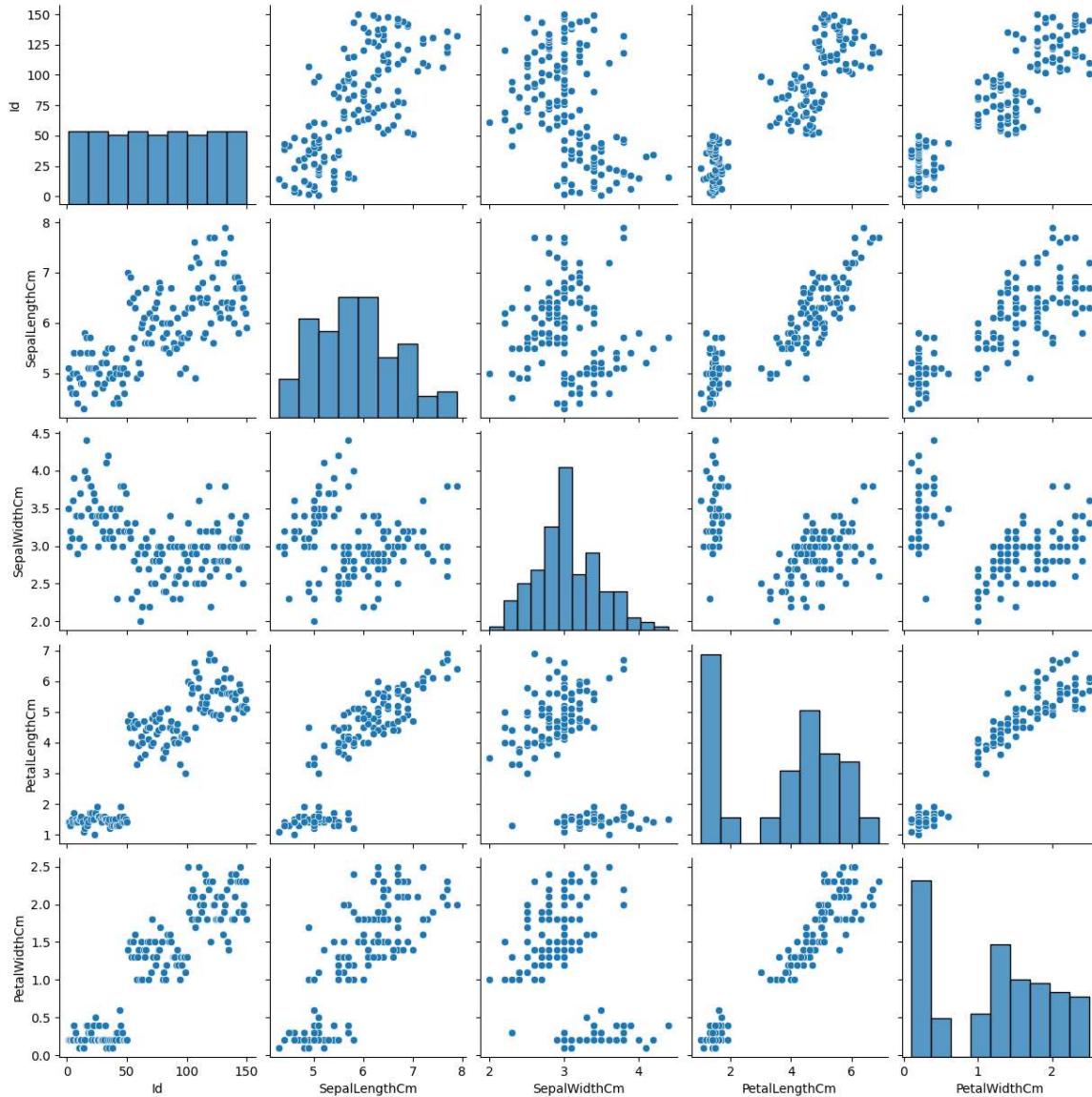


In [55]:

```
sns.pairplot(data=iris,kind='scatter')
```

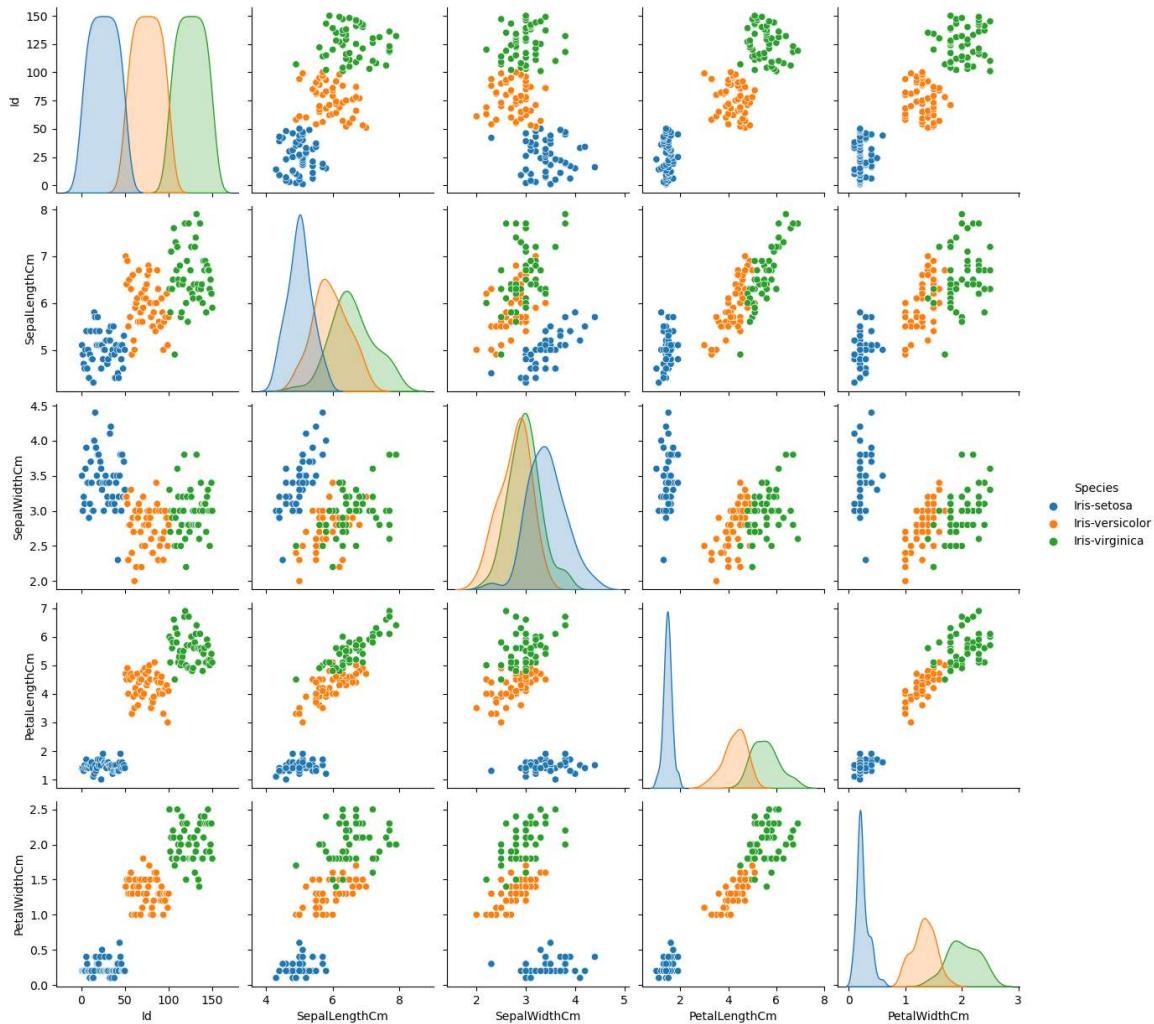
Out[55]:

```
<seaborn.axisgrid.PairGrid at 0x2559516f9d0>
```



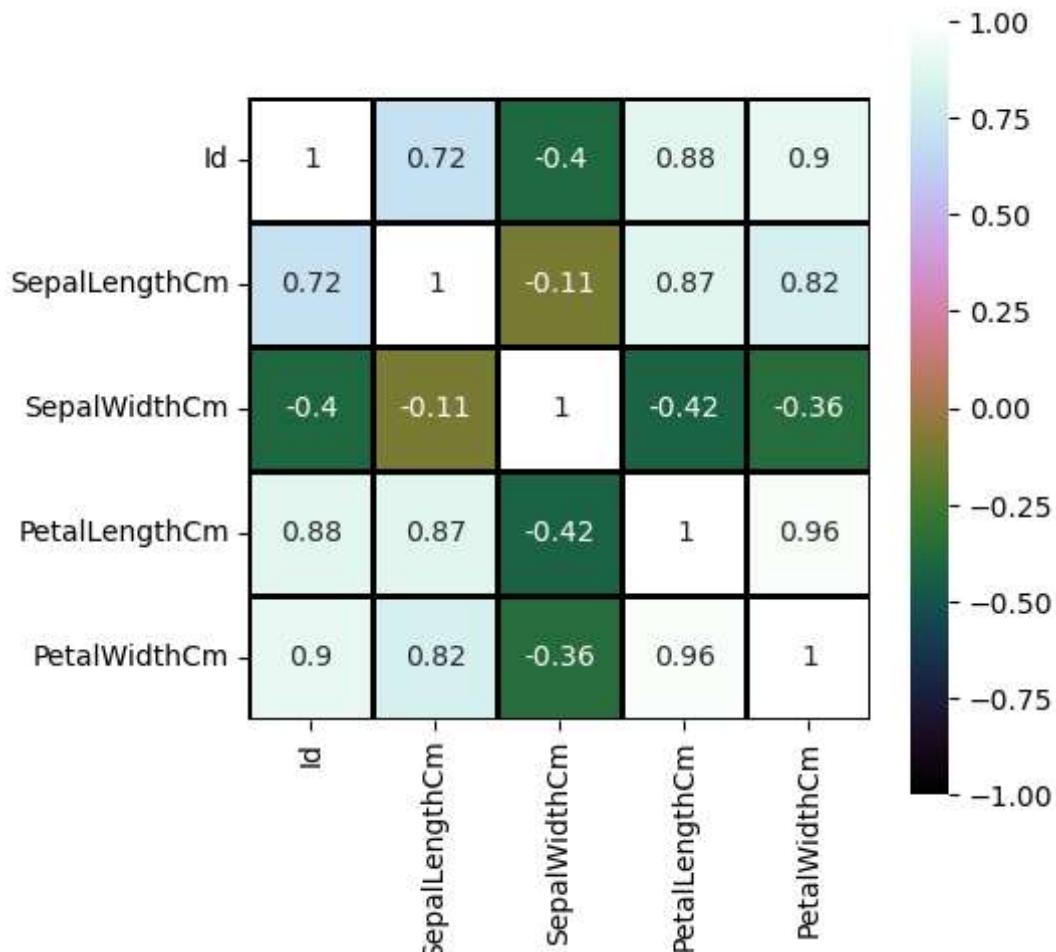
In [56]:

```
sns.pairplot(iris,hue='Species');
```



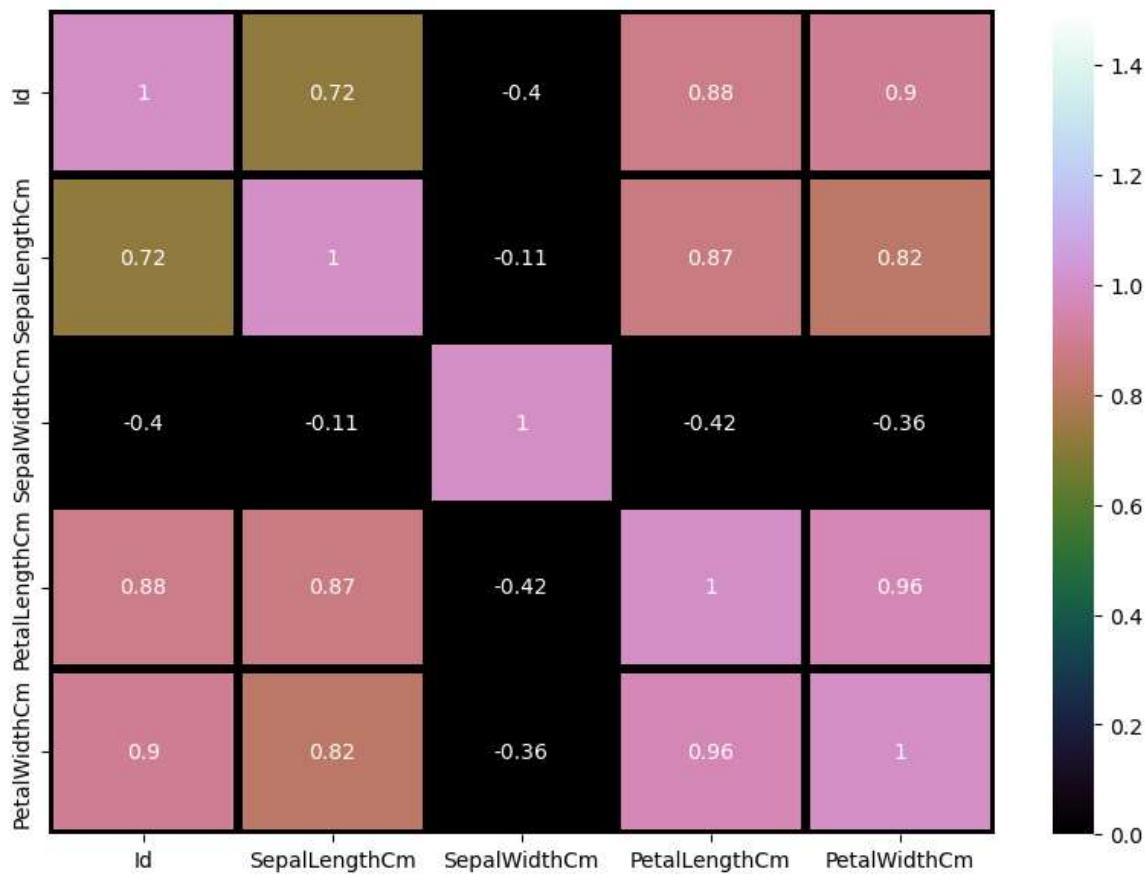
In [57]:

```
fig=plt.gcf()
fig.set_size_inches(5,5)
fig=sns.heatmap(iris.corr(),annot=True,cmap='cubehelix',linewidth=1,linecolor='k',square=True)
```



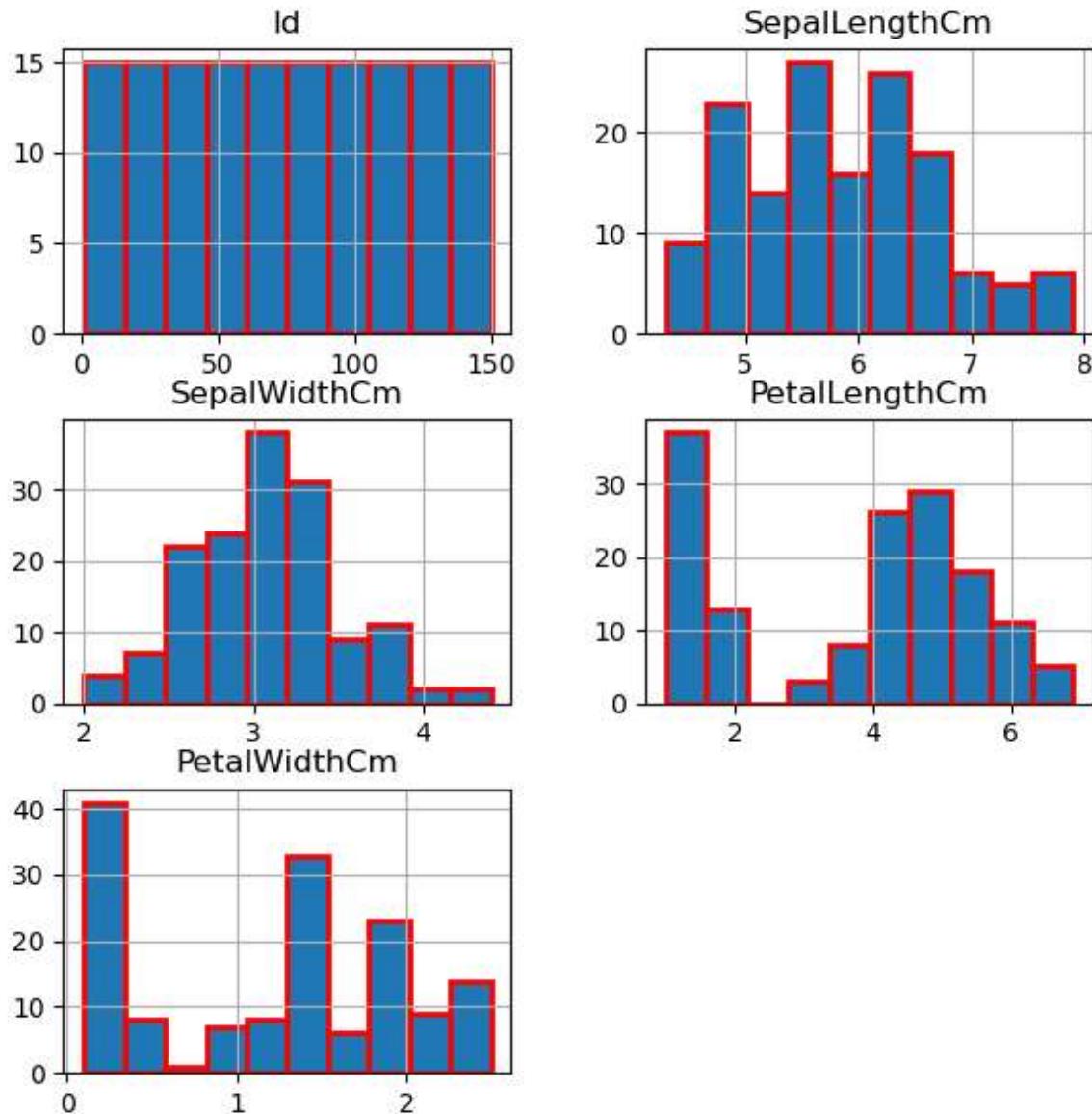
In [58]:

```
fig=plt.gcf()
fig.set_size_inches(10,7)
fig=sns.heatmap(iris.corr(),annot=True,cmap='cubehelix',linewdiths=4,linecolor='k',square=True)
```



In [59]:

```
iris.hist(edgecolor="red", linewidth=2)
fig=plt.gcf()
fig.set_size_inches(7,7)
```

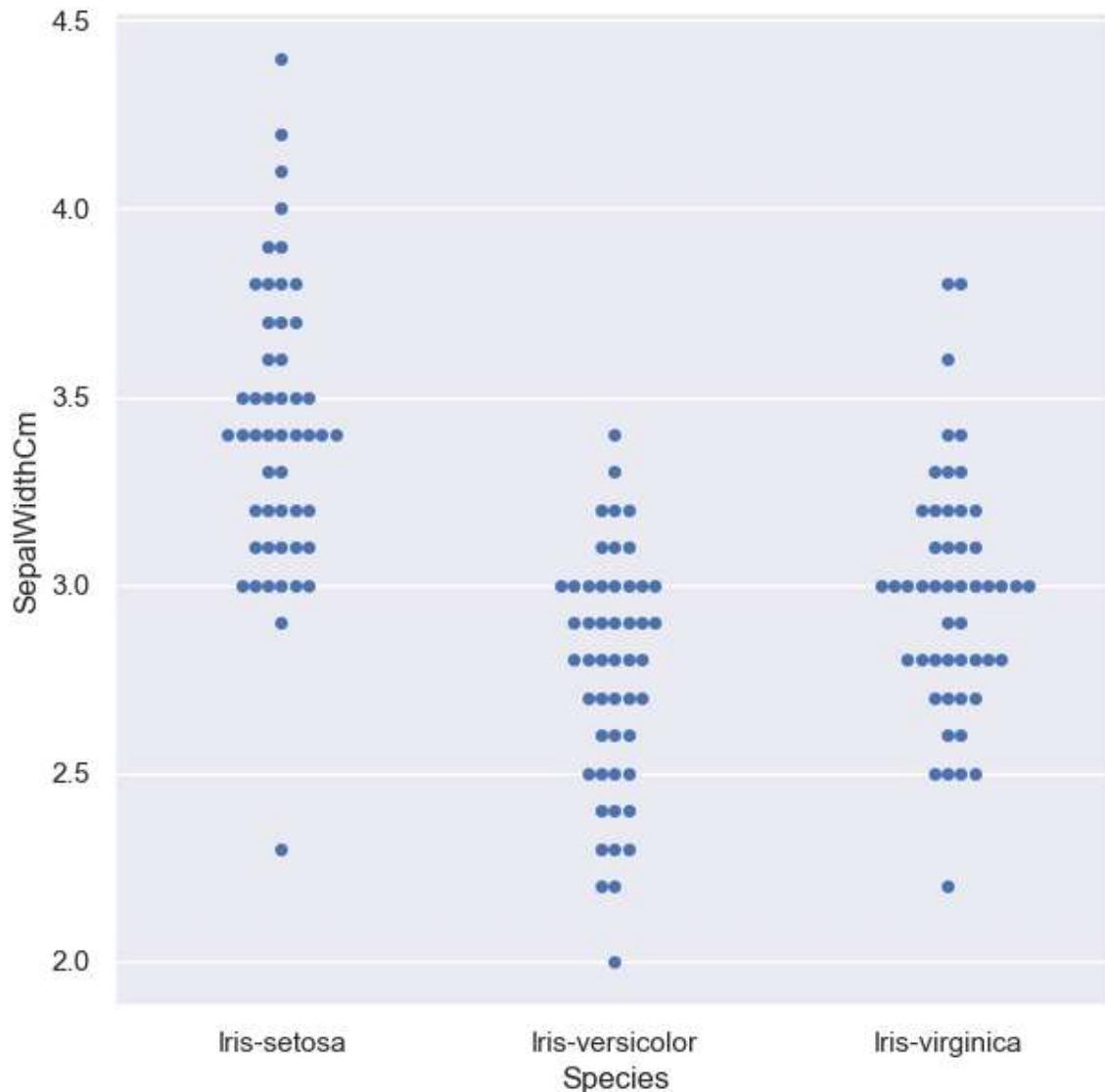


In [60]:

```
sns.set(style="darkgrid")
fig=plt.gcf()
fig.set_size_inches(7,7)
sns.swarmplot(x="Species",y="SepalWidthCm",data=iris)
```

Out[60]:

&lt;Axes: xlabel='Species', ylabel='SepalWidthCm'&gt;

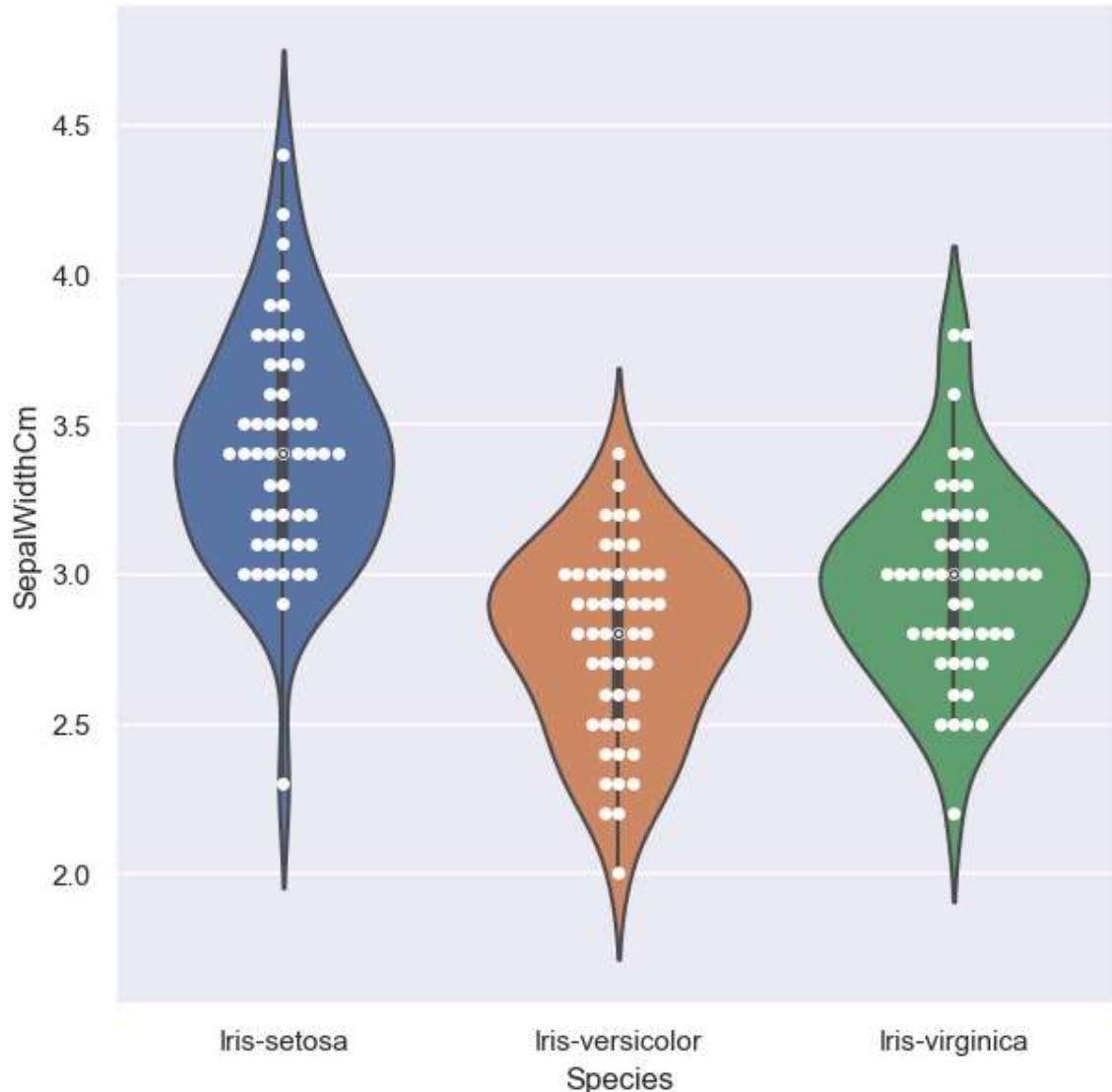


In [61]:

```
sns.set(style="darkgrid")
fig=plt.gcf()
fig.set_size_inches(7,7)
sns.swarmplot(x="Species",y="SepalWidthCm",data=iris,color='white')
sns.violinplot(x="Species",y="SepalWidthCm",data=iris)
```

Out[61]:

```
<Axes: xlabel='Species', ylabel='SepalWidthCm'>
```

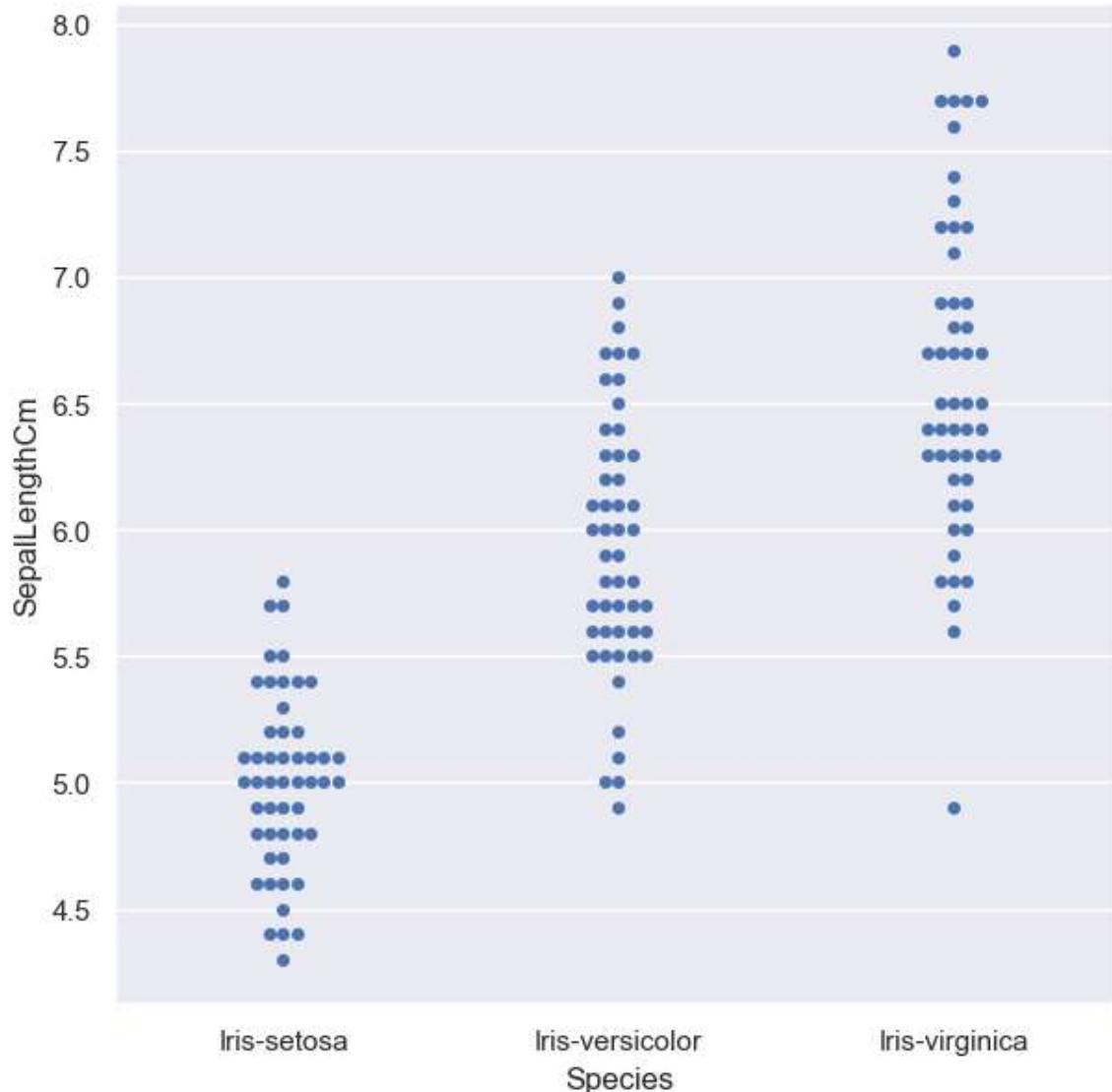


In [62]:

```
sns.set(style="darkgrid")
fig=plt.gcf()
fig.set_size_inches(7,7)
sns.swarmplot(x="Species",y="SepalLengthCm",data=iris)
```

Out[62]:

```
<Axes: xlabel='Species', ylabel='SepalLengthCm'>
```

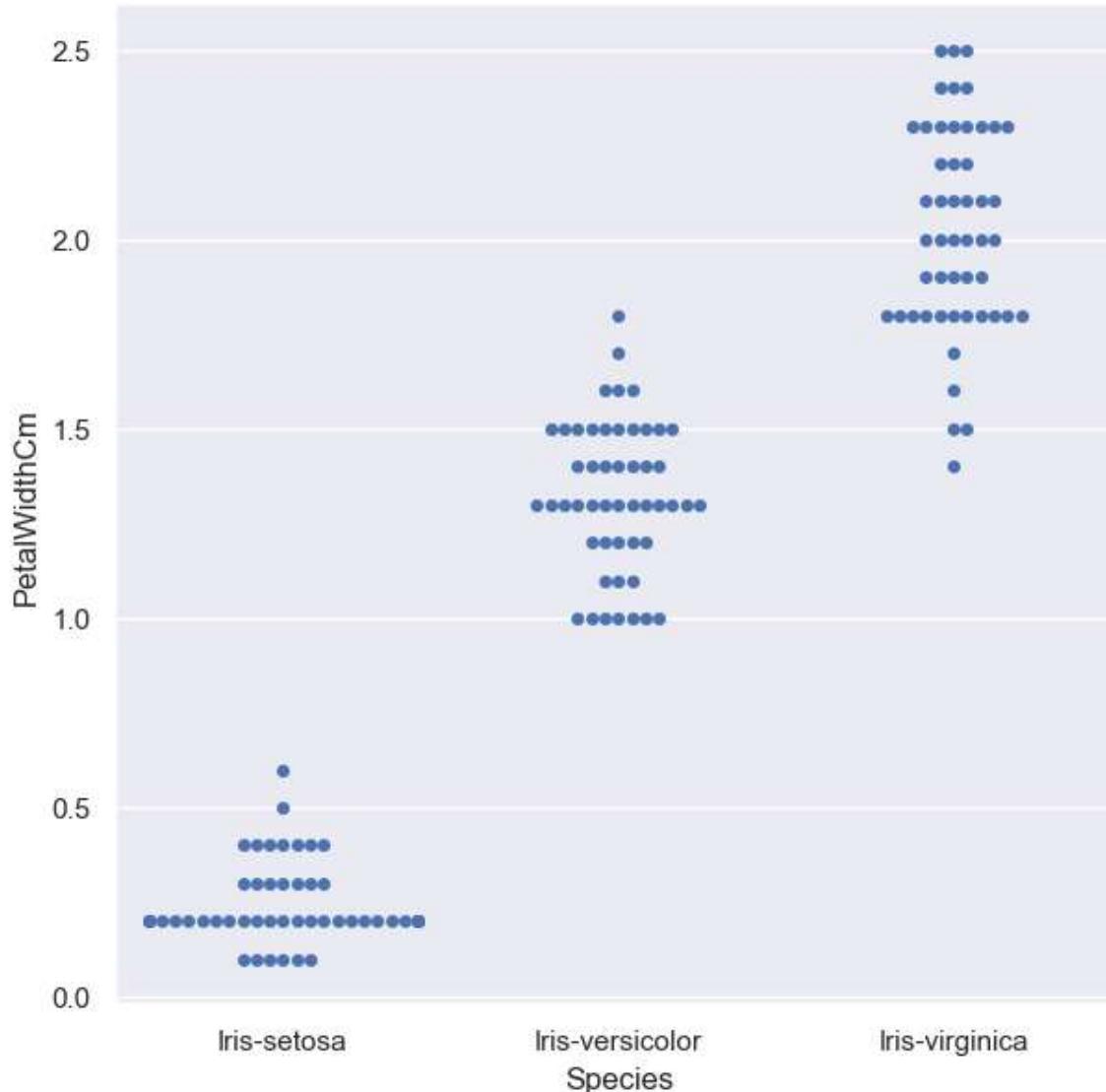


In [63]:

```
sns.set(style="darkgrid")
fig=plt.gcf()
fig.set_size_inches(7,7)
sns.swarmplot(x="Species",y="PetalWidthCm",data=iris)
```

Out[63]:

```
<Axes: xlabel='Species', ylabel='PetalWidthCm'>
```

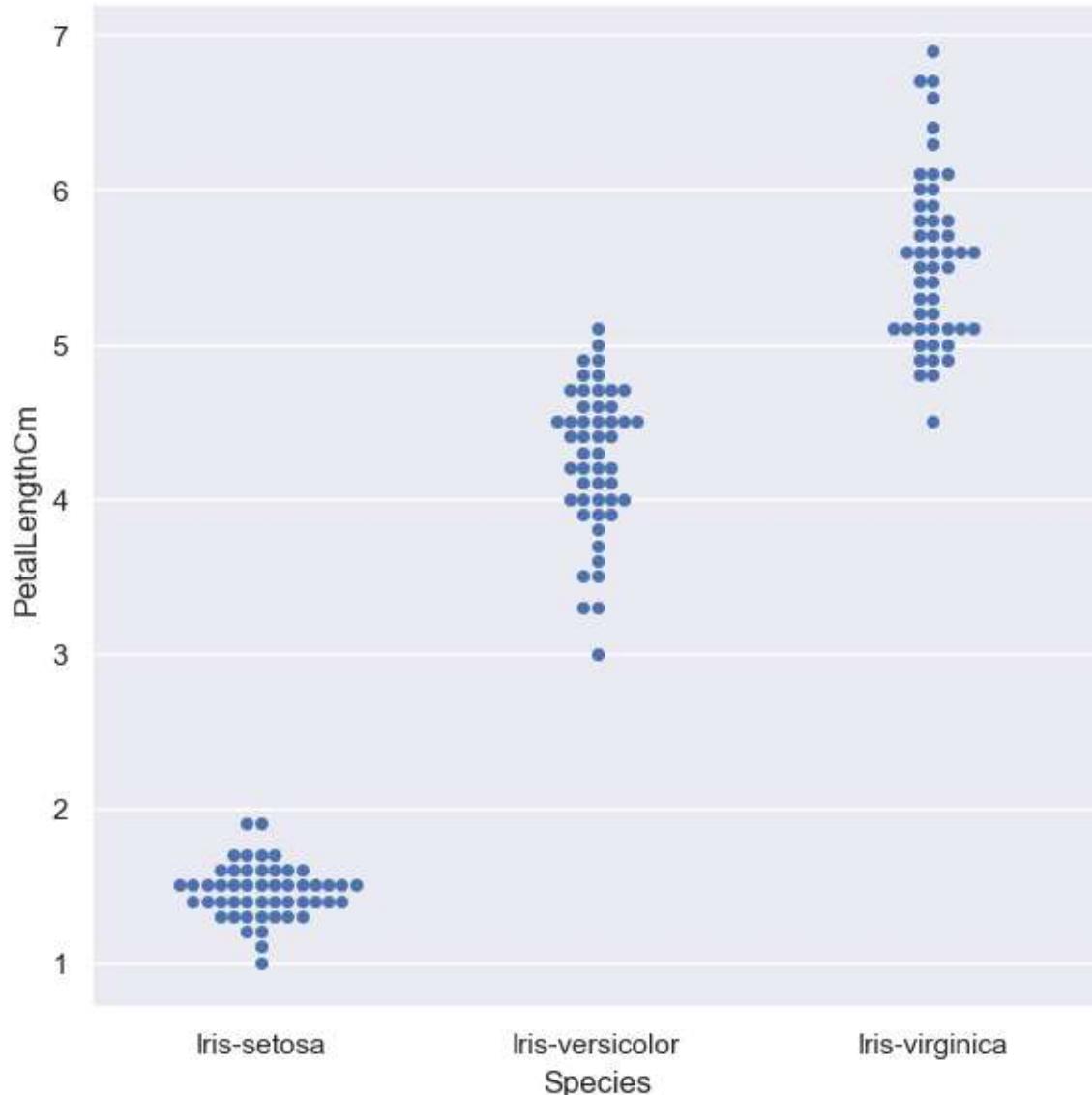


In [64]:

```
sns.set(style="darkgrid")
fig=plt.gcf()
fig.set_size_inches(7,7)
sns.swarmplot(x="Species",y="PetalLengthCm",data=iris)
```

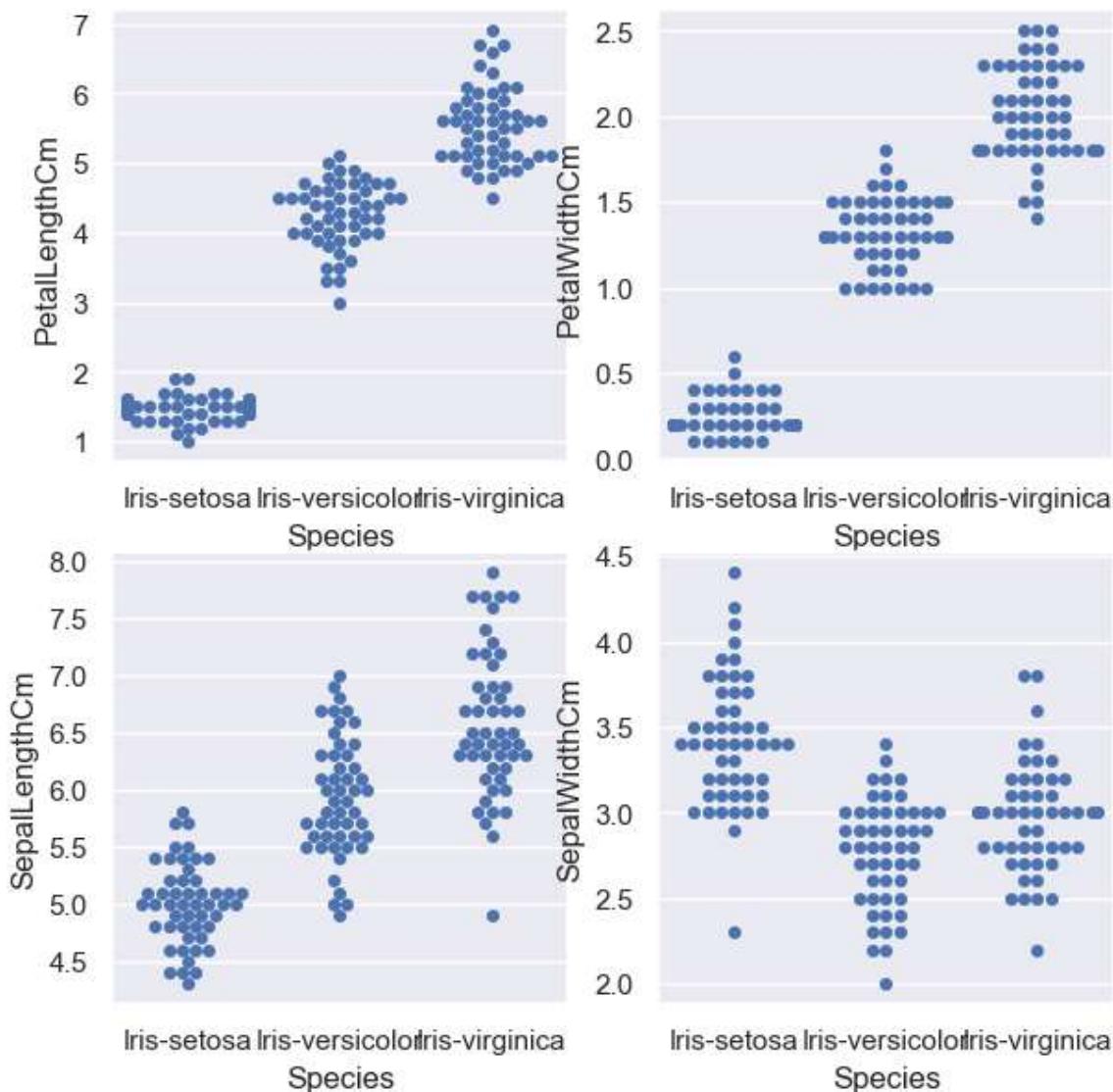
Out[64]:

```
<Axes: xlabel='Species', ylabel='PetalLengthCm'>
```



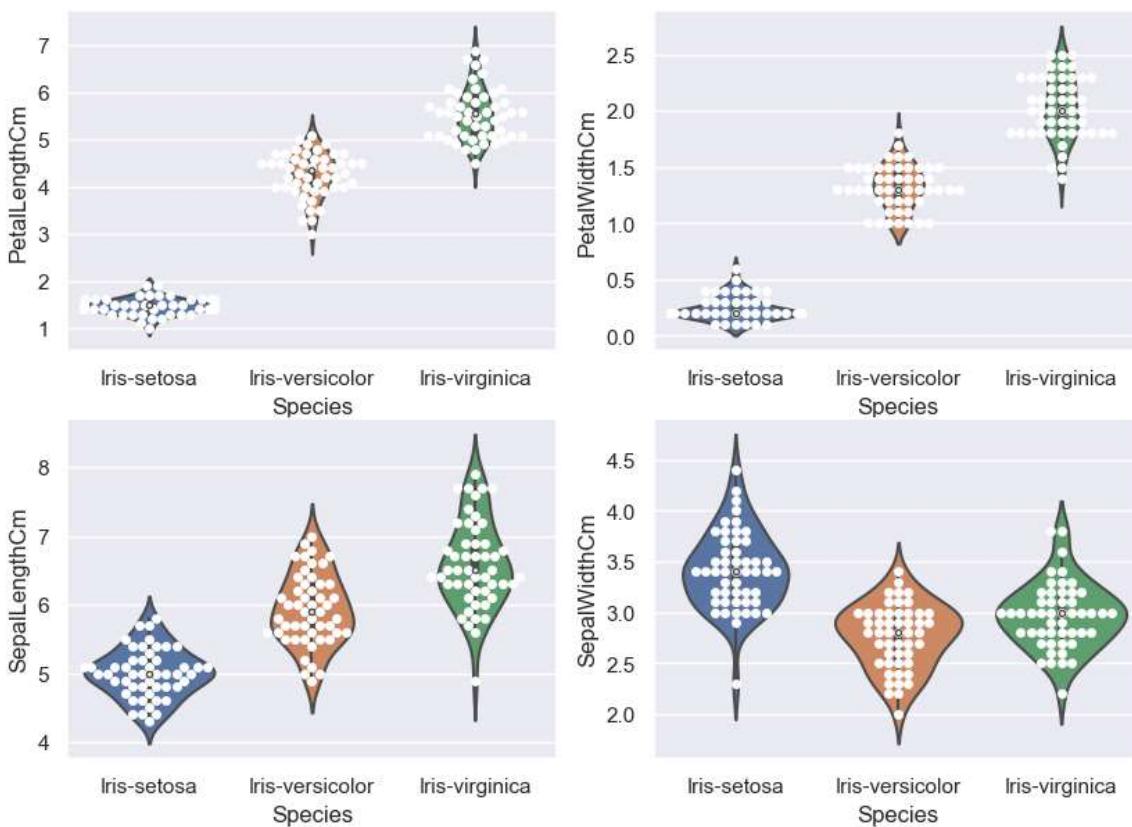
In [65]:

```
plt.figure(figsize=(7,7))
plt.subplot(2,2,1)
sns.swarmplot(x="Species",y="PetalLengthCm",data=iris)
plt.subplot(2,2,2)
sns.swarmplot(x="Species",y="PetalWidthCm",data=iris)
plt.subplot(2,2,3)
sns.swarmplot(x="Species",y="SepalLengthCm",data=iris)
plt.subplot(2,2,4)
sns.swarmplot(x='Species',y='SepalWidthCm',data=iris)
plt.show()
```



In [66]:

```
plt.figure(figsize=(10,7))
plt.subplot(2,2,1)
sns.swarmplot(x="Species",y="PetalLengthCm",data=iris,color="white")
sns.violinplot(x='Species',y='PetalLengthCm',data=iris)
plt.subplot(2,2,2)
sns.swarmplot(x="Species",y="PetalWidthCm",data=iris,color="white")
sns.violinplot(x='Species',y='PetalWidthCm',data=iris)
plt.subplot(2,2,3)
sns.swarmplot(x="Species",y="SepalLengthCm",data=iris,color="white")
sns.violinplot(x='Species',y='SepalLengthCm',data=iris)
plt.subplot(2,2,4)
sns.swarmplot(x='Species',y='SepalWidthCm',data=iris,color="white")
sns.violinplot(x='Species',y='SepalWidthCm',data=iris)
plt.show()
```

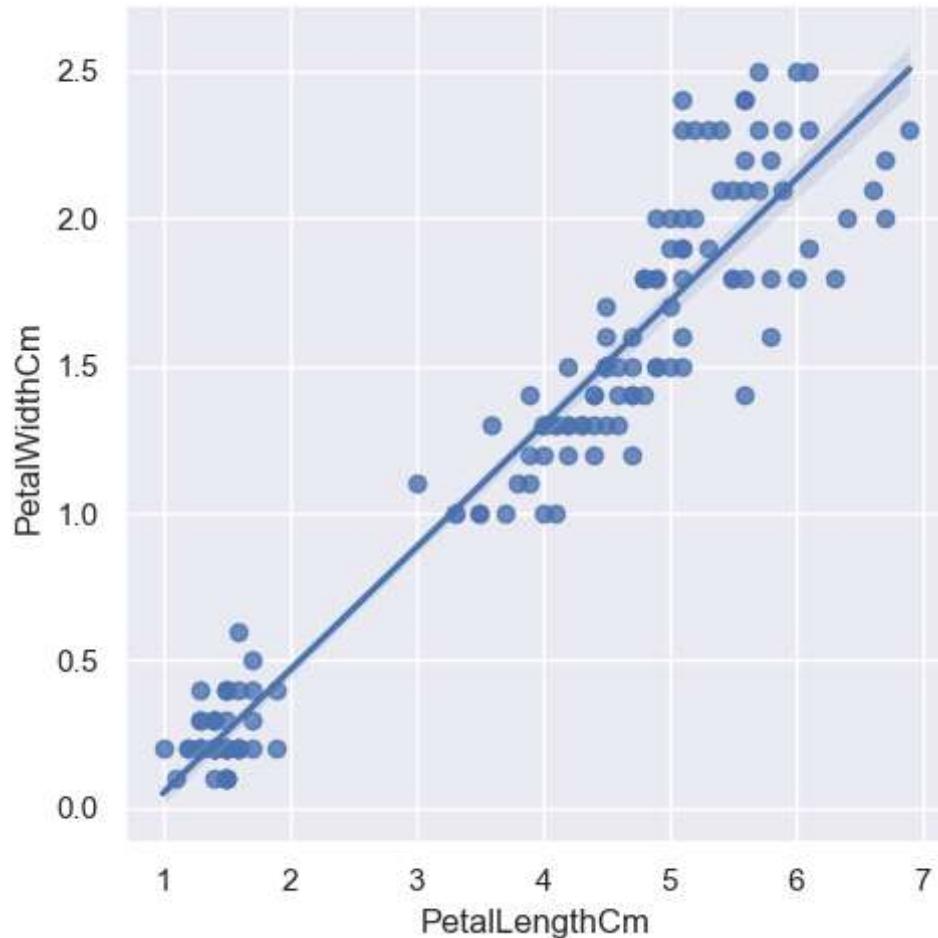


In [67]:

```
sns.lmplot(data=iris,x='PetalLengthCm',y="PetalWidthCm")
```

Out[67]:

```
<seaborn.axisgrid.FacetGrid at 0x2559a8d6830>
```

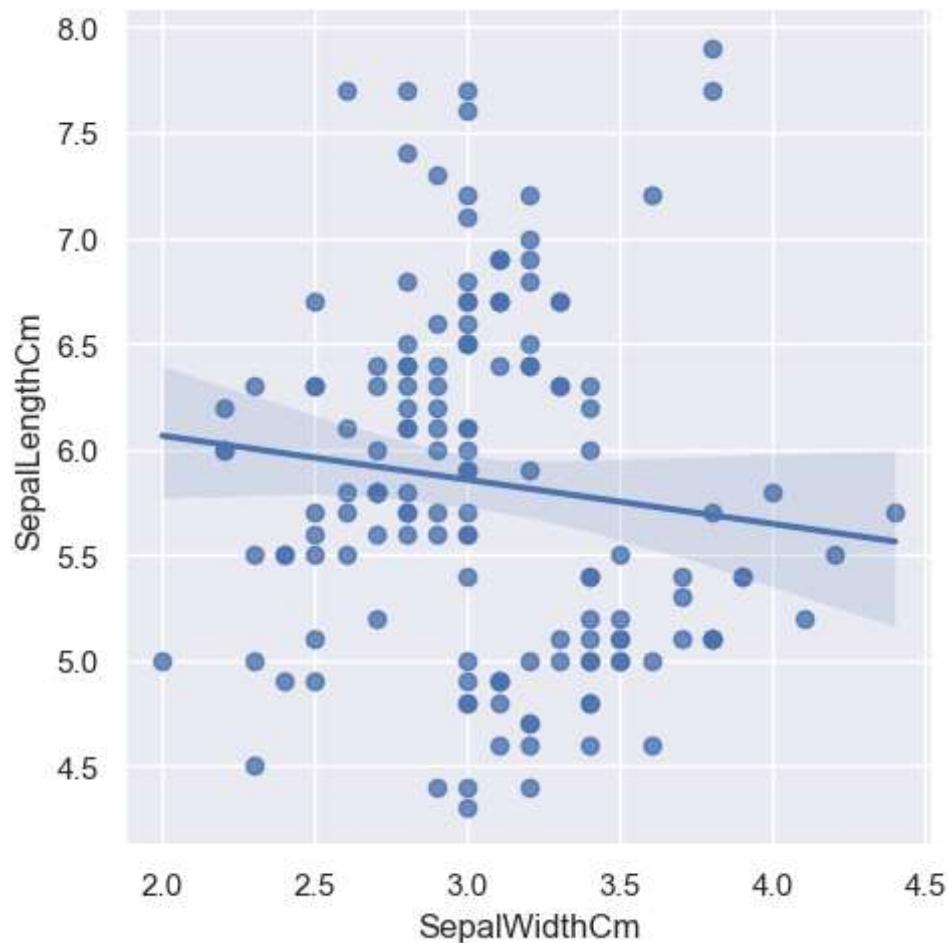


In [68]:

```
sns.lmplot(data=iris,x='SepalWidthCm',y="SepalLengthCm")
```

Out[68]:

```
<seaborn.axisgrid.FacetGrid at 0x25585cd0820>
```

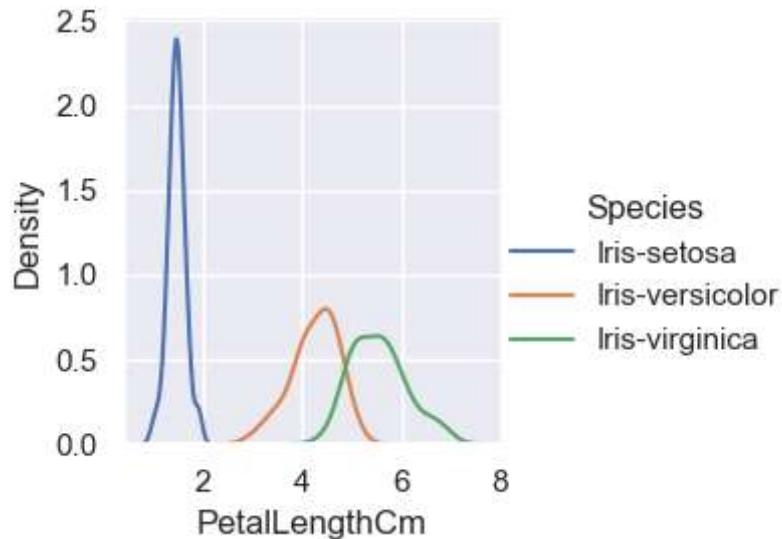


In [69]:

```
sns.FacetGrid(iris,hue='Species')\n    .map(sns.kdeplot,'PetalLengthCm')\n    .add_legend()\nplt.ioff()
```

Out[69]:

<contextlib.ExitStack at 0x2559b0296c0>



In [70]:

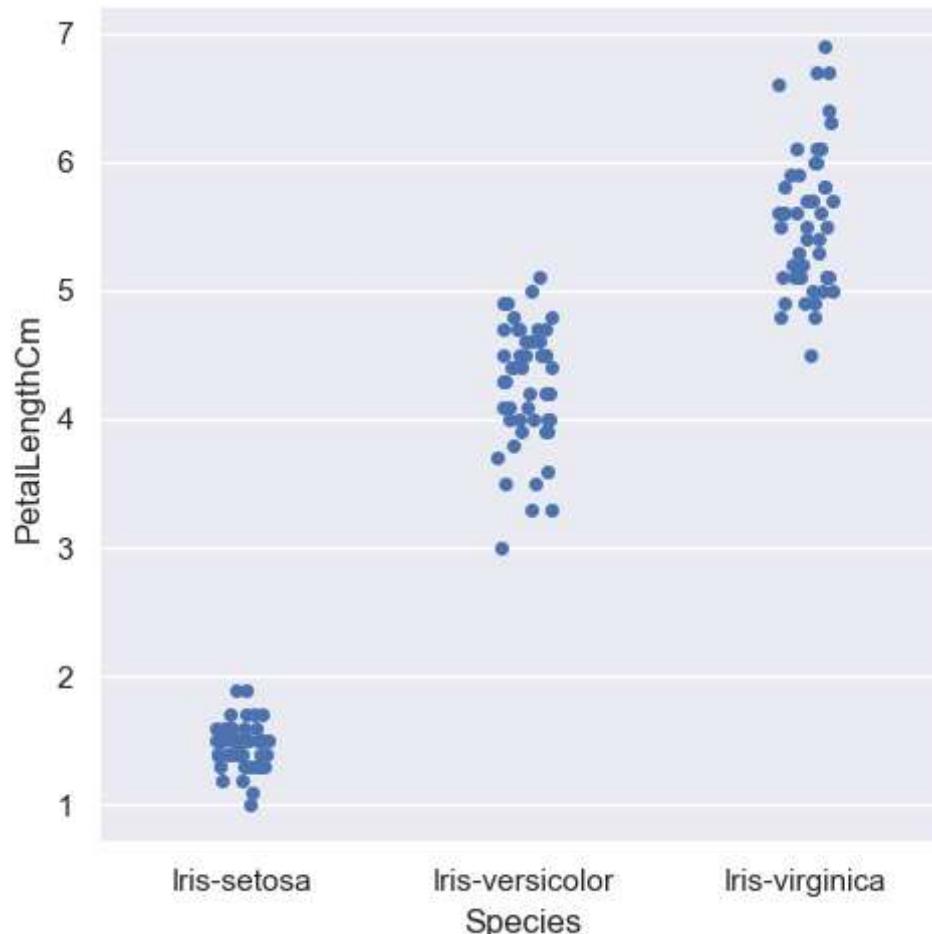
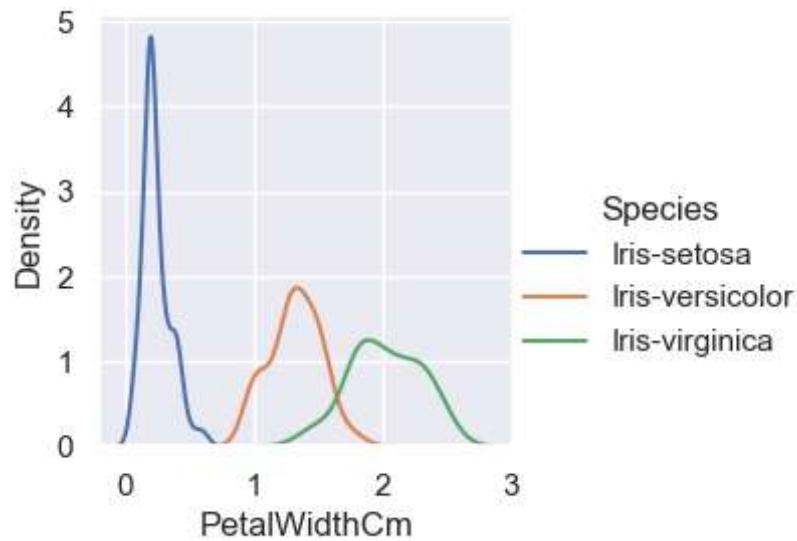
```
sns.FacetGrid(iris, hue="Species") \\n\n    .map(sns.kdeplot, "PetalWidthCm") \\n\n    .add_legend()\nplt.ioff()
```

Out[70]:

<contextlib.ExitStack at 0x2559b11a200>

In [72]:

```
sns.catplot(data=iris,x='Species',y='PetalLengthCm')  
plt.ioff()  
plt.show()
```



In [78]:

```
sns.factorplot('Species','PetalLengthCm',iris)
plt.ioff()
plt.show()
```

```
-----
--> AttributeError                                Traceback (most recent call last)
st)
Cell In[78], line 1
----> 1 sns.factorplot('Species','PetalLengthCm',iris)
      2 plt.ioff()
      3 plt.show()

AttributeError: module 'seaborn' has no attribute 'factorplot'
```

In [86]:

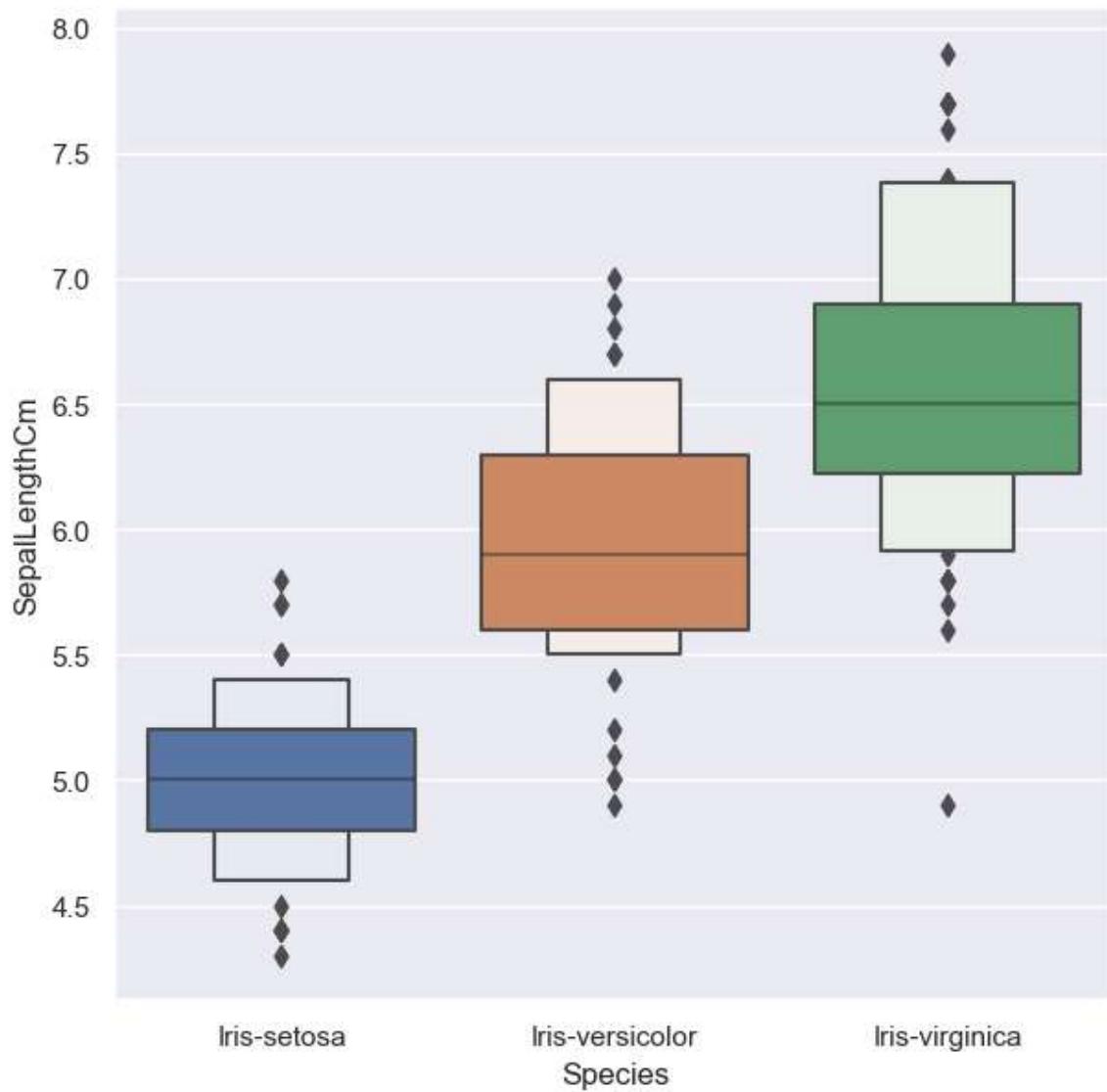
```
f,ax=plt.subplots(1,2,figsize=(18,8))
sns.factorplot('Species','SepalLengthCm',data=iris)
plt.ioff()
plt.show()
sns.factorplot('Species','SepalLengthCm',data=iris,ax=ax[0][0])
sns.factorplot('Species','SepalWidthCm',data=iris,ax=ax[0][1])
sns.factorplot('Species','PetalLengthCm',data=iris,ax=ax[1][0])
sns.factorplot('Species','PetalWidthCm',data=iris,ax=ax[1][1])
```

```
-----
--> AttributeError                                Traceback (most recent call last)
st)
Cell In[86], line 2
----> 1 f,ax=plt.subplots(1,2,figsize=(18,8))
      2 sns.factorplot('Species','SepalLengthCm',data=iris)
      3 plt.ioff()
      4 plt.show()

AttributeError: module 'seaborn' has no attribute 'factorplot'
```

In [82]:

```
fig=plt.gcf()
fig.set_size_inches(7,7)
fig=sns.boxenplot(x='Species',y='SepalLengthCm',data=iris)
plt.show()
```



In [88]:

```

sns.factorplot('Species', 'SepalLengthCm', data=iris)
plt.ioff()
plt.show()

#In newer versions of the seaborn library
#the factorplot() function is replaced by catplot()
#which provides categorical plots including
#violin plot, and other plots

```

**AttributeError**

Traceback (most recent call last)

```

Cell In[88], line 1
----> 1 sns.factorplot('Species', 'SepalLengthCm', data=iris)      #In newer
r versions of the seaborn,
    2 plt.ioff()                                              #the fac
torplot() function is replaced so that
    3 plt.show()

AttributeError: module 'seaborn' has no attribute 'factorplot'

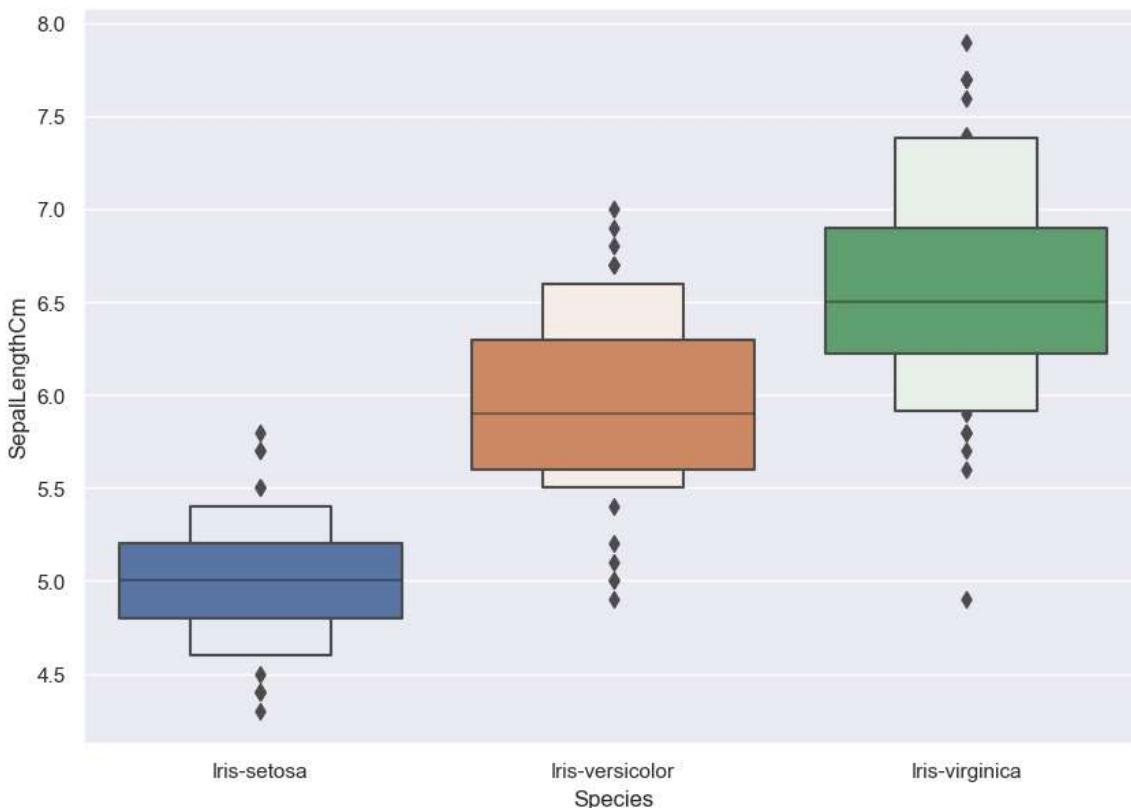
```

In [100]:

```

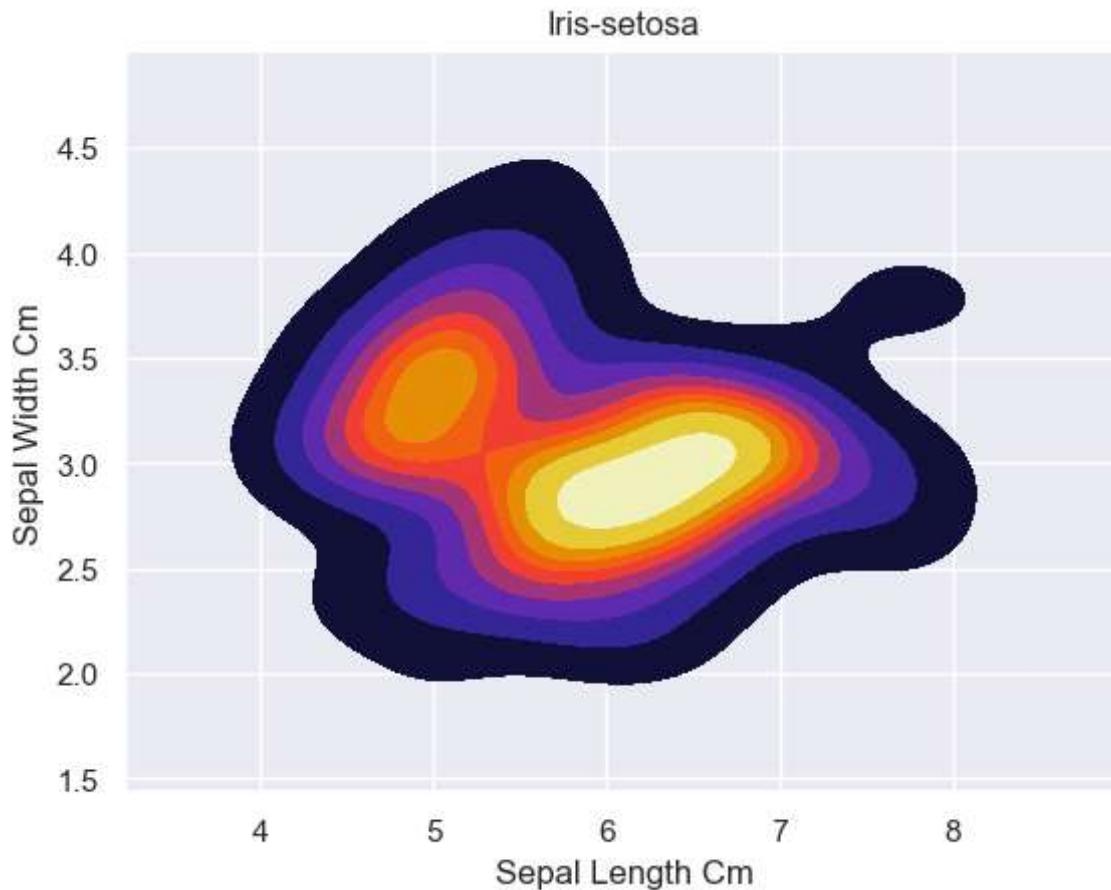
fig=plt.gcf()
fig.set_size_inches(10,7)
fig=sns.boxenplot(x='Species',y='SepalLengthCm',data=iris)
plt.show()

```



In [146]:

```
sub=iris[iris['Species']=='Iris-setosa']
sns.kdeplot(x=iris['SepalLengthCm'],y=iris['SepalWidthCm'], shade=True, shade_lowest=False)
plt.title('Iris-setosa')
plt.xlabel('Sepal Length Cm')
plt.ylabel('Sepal Width Cm')
plt.show()
```



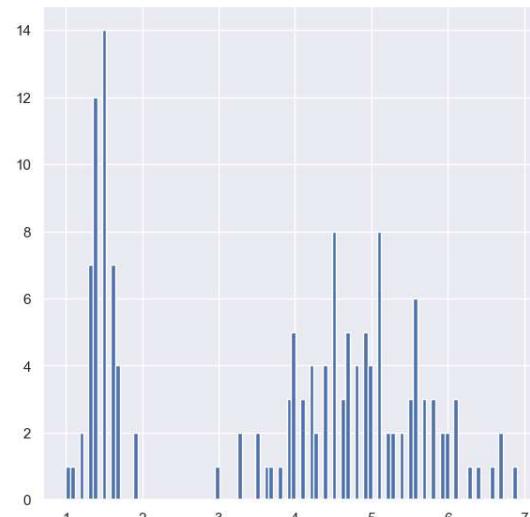
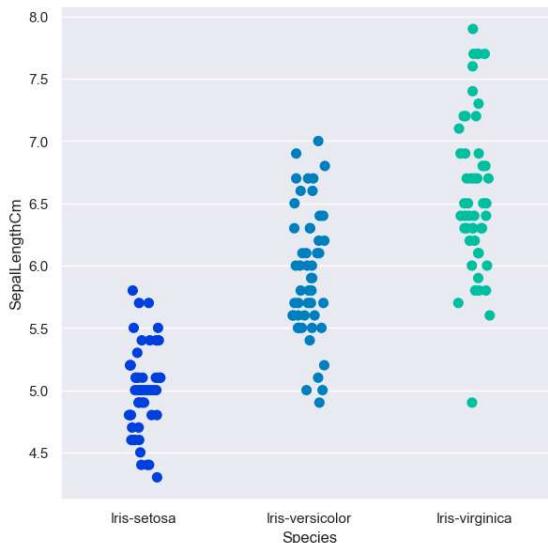
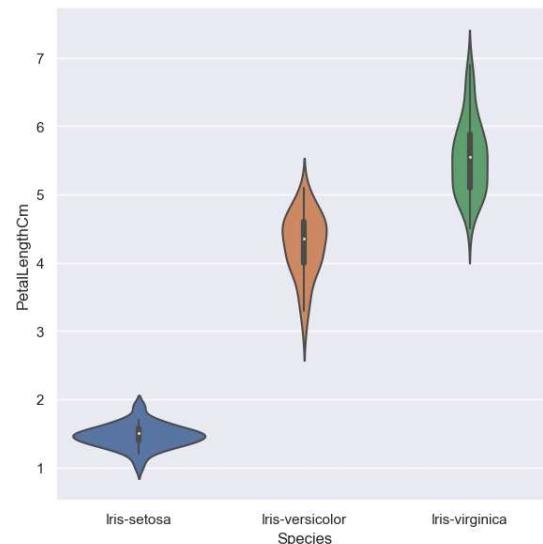
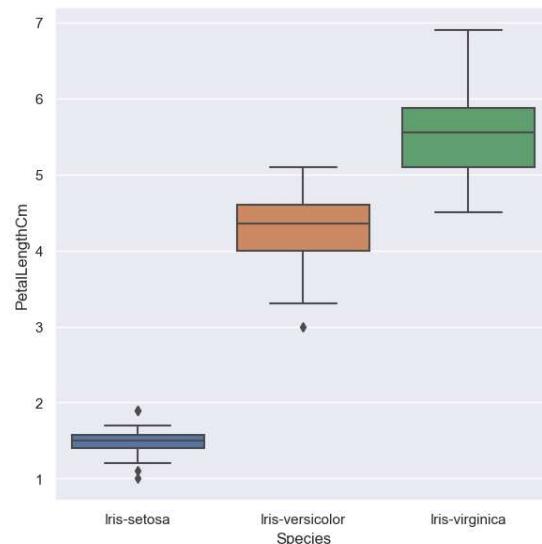
In [105]:

```

sns.set_style('darkgrid')
f,axes=plt.subplots(2,2,figsize=(15,15))

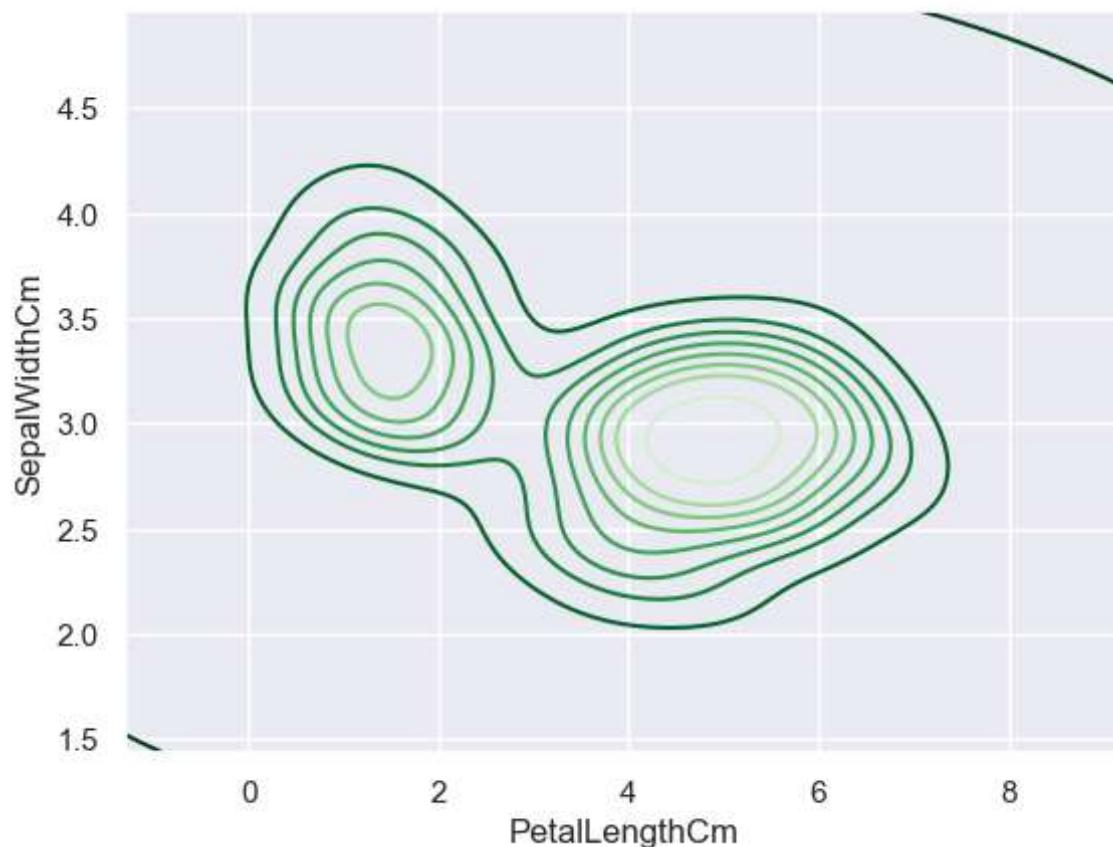
k1=sns.boxplot(x="Species", y="PetalLengthCm", data=iris,ax=axes[0,0])
k2=sns.violinplot(x='Species',y='PetalLengthCm',data=iris,ax=axes[0,1])
k3=sns.stripplot(x='Species',y='SepalLengthCm',data=iris,jitter=True,edgecolor='gray'
#axes[1,1].hist(iris.hist,bin=10)
axes[1,1].hist(iris.PetalLengthCm,bins=100)
#k2.set(xLim=(-1,0.8))
plt.show()

```



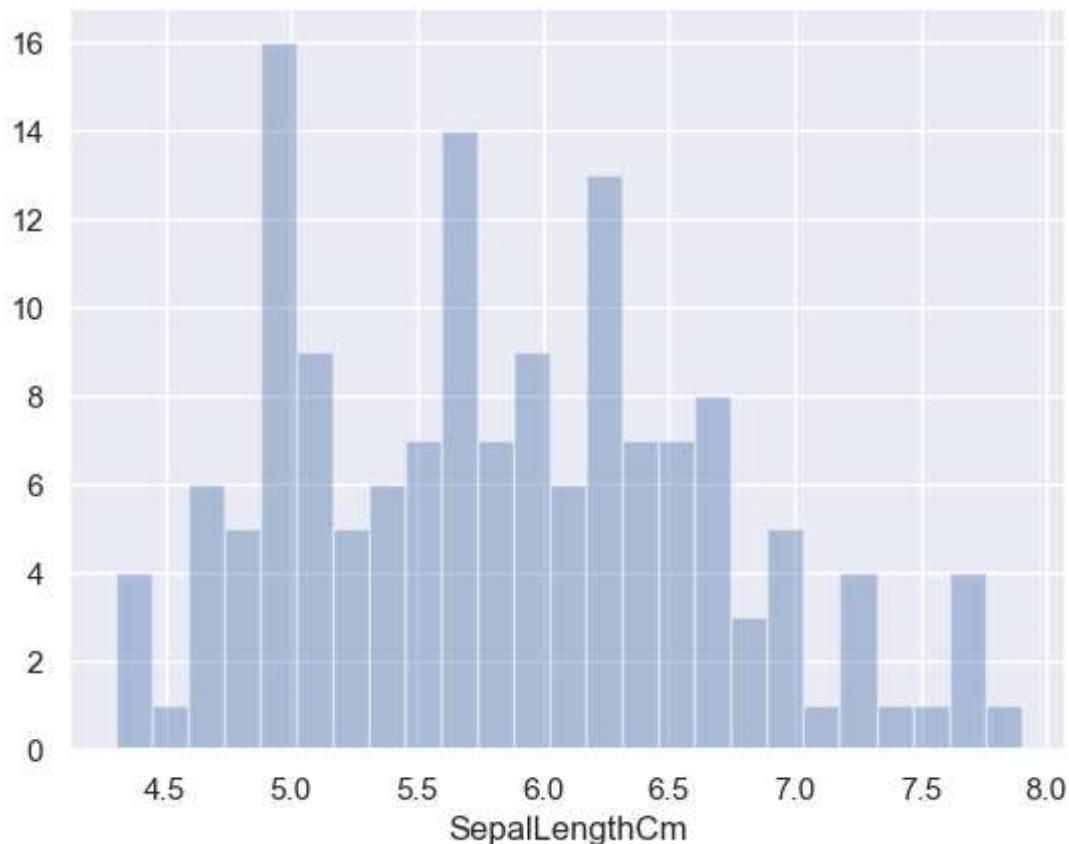
In [152]:

```
sns.kdeplot(x=iris.PetalLengthCm,y=iris.SepalWidthCm,shape=True,shade_lowest=True,cmap='viridis')
```



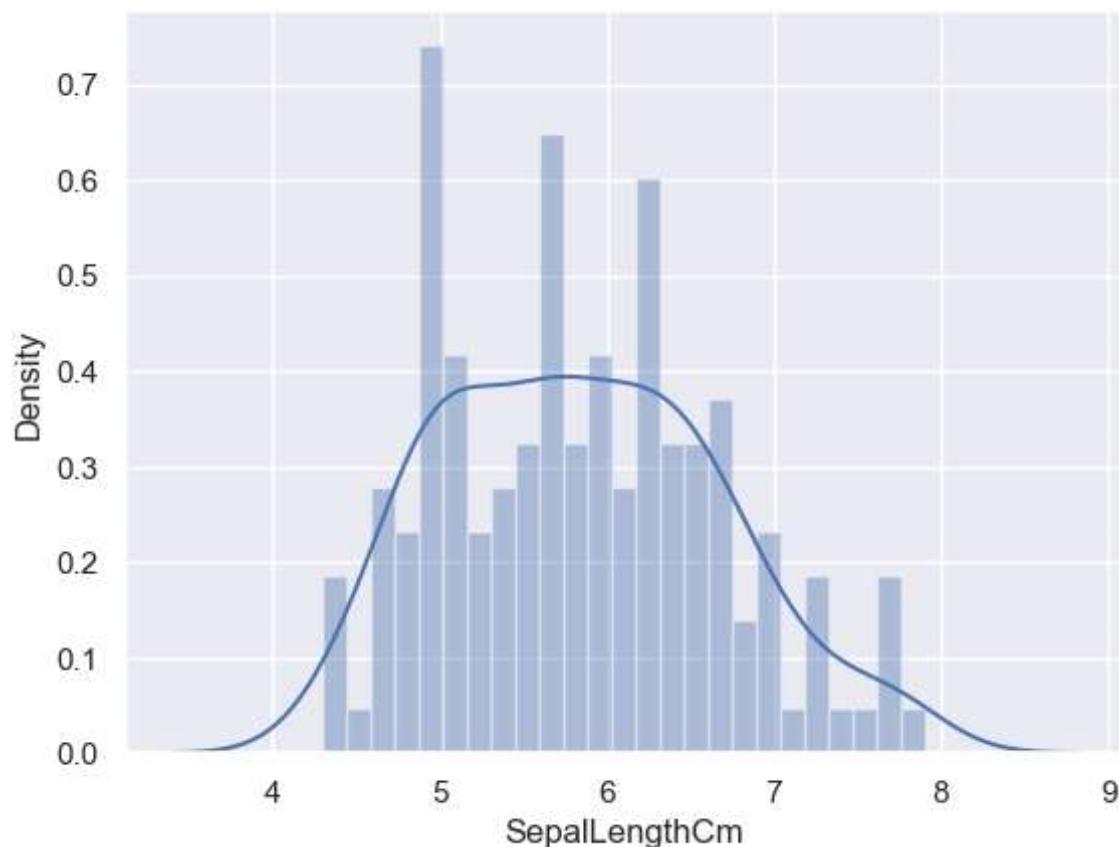
In [156]:

```
sns.distplot(iris['SepalLengthCm'],kde=False,bins=25)  
plt.show()
```



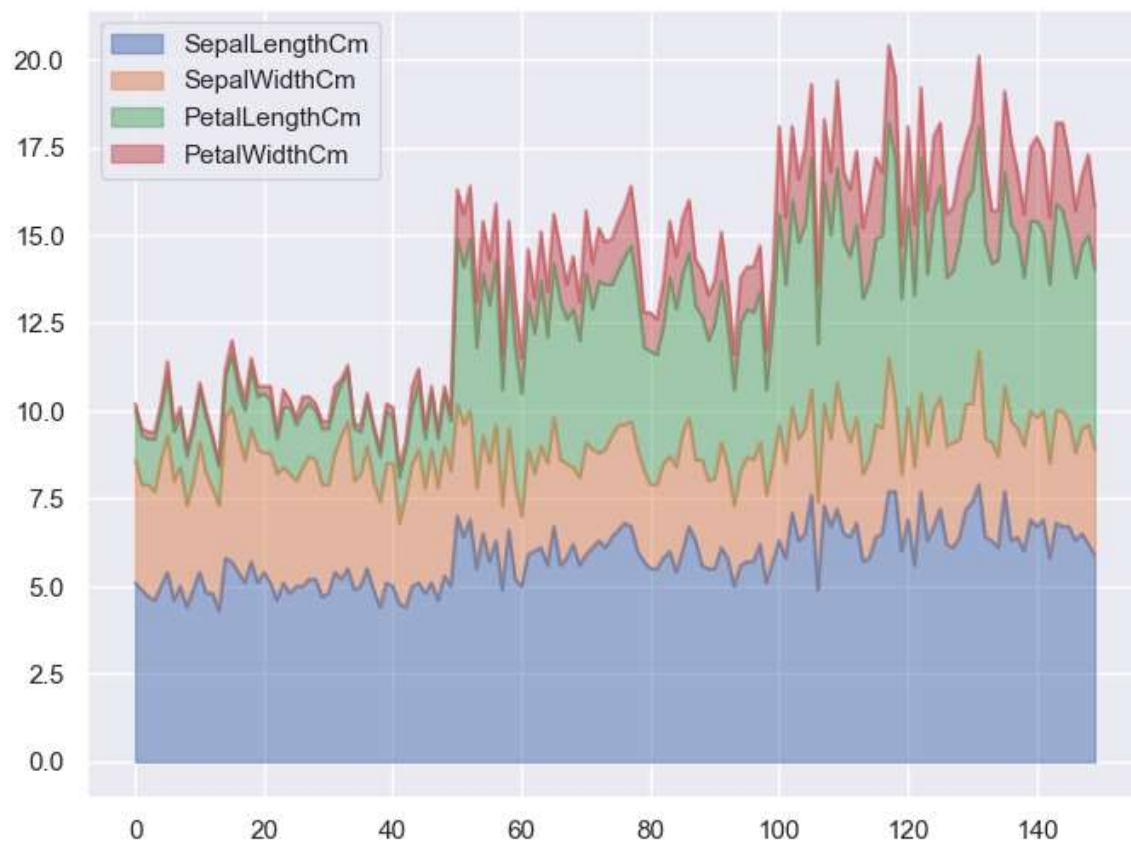
In [157]:

```
sns.distplot(iris['SepalLengthCm'],kde=True,bins=25)  
plt.show()
```



In [162]:

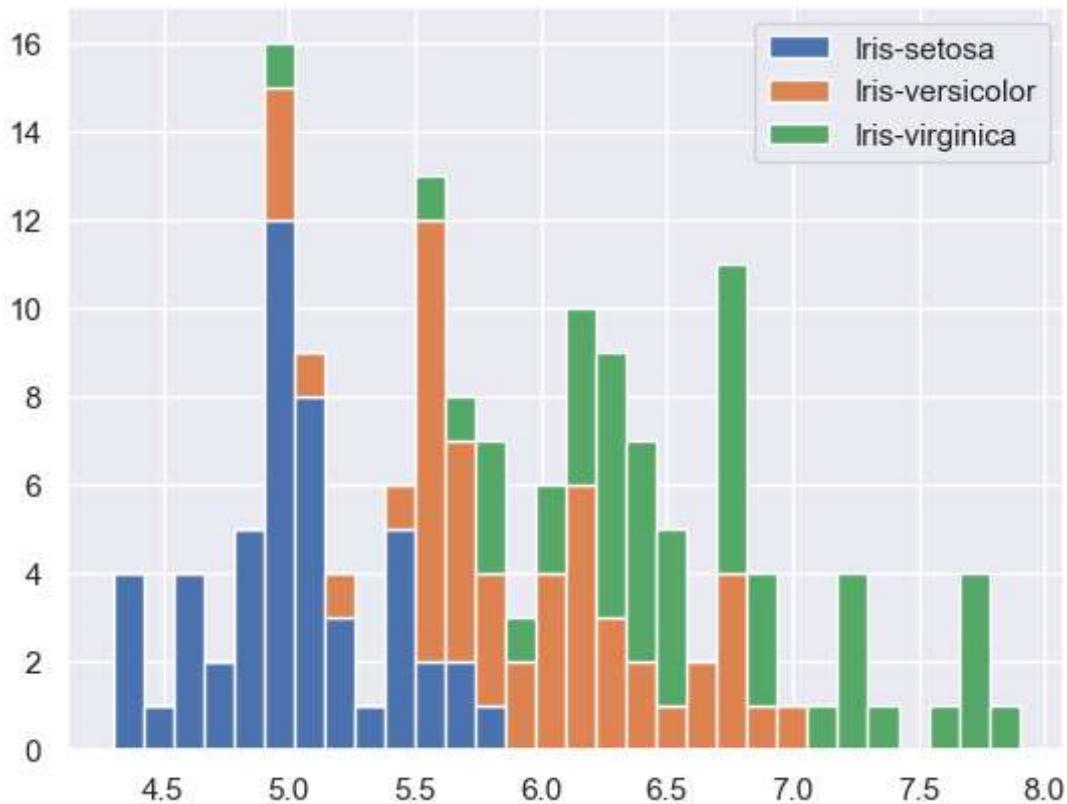
```
iris.plot.area(y=['SepalLengthCm', 'SepalWidthCm', 'PetalLengthCm', 'PetalWidthCm'], alpha=0.5)
plt.show()
```



In [163]:

```
list1=list()
mylabels=list()
for gen in iris.Species.cat.categories:
    list1.append(iris[iris.Species==gen].SepalLengthCm)
    mylabels.append(gen)

h=plt.hist(list1,bins=30,stacked=True,rwidth=1,label=mylabels)
plt.legend()
plt.show()
```



In [ ]: