In [1]:

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

In [2]:

```
df = pd.read_csv("C:/Users/ameya/OneDrive/Desktop/DSBDAL/Iris.csv")
```

In [3]:

```
df.head()
```

Out[3]:

	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

In [4]:

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

Out[4]:

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

In [5]:

```
df.dtypes
```

Out[5]:

```
Id                int64
SepalLengthCm    float64
SepalWidthCm     float64
PetalLengthCm    float64
PetalWidthCm     float64
Species           object
dtype: object
```

In [8]:

```
def getDataTypes(series):
    if((series.dtype) == 'object'):
        print("The datatype of "+series.name+" is: Nominal");
    else:
        print("The datatype of "+series.name+" is: Numeric");
```

In [9]:

```
df.apply(getDataTypes,0)
```

```
The datatype of Id is: Numeric
The datatype of SepalLengthCm is: Numeric
The datatype of SepalWidthCm is: Numeric
The datatype of PetalLengthCm is: Numeric
The datatype of PetalWidthCm is: Numeric
The datatype of Species is: Nominal
```

Out[9]:

```
Id               None
SepalLengthCm    None
SepalWidthCm     None
PetalLengthCm    None
PetalWidthCm     None
Species          None
dtype: object
```

In [10]:

```
df.head()
```

Out[10]:

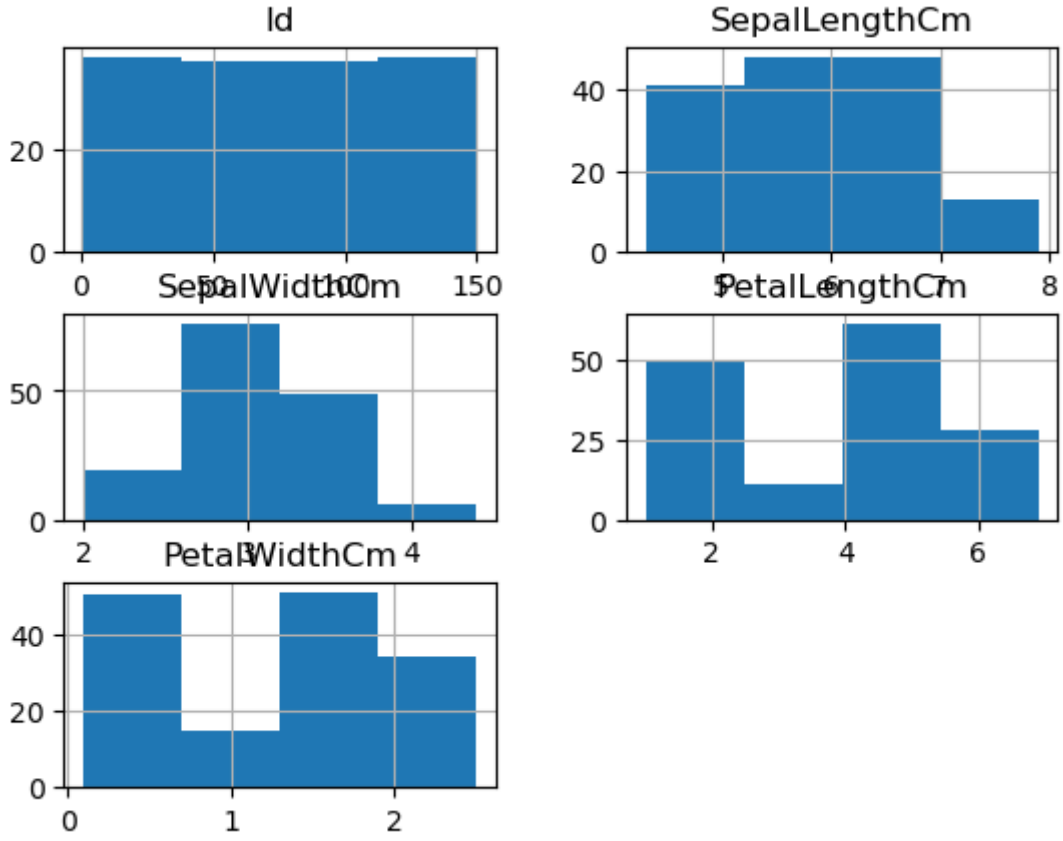
	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa

In [11]:

```
df.hist(bins=4)
```

Out[11]:

```
array([[<AxesSubplot:title={'center':'Id'}>,
        <AxesSubplot:title={'center':'SepalLengthCm'}>],
       [<AxesSubplot:title={'center':'SepalWidthCm'}>,
        <AxesSubplot:title={'center':'PetalLengthCm'}>],
       [<AxesSubplot:title={'center':'PetalWidthCm'}>, <AxesSubplot:>]],
      dtype=object)
```

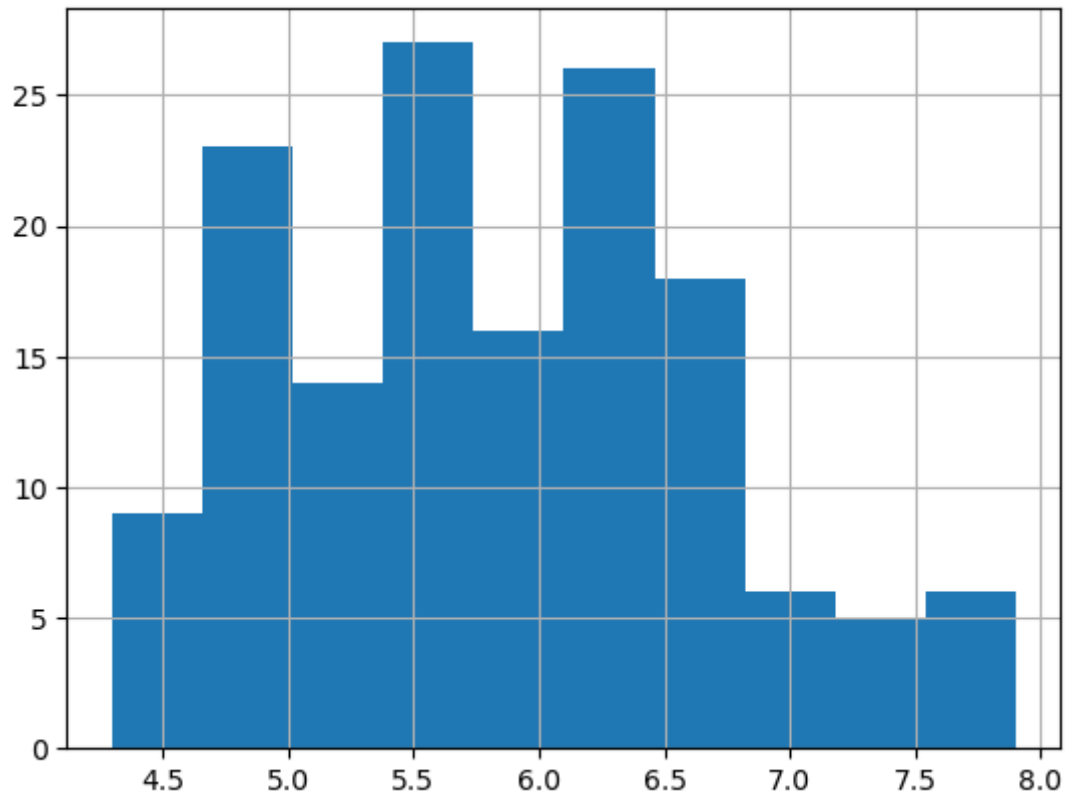


In [12]:

```
df['SepalLengthCm'].hist(bins=10)
```

Out[12]:

```
<AxesSubplot:>
```

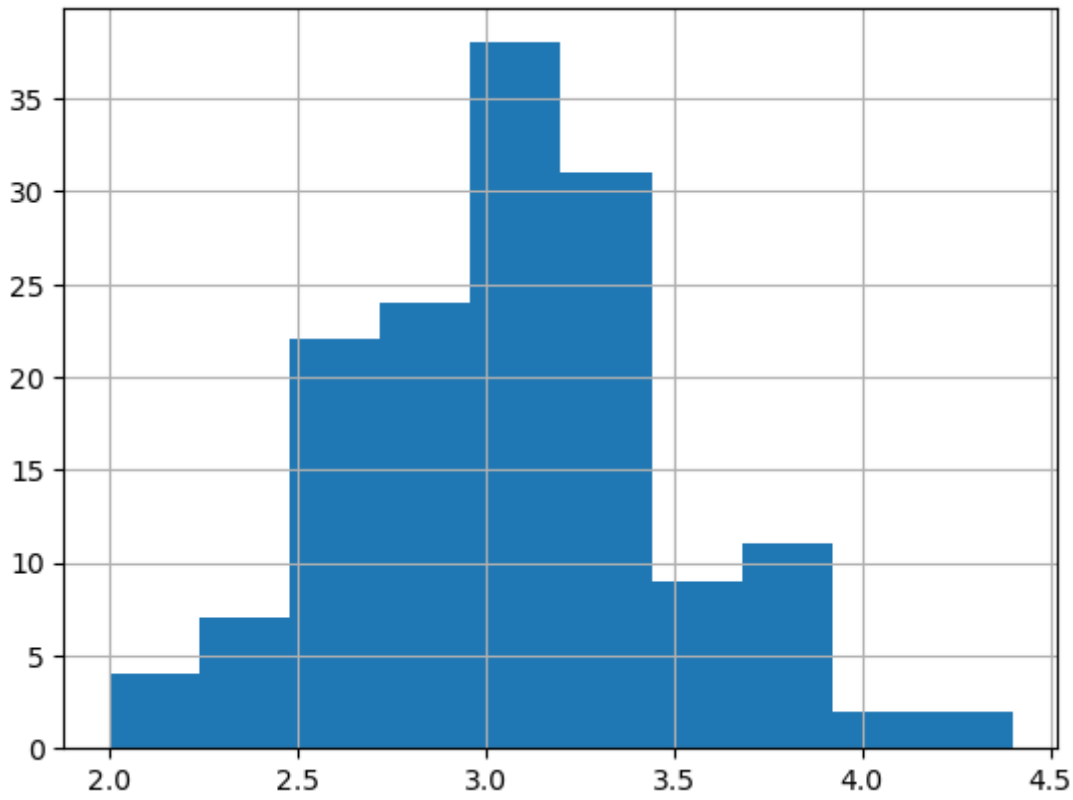


In [13]:

```
df['SepalWidthCm'].hist()
```

Out[13]:

<AxesSubplot:>

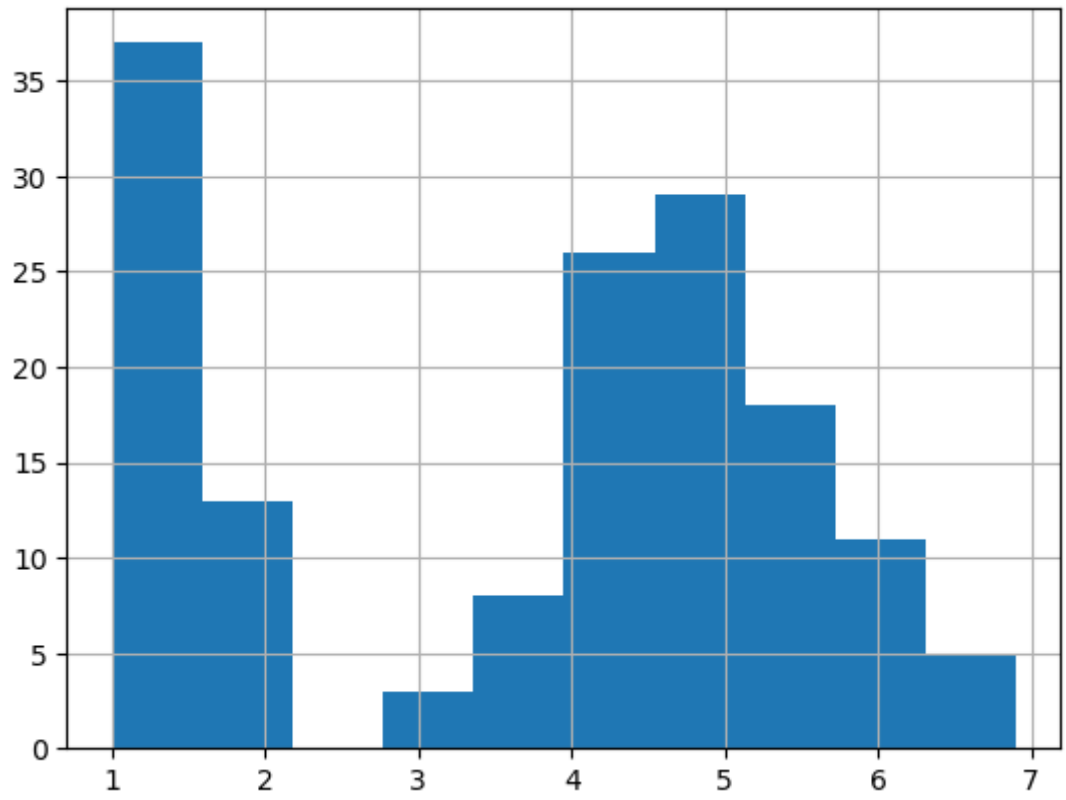


In [14]:

```
df['PetalLengthCm'].hist()
```

Out[14]:

```
<AxesSubplot:>
```

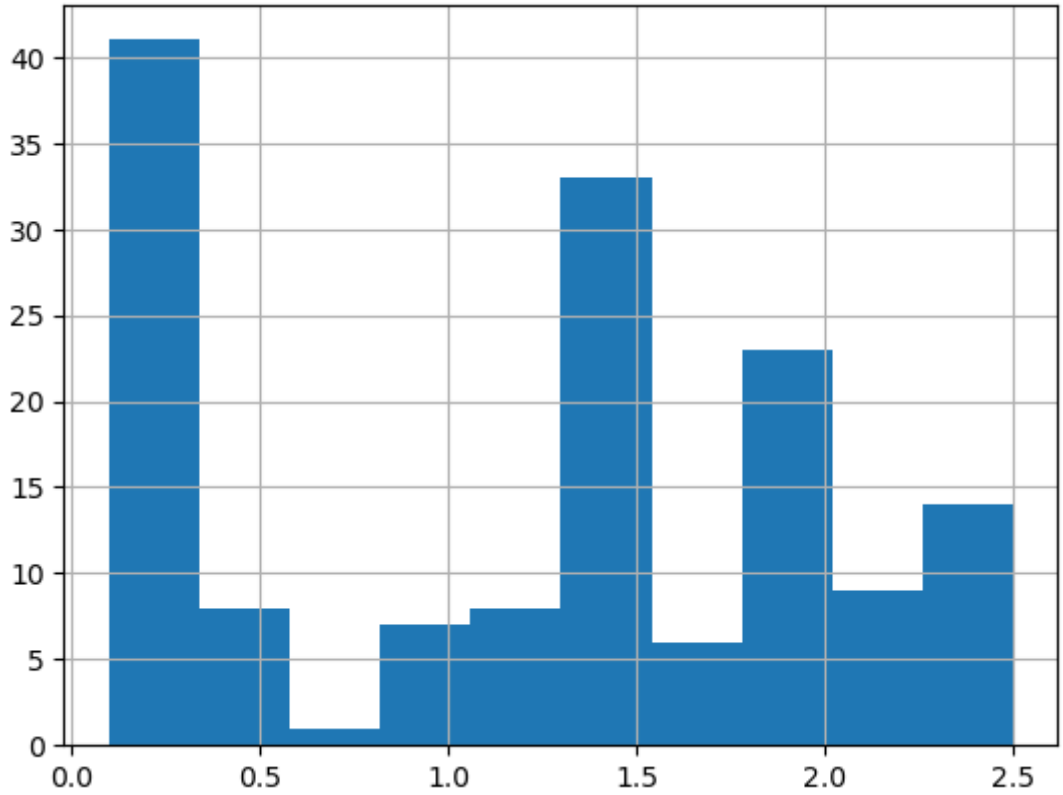


In [15]:

```
df['PetalWidthCm'].hist()
```

Out[15]:

```
<AxesSubplot:>
```

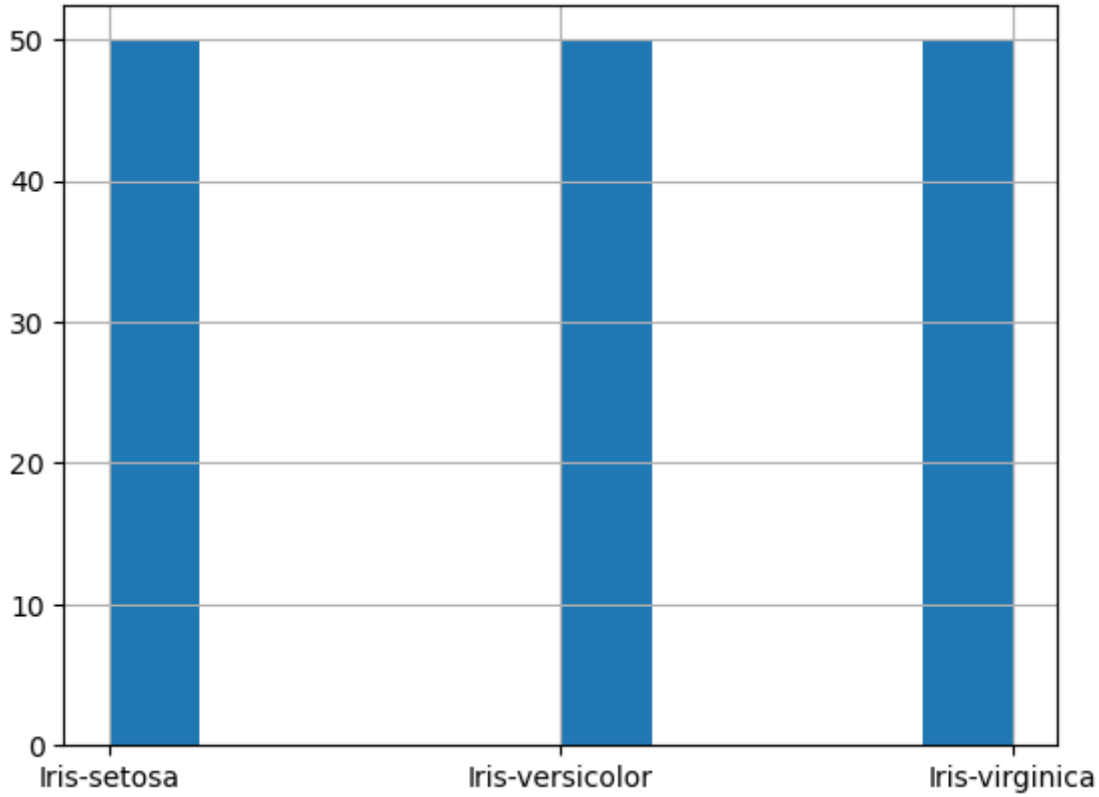


In [16]:

```
df['Species'].hist()
```

Out[16]:

```
<AxesSubplot:>
```

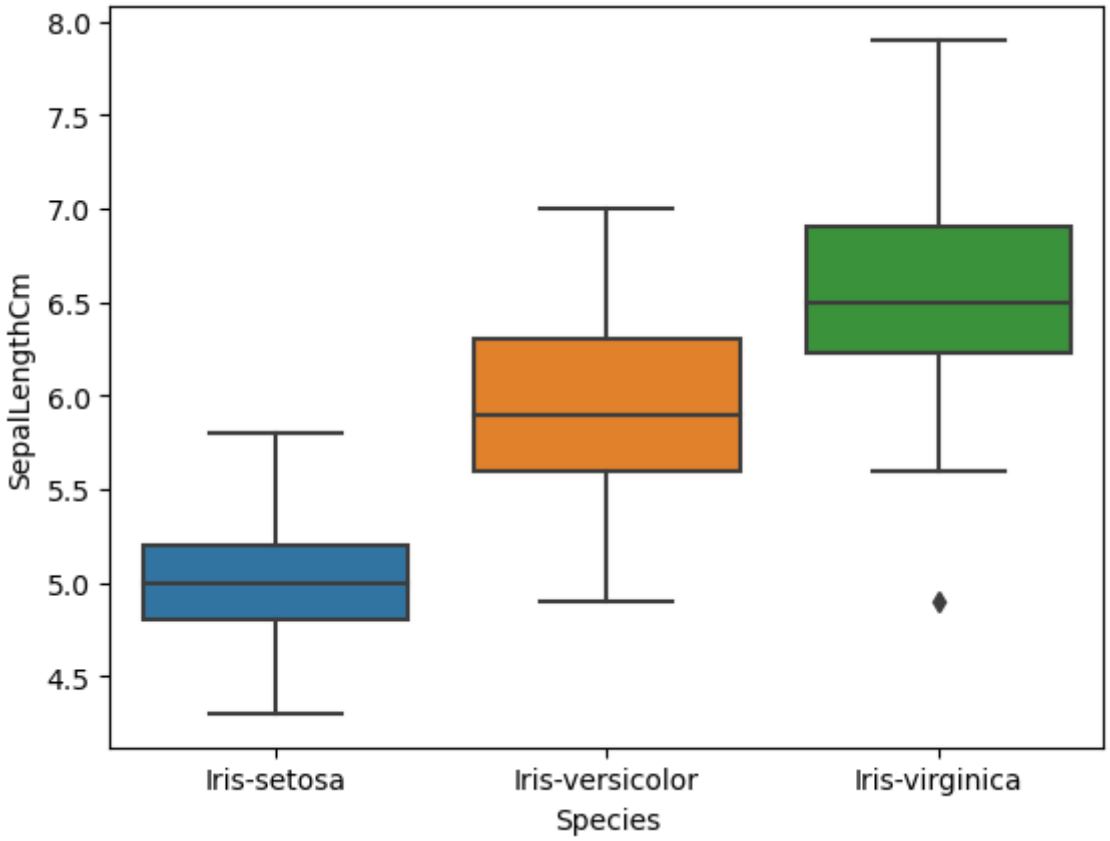


In [17]:

```
sns.boxplot(data=df,x="Species",y="SepalLengthCm")
```

Out[17]:

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

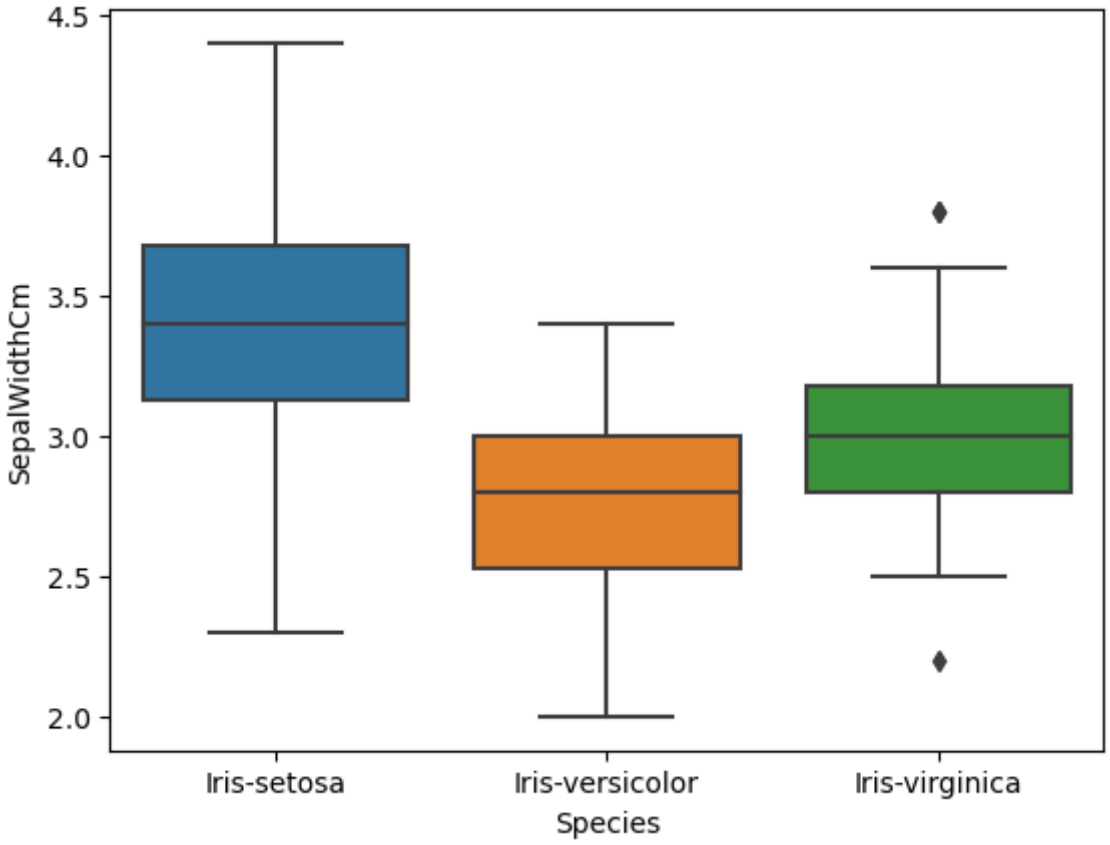


In [18]:

```
sns.boxplot(data=df,x="Species",y="SepalWidthCm")
```

Out[18]:

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

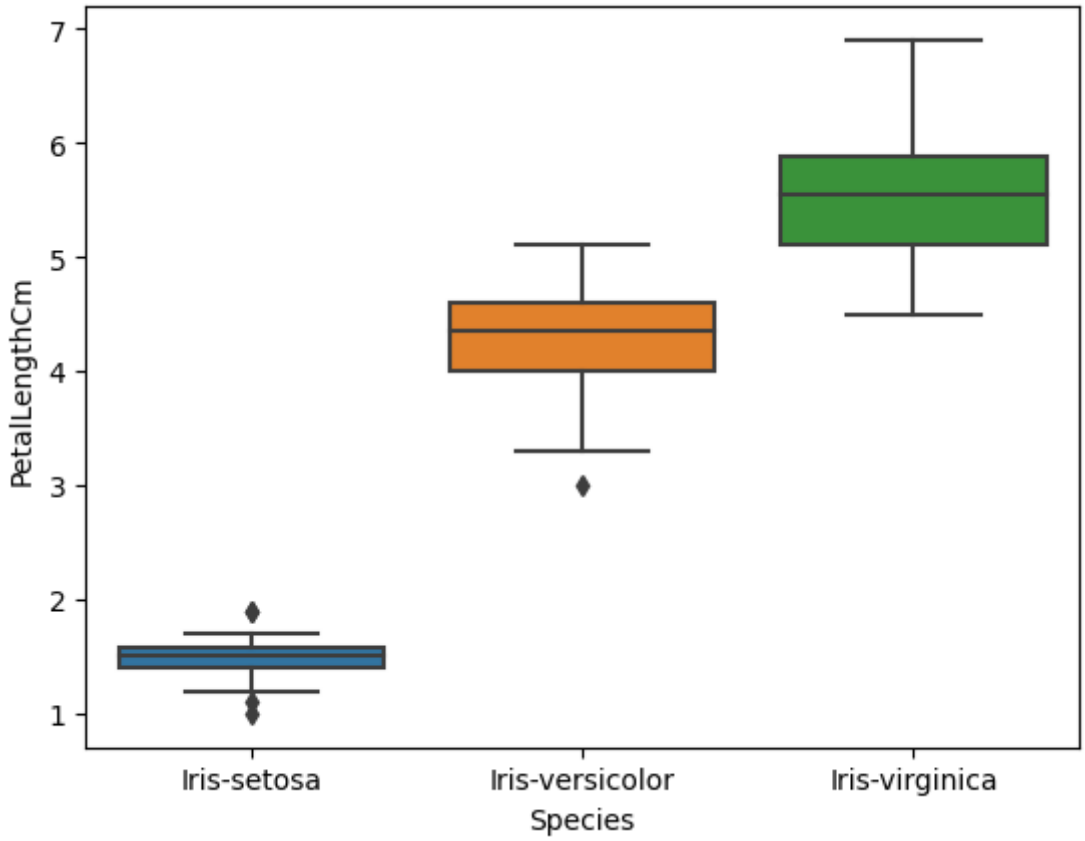


In [19]:

```
sns.boxplot(data=df, x="Species",y="PetalLengthCm")
```

Out[19]:

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

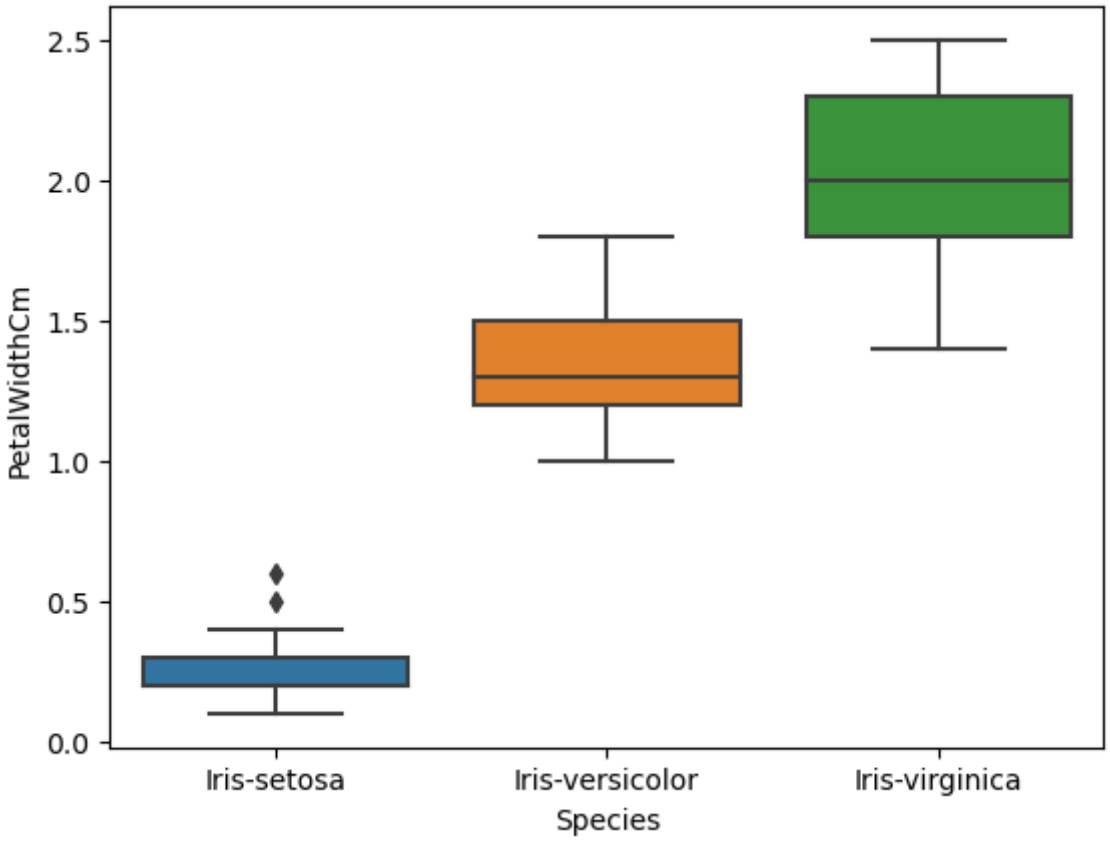


In [20]:

```
sns.boxplot(data=df, x="Species",y="PetalWidthCm")
```

Out[20]:

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

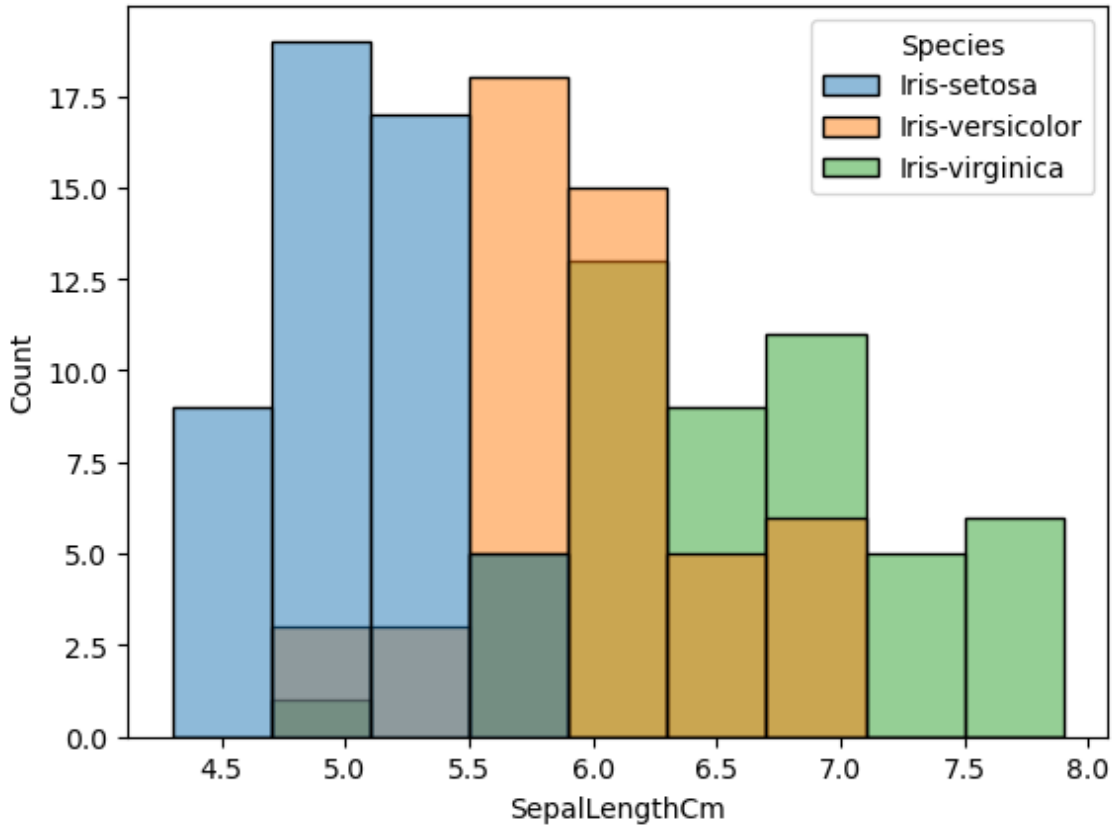


In [21]:

```
sns.histplot(data=df,x='SepalLengthCm',hue = 'Species')
```

Out[21]:

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

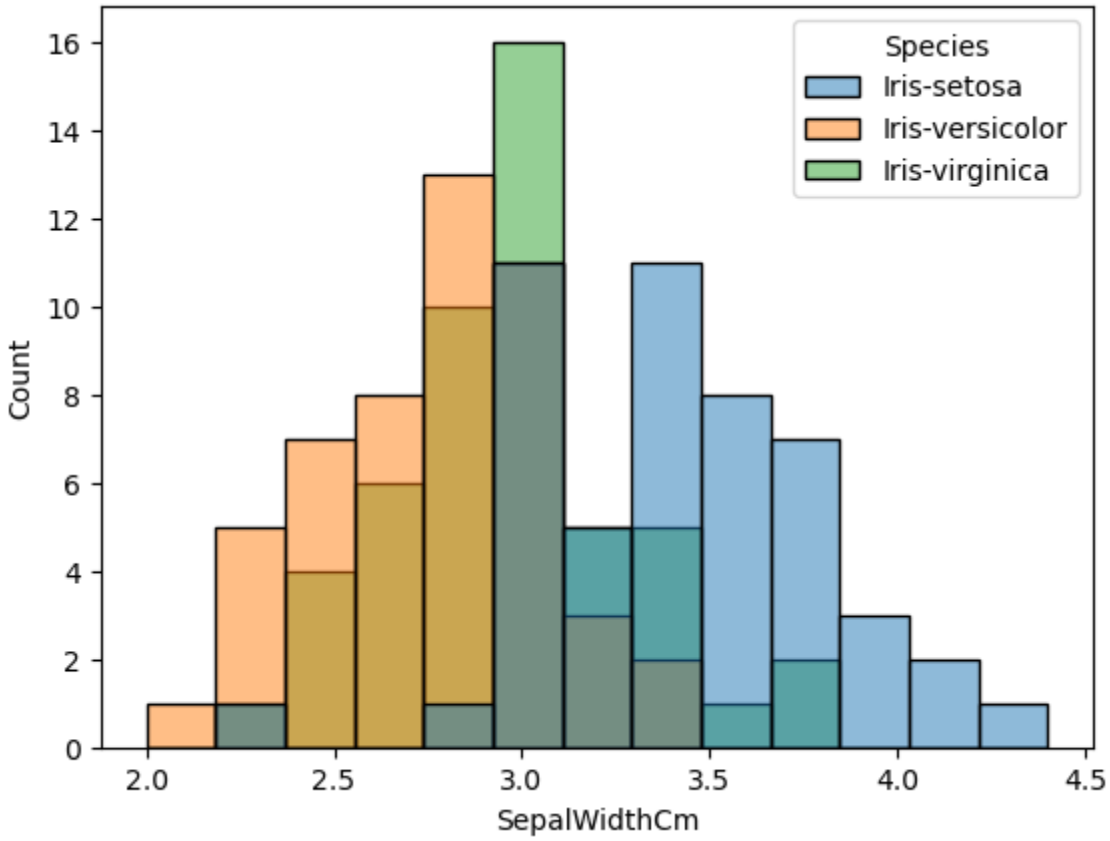


In [22]:

```
sns.histplot(data=df,x='SepalWidthCm',hue = 'Species')
```

Out[22]:

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

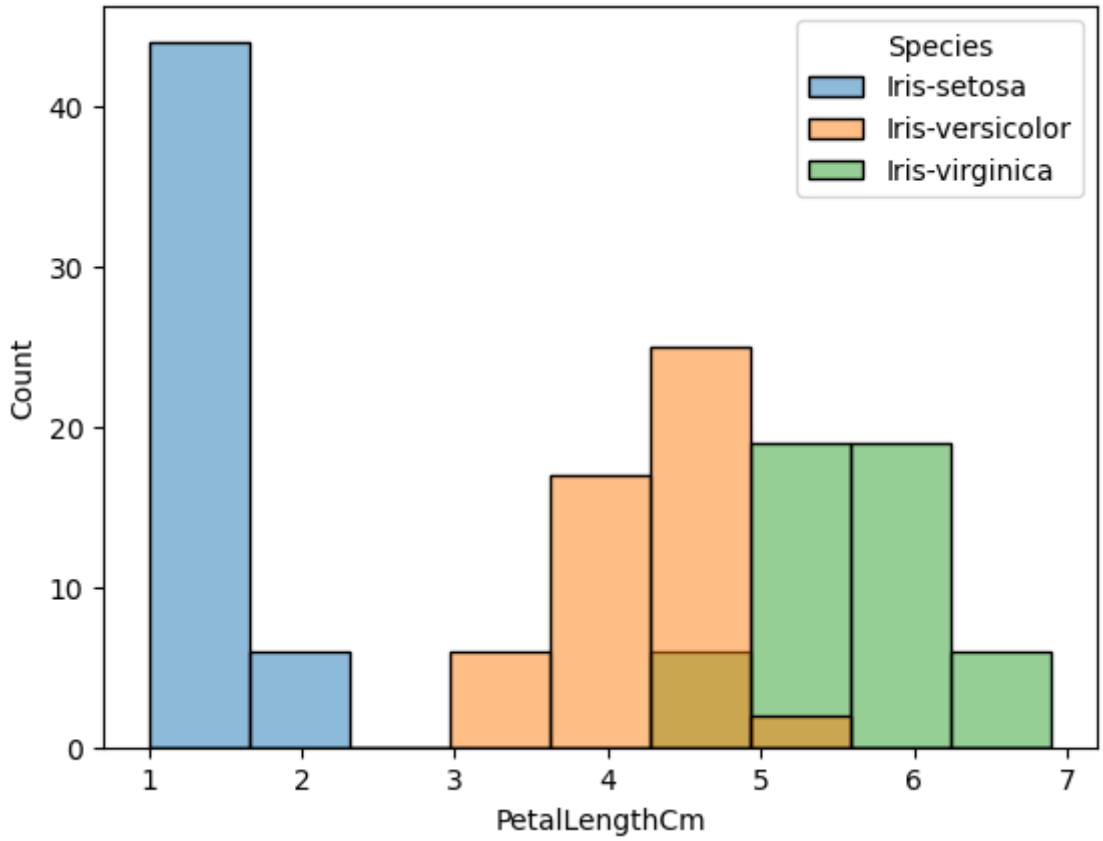


In [23]:

```
sns.histplot(data=df,x='PetalLengthCm',hue = 'Species')
```

Out[23]:

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

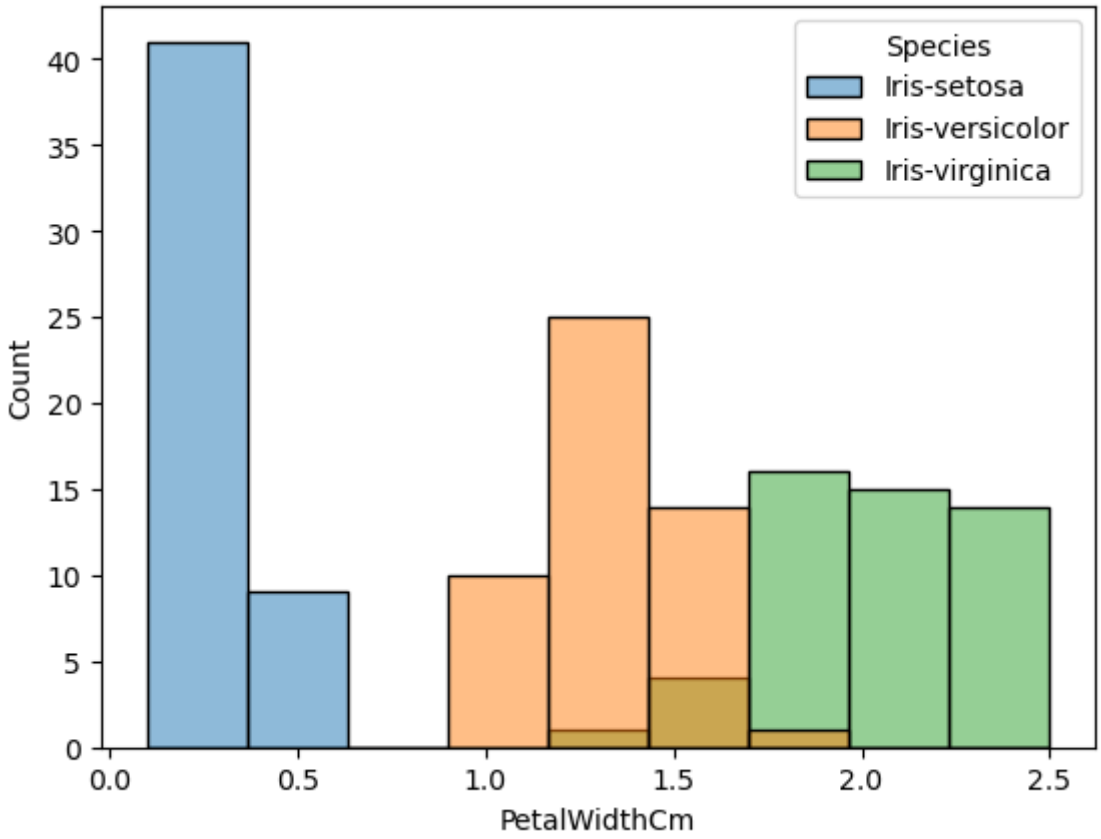


In [24]:

```
sns.histplot(data=df,x='PetalWidthCm',hue = 'Species')
```

Out[24]:

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



In [ ]: