Roll No: 31440

DSBDAL Assignment-10

Importing libraries

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("Iris.csv")
df
```

Out[2]:

	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
...	...	...	...	...	...	...
145	146	6.7	3.0	5.2	2.3	Iris-virginica
146	147	6.3	2.5	5.0	1.9	Iris-virginica
147	148	6.5	3.0	5.2	2.0	Iris-virginica
148	149	6.2	3.4	5.4	2.3	Iris-virginica
149	150	5.9	3.0	5.1	1.8	Iris-virginica

150 rows × 6 columns

In [3]:

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

Out[3]:

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

In [4]:

```
df.dtypes
```

Out[4]:

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

Features and there types 1)SepalLengthCm- Numeric 2)SepalWidthCm- Numeric 3)PetalLengthCm- Numeric 4)PetalWidthCm- Numeric 5)Species- Nominal

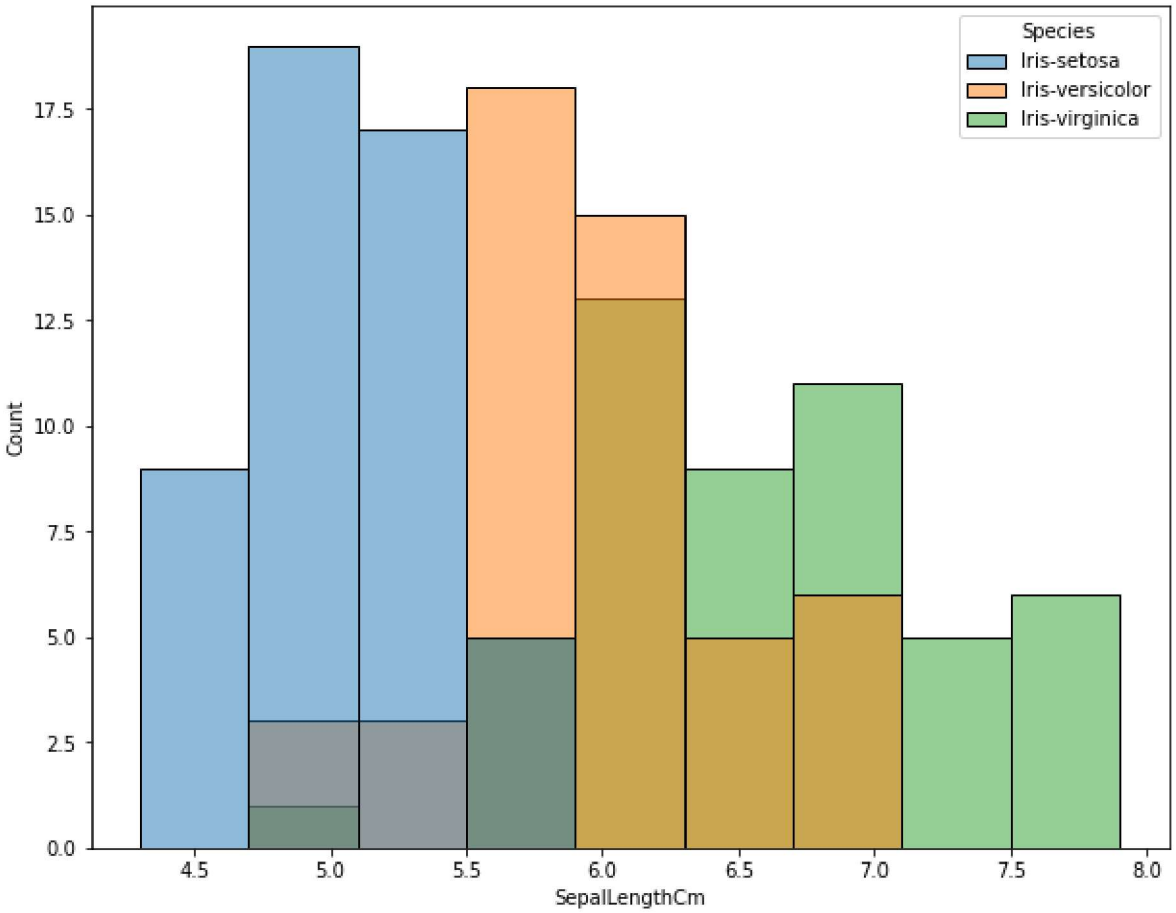
Histogram

In [5]:

```
plt.figure(figsize=(10,8))
sns.histplot(x=df["SepalLengthCm"],hue=df["Species"])
```

Out[5]:

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

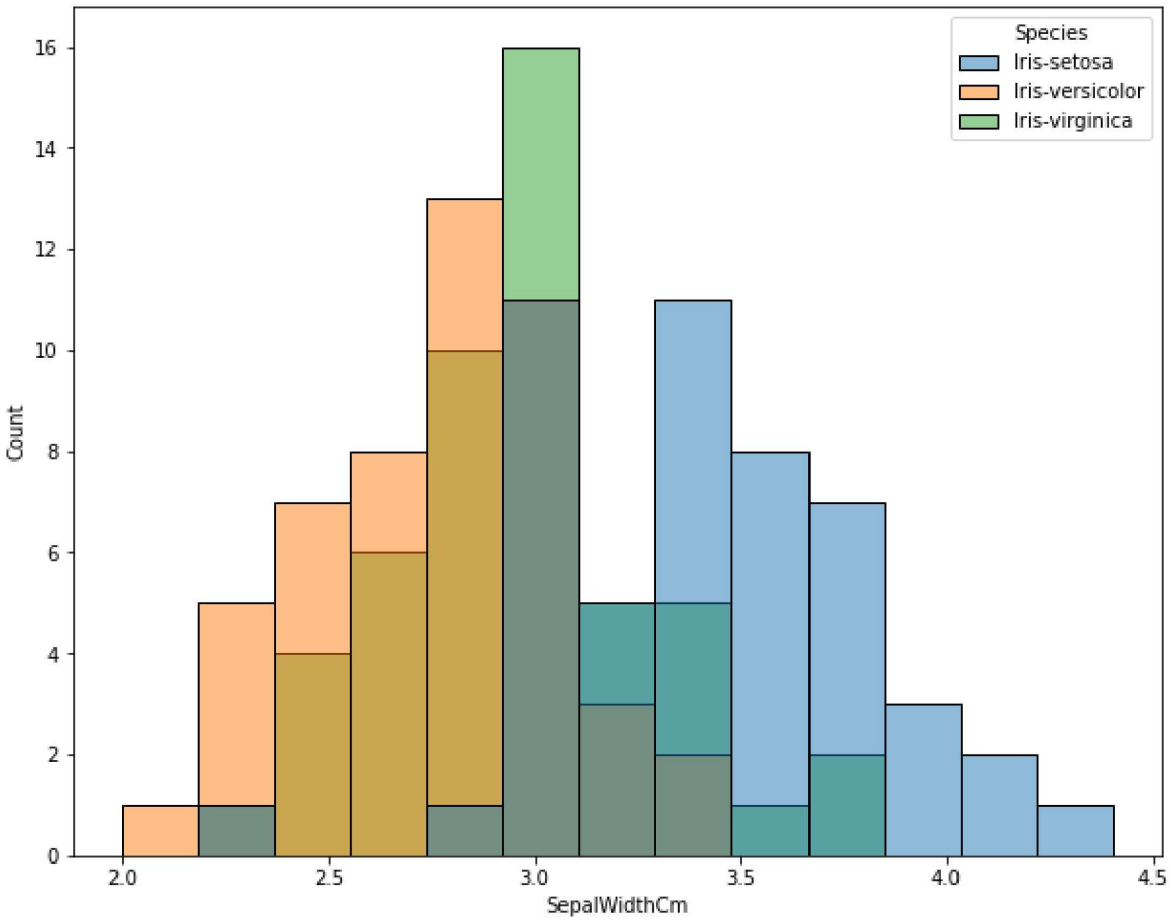


In [6]:

```
plt.figure(figsize=(10,8))
sns.histplot(x=df["SepalWidthCm"],hue=df["Species"])
```

Out[6]:

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

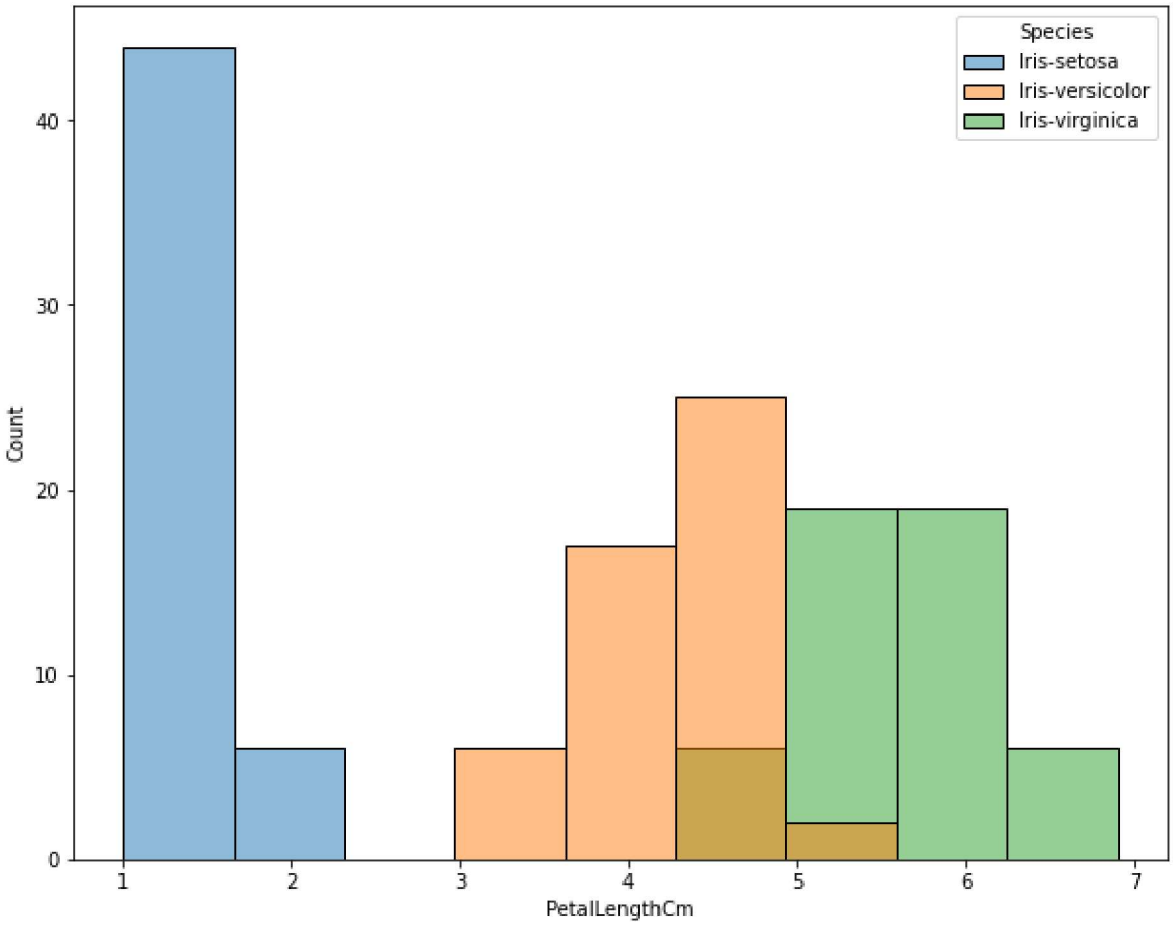


In [7]:

```
plt.figure(figsize=(10,8))
sns.histplot(x=df["PetalLengthCm"],hue=df["Species"])
```

Out[7]:

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

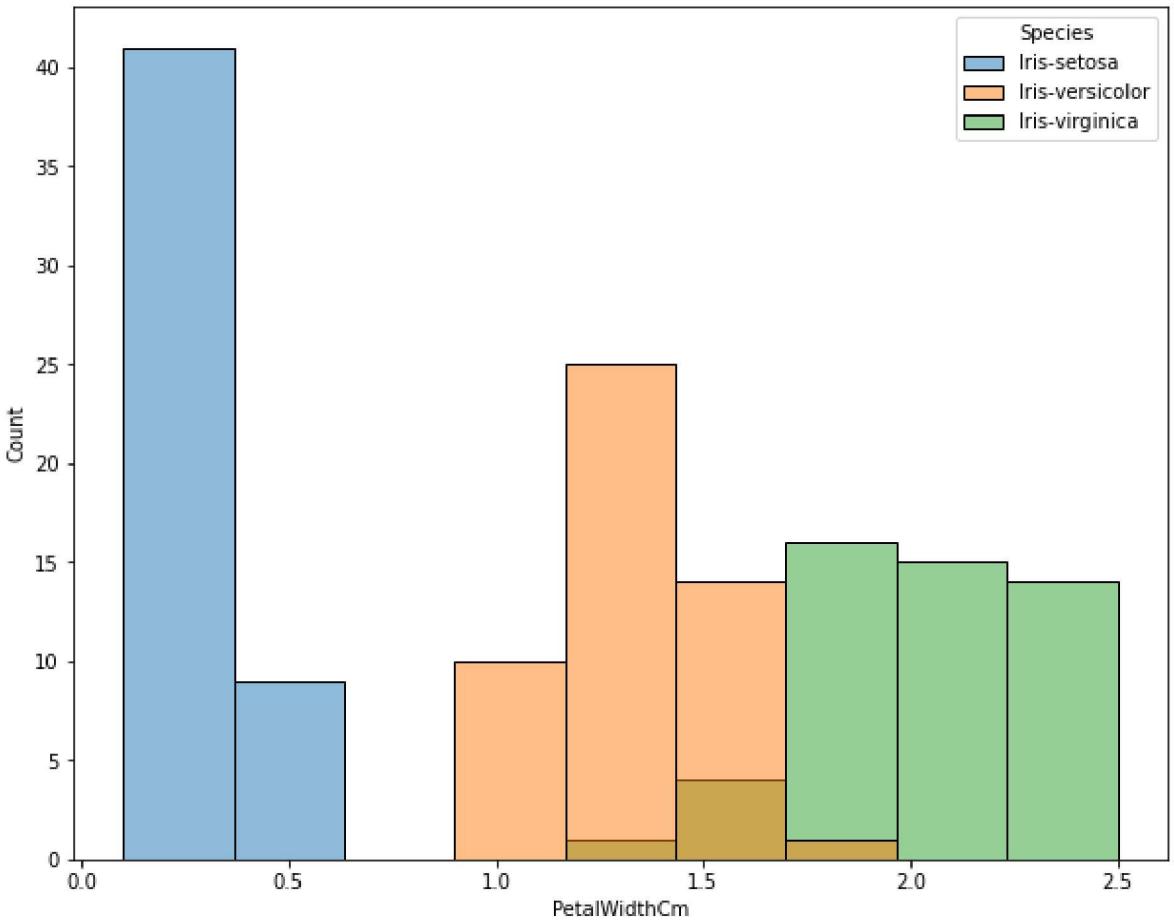


In [8]:

```
plt.figure(figsize=(10,8))
sns.histplot(x=df["PetalWidthCm"],hue=df["Species"])
```

Out[8]:

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

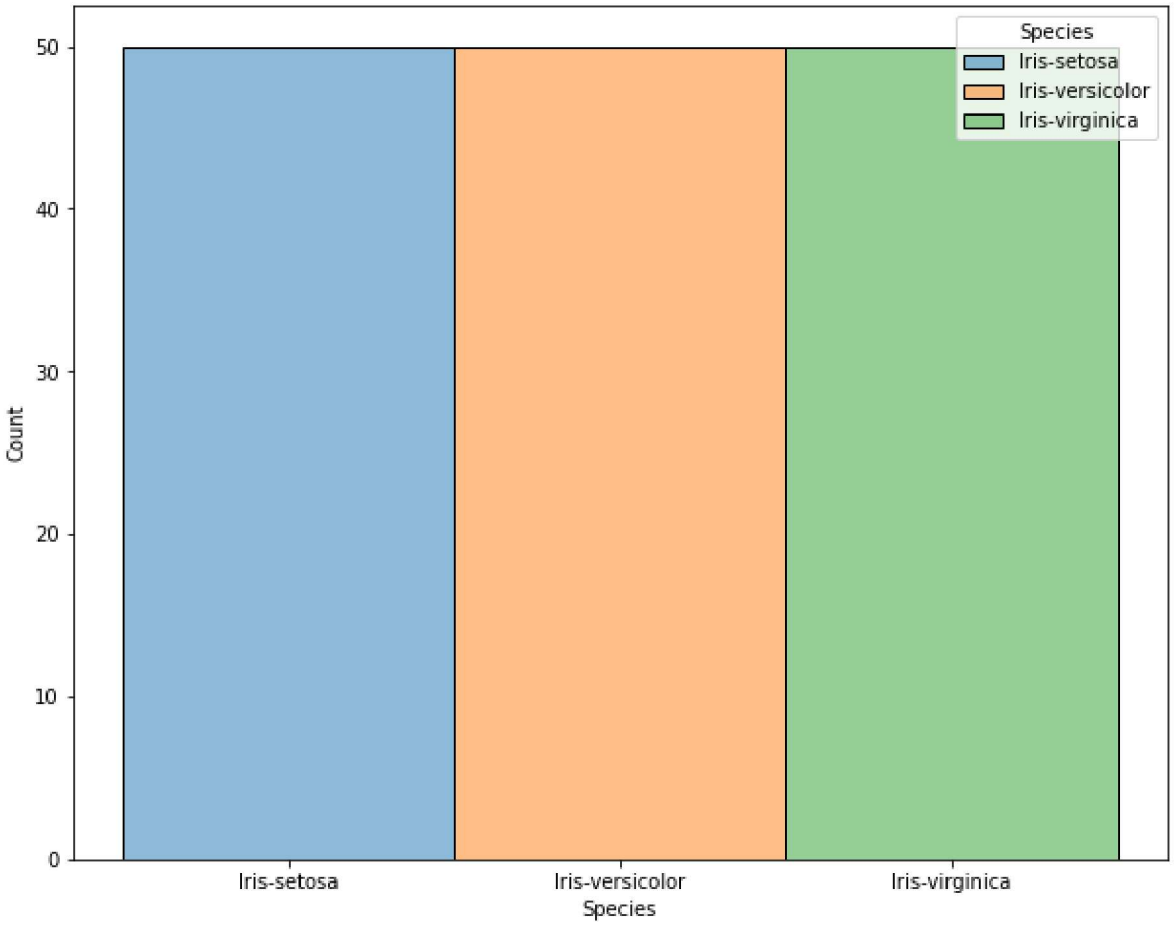


In [9]:

```
plt.figure(figsize=(10,8))
sns.histplot(x=df["Species"],hue=df["Species"])
```

Out[9]:

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

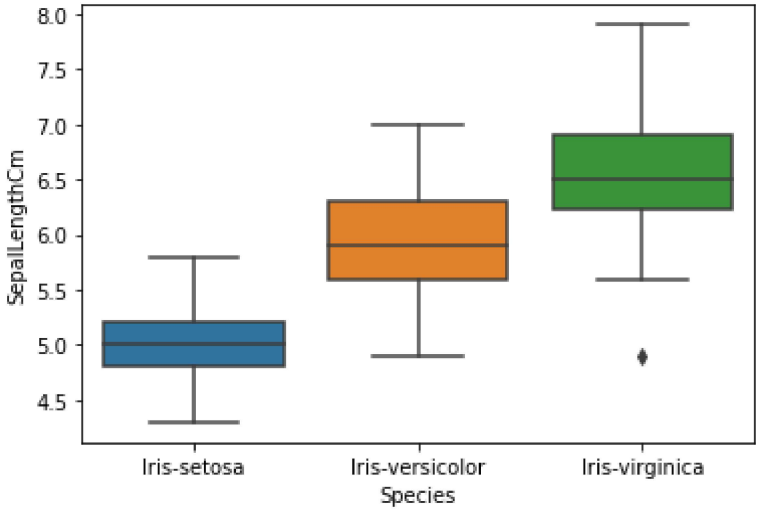


In [10]:

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

Out[10]:

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

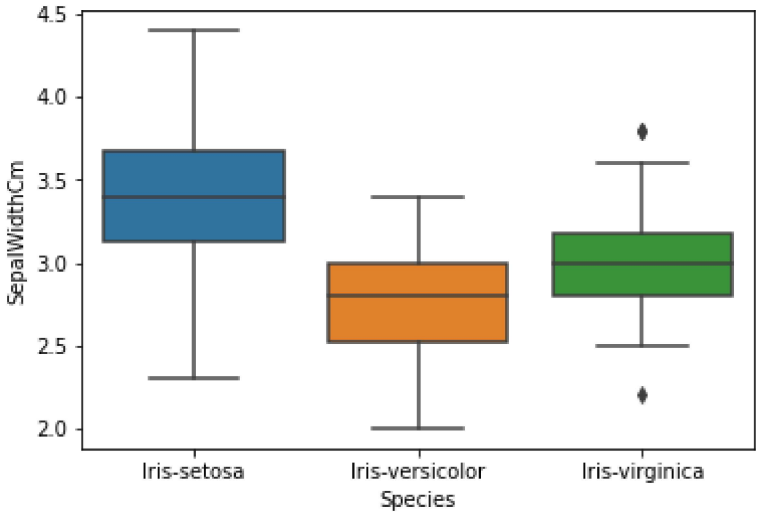


In [11]:

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

Out[11]:

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

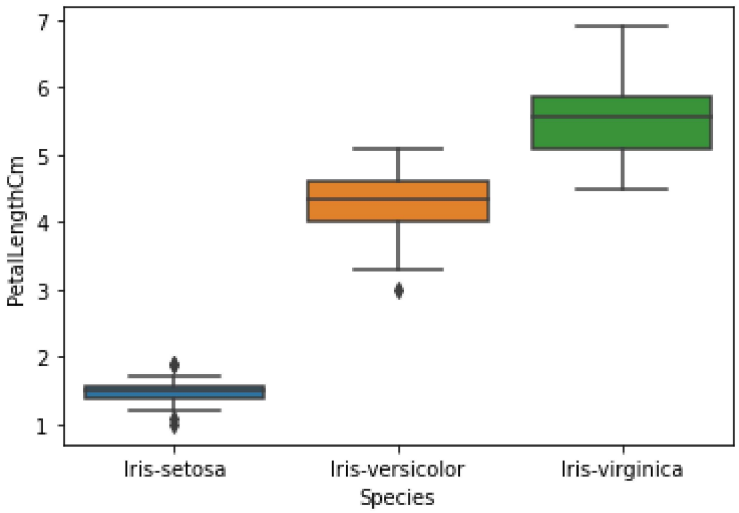


In [12]:

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

Out[12]:

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

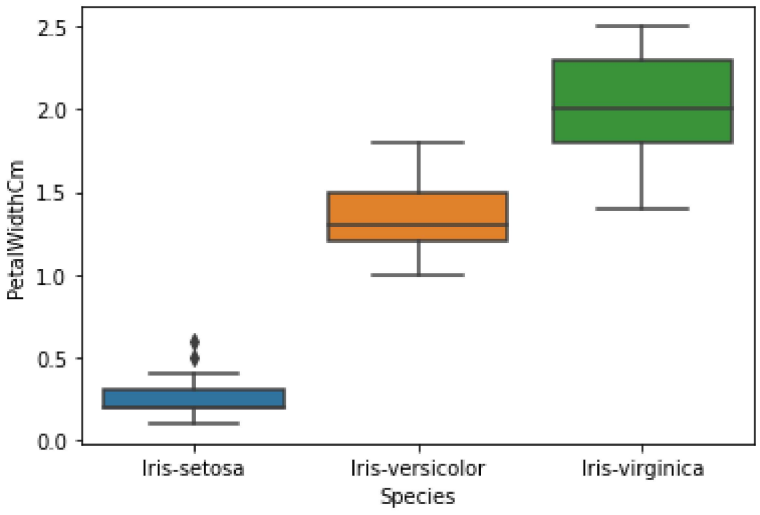


In [13]:

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

Out[13]:

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

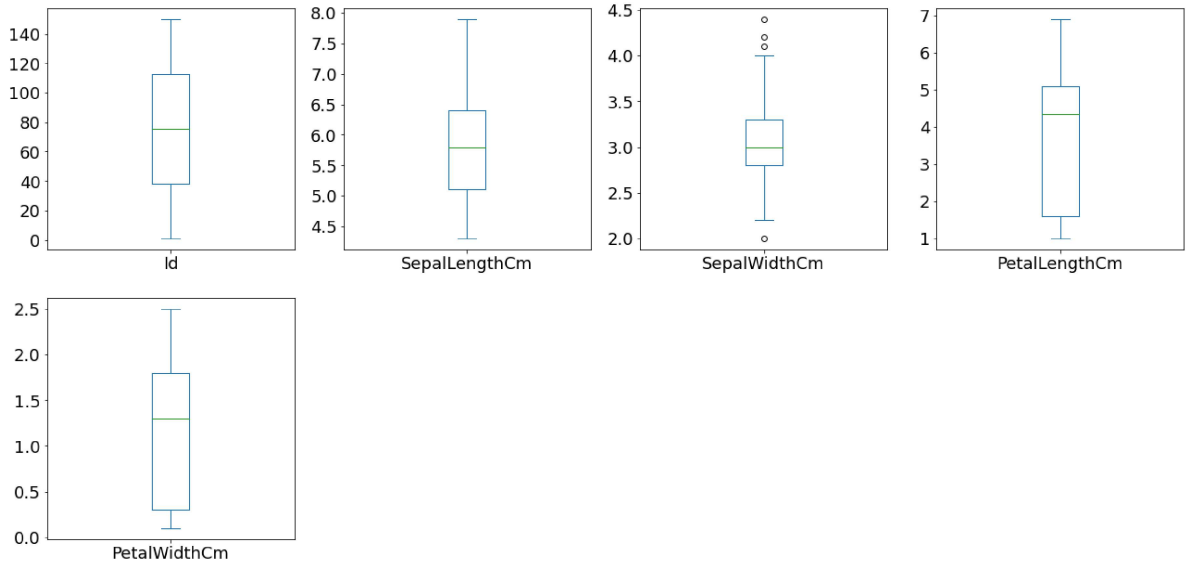


In [14]:

```
df.plot(kind="box",subplots=True,layout=(4,4),fontsize=18,figsize=(22,22))
```

Out[14]:

```
Id                AxesSubplot(0.125,0.71587;0.168478x0.16413)
SepalLengthCm    AxesSubplot(0.327174,0.71587;0.168478x0.16413)
SepalWidthCm     AxesSubplot(0.529348,0.71587;0.168478x0.16413)
PetalLengthCm    AxesSubplot(0.731522,0.71587;0.168478x0.16413)
PetalWidthCm       AxesSubplot(0.125,0.518913;0.168478x0.16413)
dtype: object
```



In [ ]: