In [1]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px
```

In [2]:
```
df = pd.read_csv('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

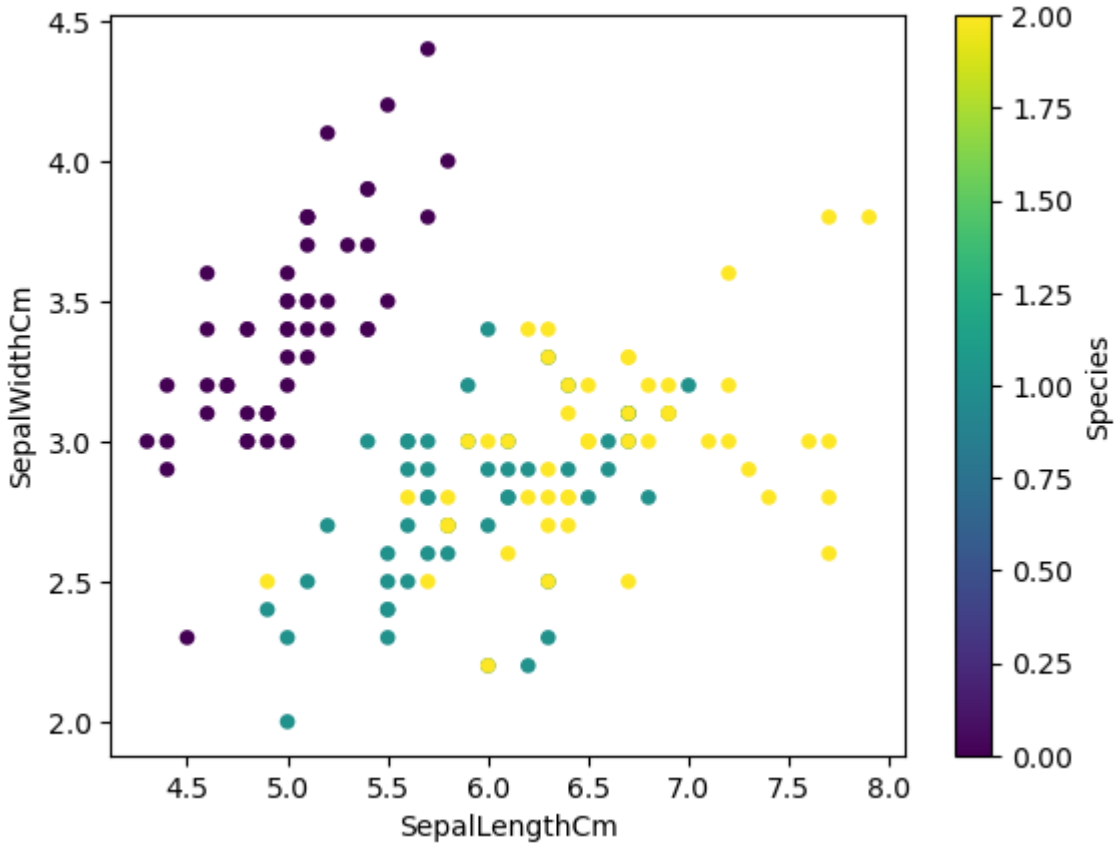
In [4]:
```
df.describe()
```

Out[4]:

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

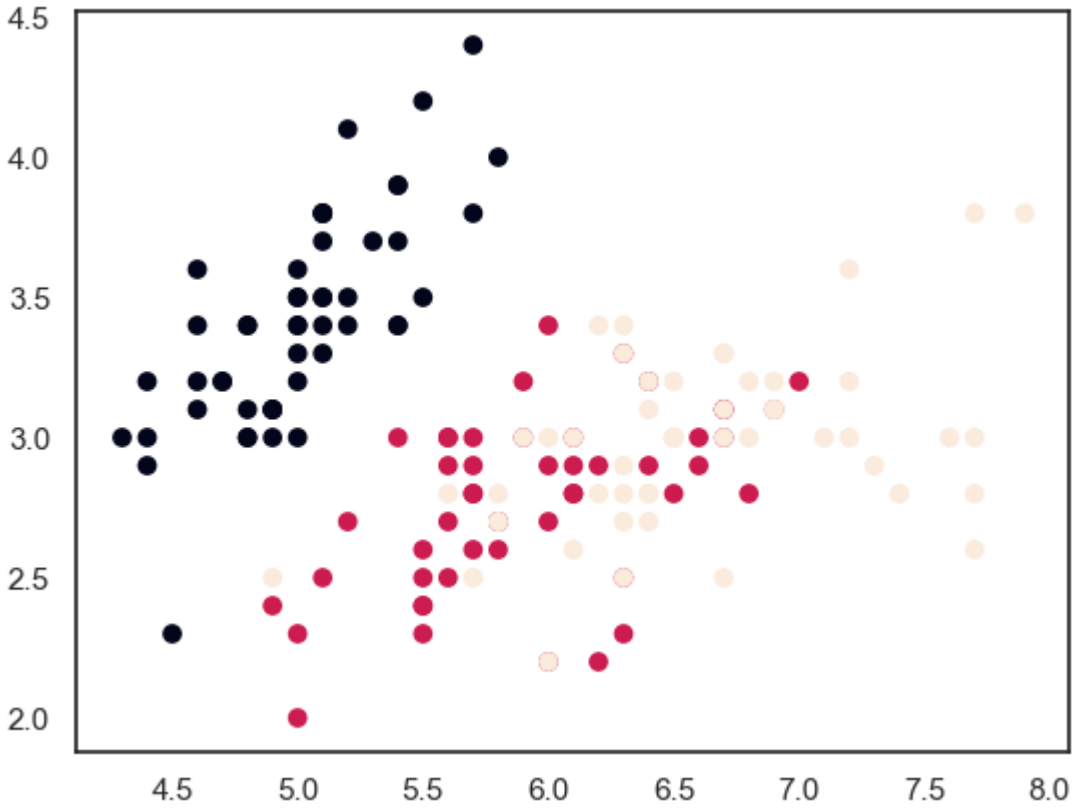
In [5]:
```
df['Species'] = pd.factorize(df['Species'])[0]
df.plot(kind='scatter', x='SepalLengthCm', y='SepalWidthCm', c='Species', colormap='vi
```

Out[5]:
```
<Axes: xlabel='SepalLengthCm', ylabel='SepalWidthCm'>
```



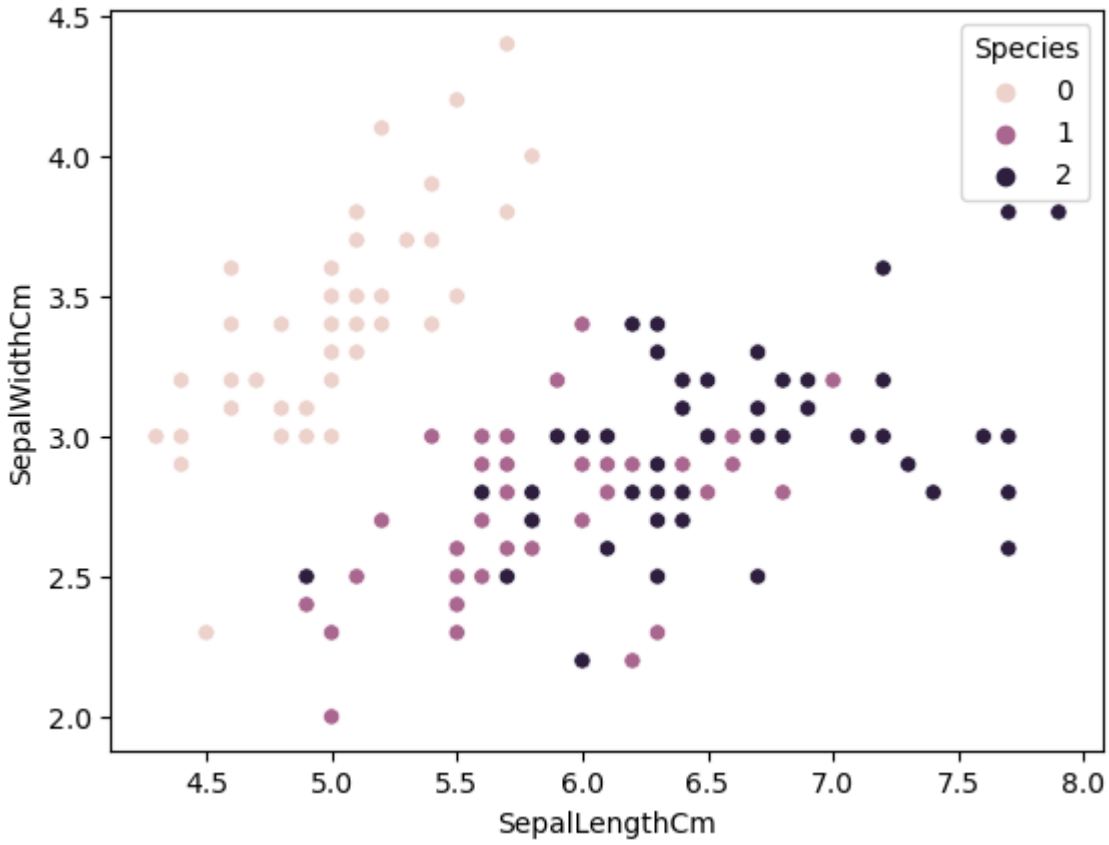
In [15]:
```
# Visualize with matplotlib
fig, ax = plt.subplots()
colors = {'Iris-setosa':'r', 'Iris-versicolor':'g', 'Iris-virginica':'b'}
ax.scatter(df['SepalLengthCm'], df['SepalWidthCm'], c=df['Species'])
```

Out[15]:
```
<matplotlib.collections.PathCollection at 0x168f15e86d0>
```



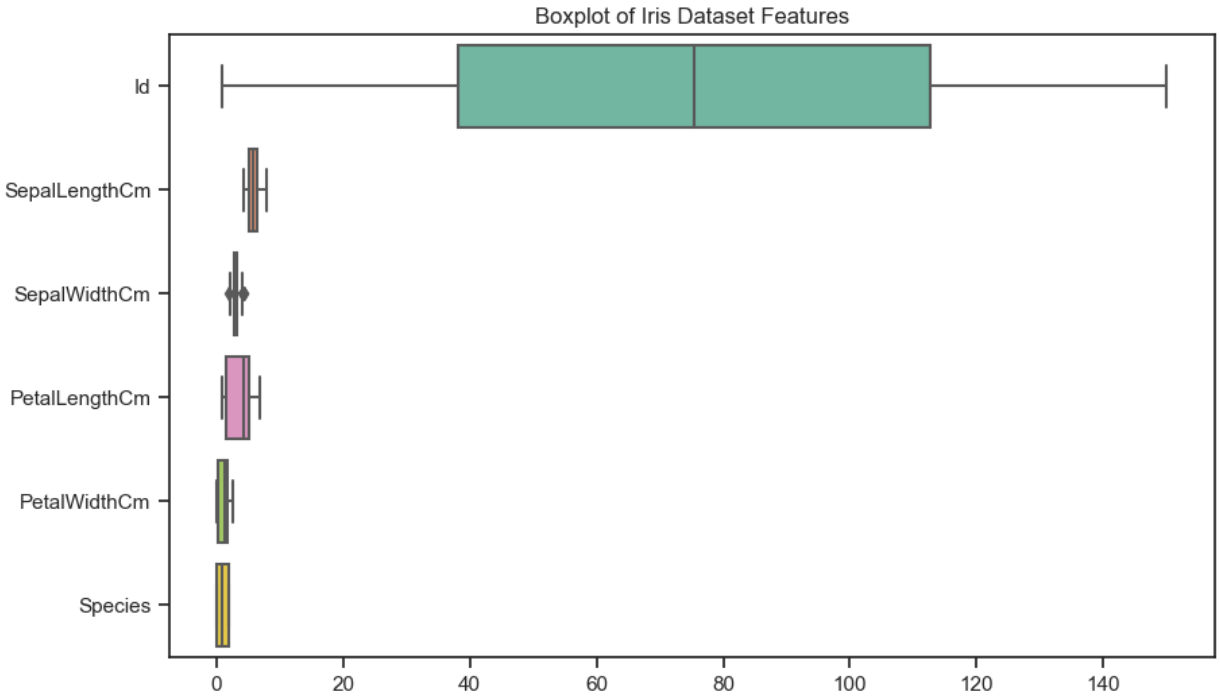
In [8]:
```
# Visualize with seaborn
sns.scatterplot(data=df, x='SepalLengthCm', y='SepalWidthCm', hue='Species')
```

Out[8]:
```
<Axes: xlabel='SepalLengthCm', ylabel='SepalWidthCm'>
```



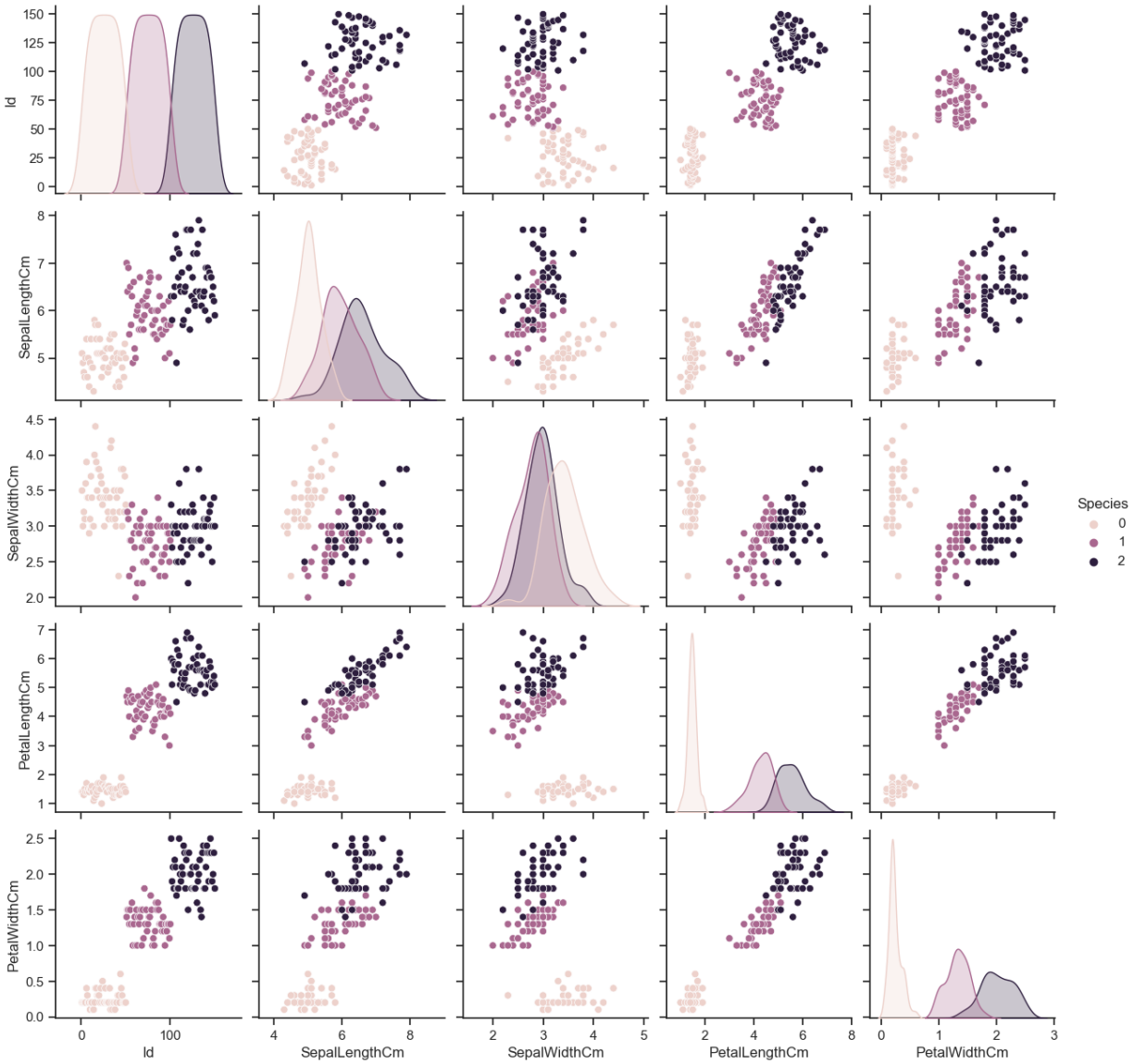
In [9]:
```
sns.set(style="ticks")

fig, ax = plt.subplots(figsize=(10, 6))
sns.boxplot(data=df, orient="h", palette="Set2")
plt.title("Boxplot of Iris Dataset Features")
plt.show()
```

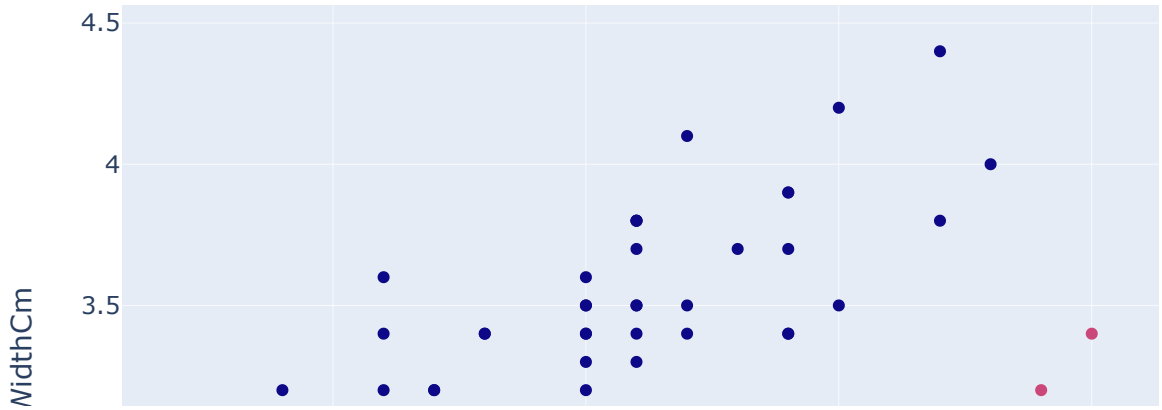


In [10]:
```
sns.set(style="ticks")

sns.pairplot(df, hue="Species", height=2.5)
plt.show()
```



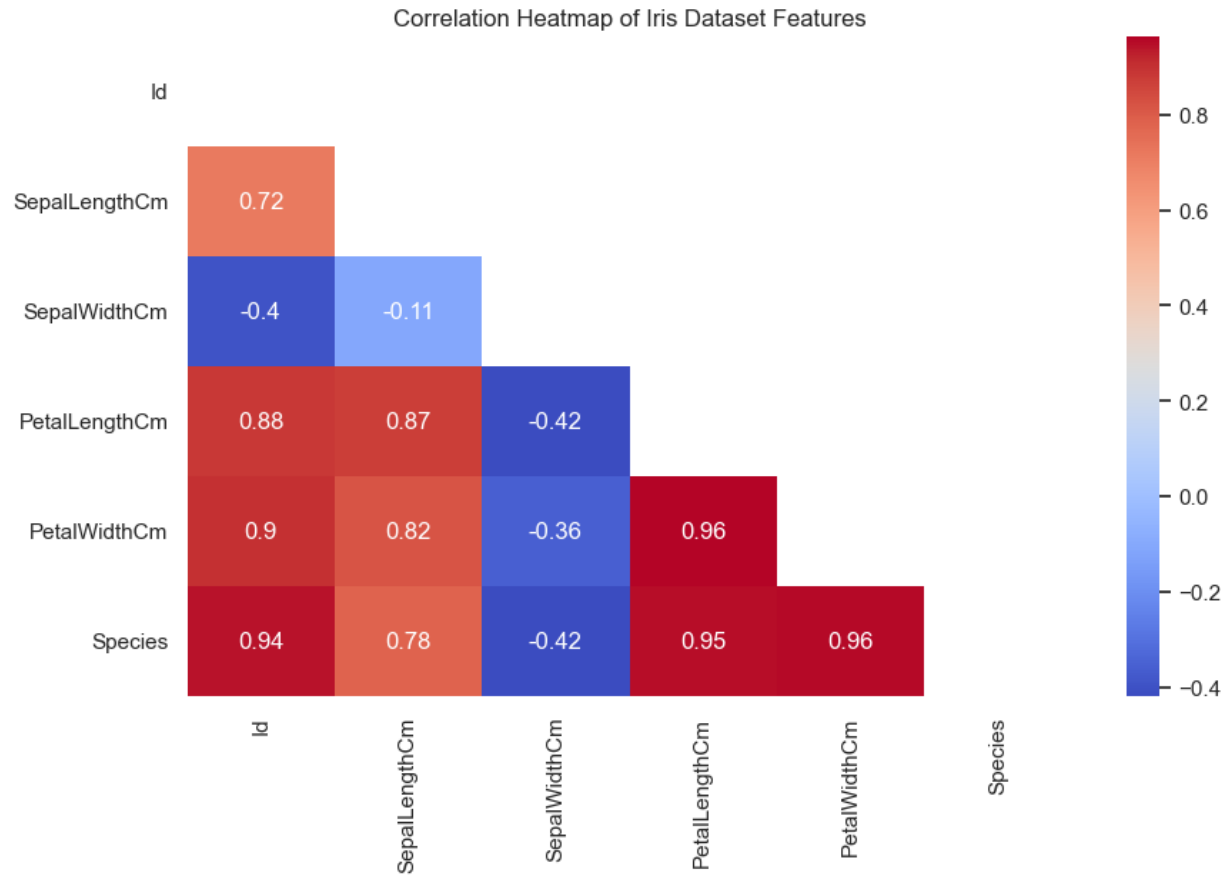
In [11]:
```
# Visualize with plotly
fig = px.scatter(df, x='SepalLengthCm', y='SepalWidthCm', color='Species')
fig.show()
```



In [12]:
```
sns.set(style="white")

corr = df.corr()
mask = np.triu(np.ones_like(corr, dtype=bool))

fig, ax = plt.subplots(figsize=(10, 6))
sns.heatmap(corr, mask=mask, cmap="coolwarm", annot=True)
plt.title("Correlation Heatmap of Iris Dataset Features")
plt.show()
```


Correlation Heatmap of Iris Dataset Features
Id
SepalLengthCm
SepalWidthCm
PetalLengthCm
PetalWidthCm
Species
0.72
-0.4
-0.11
0.88
0.87
-0.42
0.9
0.82
-0.36
0.96
0.94
0.78
-0.42
0.95
0.96
0.8
0.6
0.4
0.2
0.0
−0.2
−0.4

In [ ]: