```python
import pandas as pd
df = pd.read_csv('/content/Iris.csv')


df.head()
```

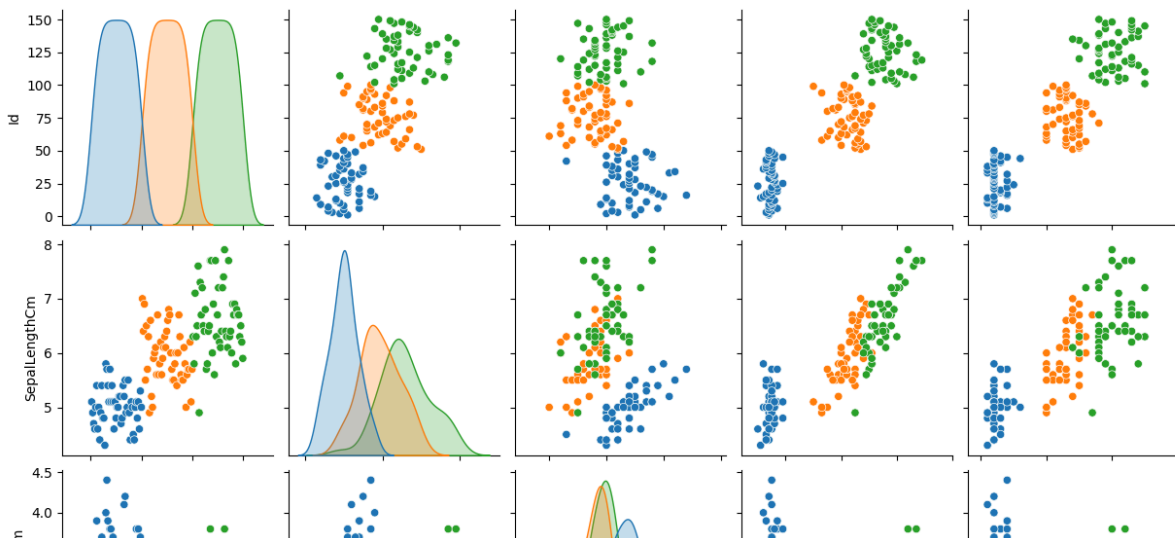|	Id	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm	Species
0	1	5.1	3.5	1.4	0.2	Iris-setosa
1	2	4.9	3.0	1.4	0.2	Iris-setosa
2	3	4.7	3.2	1.3	0.2	Iris-setosa
3	4	4.6	3.1	1.5	0.2	Iris-setosa
4	5	5.0	3.6	1.4	0.2	Iris-setosa

```python
import seaborn as sns
sns.pairplot(df, hue = 'Species')
```

<seaborn.axisgrid.PairGrid at 0x7edc667745b0>


```python
from sklearn.preprocessing import LabelEncoder
label_encoder = LabelEncoder()
labels = label_encoder.fit_transform(df['Species'])
df['Species'] = labels

X = df.iloc[:, 0:5]
Y = df.loc[:, 'Species']
print(Y)
```

```
→  0      0
   1      0
   2      0
   3      0
   4      0
          ..
   145    2
   146    2
   147    2
   148    2
   149    2
   Name: Species, Length: 150, dtype: int64
```

```python
from sklearn.model_selection import train_test_split
X_train, X_test, Y_train, Y_test = train_test_split(X,Y, test_size = 0.2, random_state = 0)

from sklearn.neighbors import KNeighborsClassifier
knn = KNeighborsClassifier(n_neighbors = 5)
knn.fit(X_train, Y_train)
```

```
→   ▾ KNeighborsClassifier
      KNeighborsClassifier()
```

```python
prediction = knn.predict(X_test)
from sklearn.metrics import accuracy_score
print(accuracy_score(Y_test, prediction))
```

```
→  1.0
```

```python
for item in prediction:
  if item ==  0:
    print({item}, 'Iris Setosa')
  elif item == 1:
    print({item} , 'Iris Versicolor')
  else:
    print({item}, 'Iris Virginica')
```

```
→  {2} Iris Virginica
   {1} Iris Versicolor
   {0} Iris Setosa
   {2} Iris Virginica
   {0} Iris Setosa
   {2} Iris Virginica
   {0} Iris Setosa
   {1} Iris Versicolor
   {1} Iris Versicolor
   {1} Iris Versicolor
   {2} Iris Virginica
   {1} Iris Versicolor
   {1} Iris Versicolor
   {1} Iris Versicolor
   {1} Iris Versicolor
   {0} Iris Setosa
```

```
{1} Iris Versicolor
{1} Iris Versicolor
{0} Iris Setosa
{0} Iris Setosa
{2} Iris Virginica
{1} Iris Versicolor
{0} Iris Setosa
{0} Iris Setosa
{2} Iris Virginica
{0} Iris Setosa
{0} Iris Setosa
{1} Iris Versicolor
{1} Iris Versicolor
{0} Iris Setosa
```