```
import seaborn as sns
import matplotlib.pyplot as plt
df=sns.load_dataset("Iris")

df
```

```
     sepal_length  sepal_width  petal_length  petal_width    species
0             5.1          3.5           1.4          0.2     setosa
1             4.9          3.0           1.4          0.2     setosa
2             4.7          3.2           1.3          0.2     setosa
3             4.6          3.1           1.5          0.2     setosa
4             5.0          3.6           1.4          0.2     setosa
..            ...          ...           ...          ...        ...
145           6.7          3.0           5.2          2.3  virginica
146           6.3          2.5           5.0          1.9  virginica
147           6.5          3.0           5.2          2.0  virginica
148           6.2          3.4           5.4          2.3  virginica
149           5.9          3.0           5.1          1.8  virginica

[150 rows x 5 columns]
```

```
df.head()
```

```
   sepal_length  sepal_width  petal_length  petal_width species
0           5.1          3.5           1.4          0.2  setosa
1           4.9          3.0           1.4          0.2  setosa
2           4.7          3.2           1.3          0.2  setosa
3           4.6          3.1           1.5          0.2  setosa
4           5.0          3.6           1.4          0.2  setosa
```

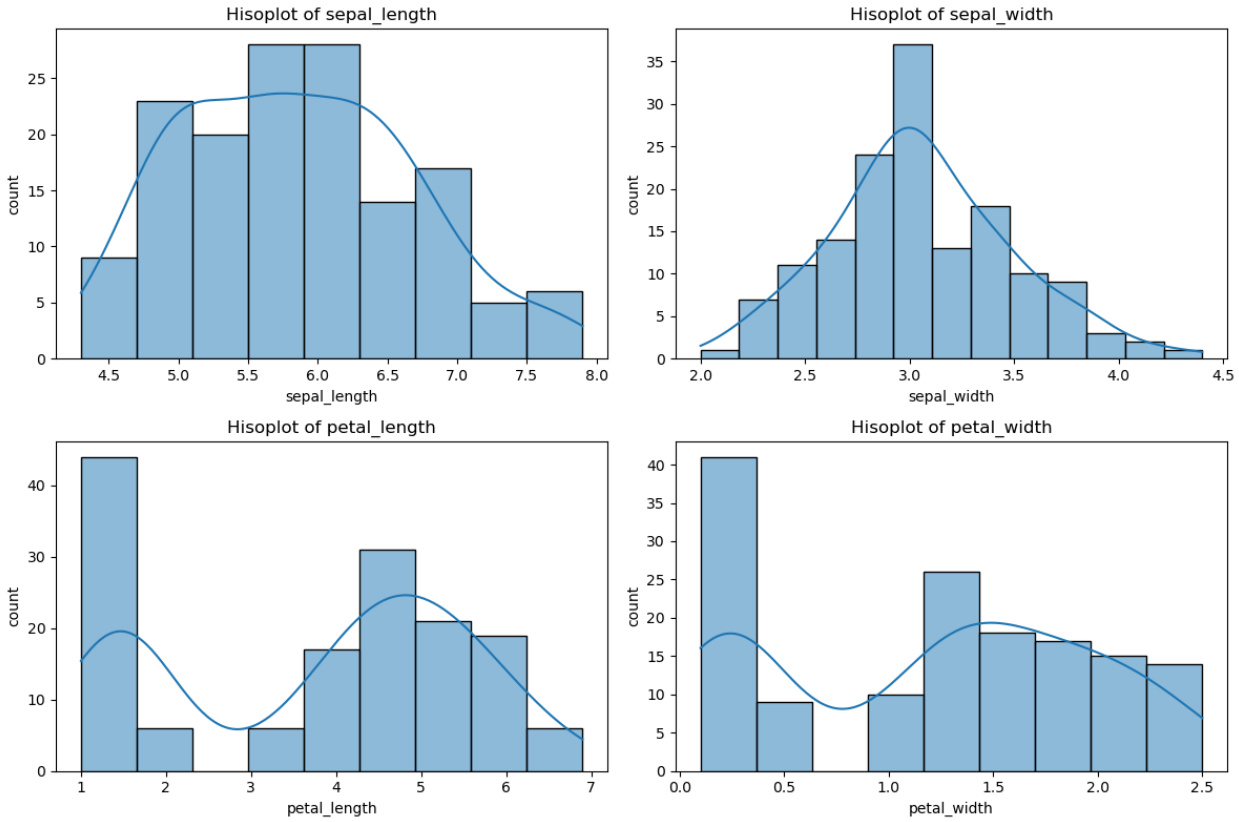
```
print("Feature and their types")
for column in df.columns:
    dtype=df[column].dtype
    if dtype in ['float64','int64']:
        print(f"{column}:numeric")

    elif dtype=='category':
       print(f"{column}:Nominal")
```

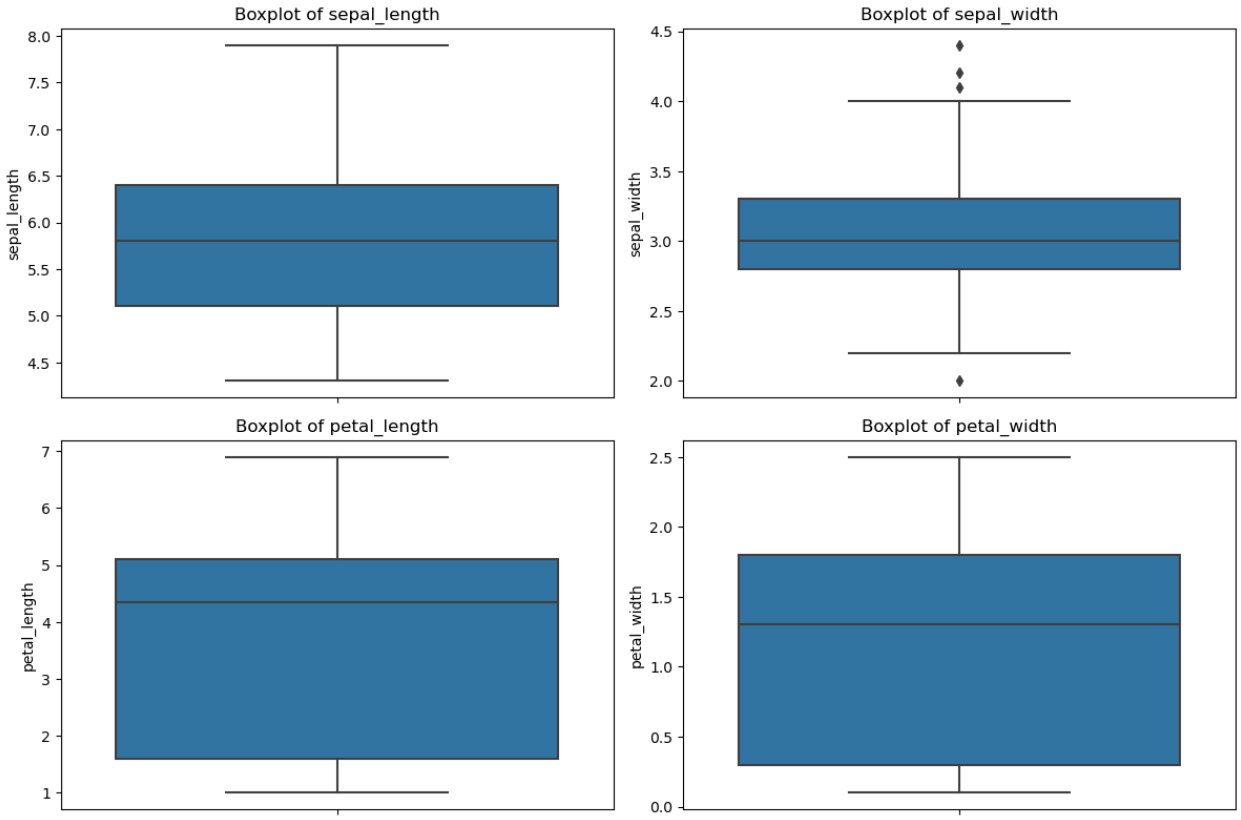
```
Feature and their types
sepal_length:numeric
sepal_width:numeric
petal_length:numeric
petal_width:numeric
```

```
plt.figure(figsize=(12,8))
for i,column in enumerate(df.columns[:-1],1):
    plt.subplot(2,2,i)
    sns.histplot(df[column],kde=True)
    plt.title(f'Hisoplot of {column}')
    plt.xlabel(column)
```

```
    plt.ylabel("count")
plt.tight_layout()
plt.savefig('iris_histograms.png')
plt.show()
```




```
plt.figure(figsize=(12,8))
for i, column in enumerate(df.columns[:-1],1):
    plt.subplot(2,2,i)
    sns.boxplot(y=df[column])
    plt.title(f'Boxplot of {column}')
    plt.ylabel(column)
plt.tight_layout()
plt.savefig('iris_boxplot.png')
plt.show()
```




```
for i,column in enumerate(df.columns[:-1],1):
    skewness=df[column].skew()
    kurtosis=df[column].kurt()
    print(f'\n{column}')

    if skewness>0:
        print('skewness is right')
    else:
        print('skewness is left')
    if kurtosis>0:
         print('peaked')
    else:
        print('Kurtosis:flat')
    q1=df[column].quantile(0.25)
    q3=df[column].quantile(0.75)
    iqr=q3-q1
    lowerboundary=q1-1.5*iqr
    upperboundary=q3+1.5*iqr

    print("IQR",iqr)
    print("Lower Boundary:",lowerboundary)
    print("Upper Boundary:",upperboundary)


sepal_length
```

```
skewness is right
Kurtosis:flat
IQR 1.3000000000000007
Lower Boundary: 3.1499999999999986
Upper Boundary: 8.350000000000001

sepal_width
skewness is right
peaked
IQR 0.5
Lower Boundary: 2.05
Upper Boundary: 4.05

petal_length
skewness is left
Kurtosis:flat
IQR 3.4999999999999996
Lower Boundary: -3.649999999999999
Upper Boundary: 10.349999999999998

petal_width
skewness is left
Kurtosis:flat
IQR 1.5
Lower Boundary: -1.95
Upper Boundary: 4.05
```