

Using the iris dataset (file on Learning Activities Page) create a summary data plot for the following:

1.Sepal length and width by species 2.Petal length and width by species

Iris Flower Data Set https://en.wikipedia.org/wiki/Iris_flower_data_set (https://en.wikipedia.org/wiki/Iris_flower_data_set)

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Iris data Set 1

```
In [35]: import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

sns.set(style="white", color_codes=True)

# read file for IRIS Data

iris = pd.read_csv('iris.csv')
print(iris)

print(iris.describe())
iris.info()

iris['species'].value_counts()

#Describe the data

iris.describe().plot(kind = "area",fontsize=28,figsize = (21,9),colormap="rainbow")
plt.xlabel('Statistics: ',)
plt.ylabel('Values: ')
plt.title("General Statistics of Iris Dataset: ")
```

```
iris.plot(subplots=True, layout=(2,2), sharex=False,sharey=False)
plt.show();

iris.hist()
plt.show();

# To generate a Scatterplot for Sepal_length and Sepal_width using pandas
iris.plot(kind="scatter",x="sepal_length" , y="sepal_width")

# Make change colors and size for display plot

iris.plot(kind="scatter",x="sepal_length",y="sepal_width",color="Red",s=90)
plt.show()

#Scatterplot for Petal_length and Petal_width using pandas
iris.plot(kind="scatter" , x="petal_length",y="petal_width")

# Please Find Below To generate a Boxplot
# 1.Sepal length and width by species

sns.boxplot(x="species", y="sepal_length", data=iris)
plt.show()

sns.boxplot(x="species", y="sepal_width", data=iris)
plt.show()

# 2.Petal length and width by species

sns.boxplot(x="species" , y="petal_length", data=iris)
plt.show()

sns.boxplot(x="species" , y="petal_width" , data=iris)
plt.show()

#Using Scatterplot in Seaborn
```

```

#1. Sepal length and width by species
#2. petal length and width by species

iris = sns.load_dataset('iris')
sns.lmplot( x="petal_length",y="petal_width",data=iris,hue='species',legend=False)
plt.legend(loc='lower left')
plt.show()

sns.jointplot(x="petal_length",y="petal_length",data=iris,size=9)
plt.show()

sns.jointplot("sepal_length", "sepal_width", data=iris, kind="reg")
plt.show()

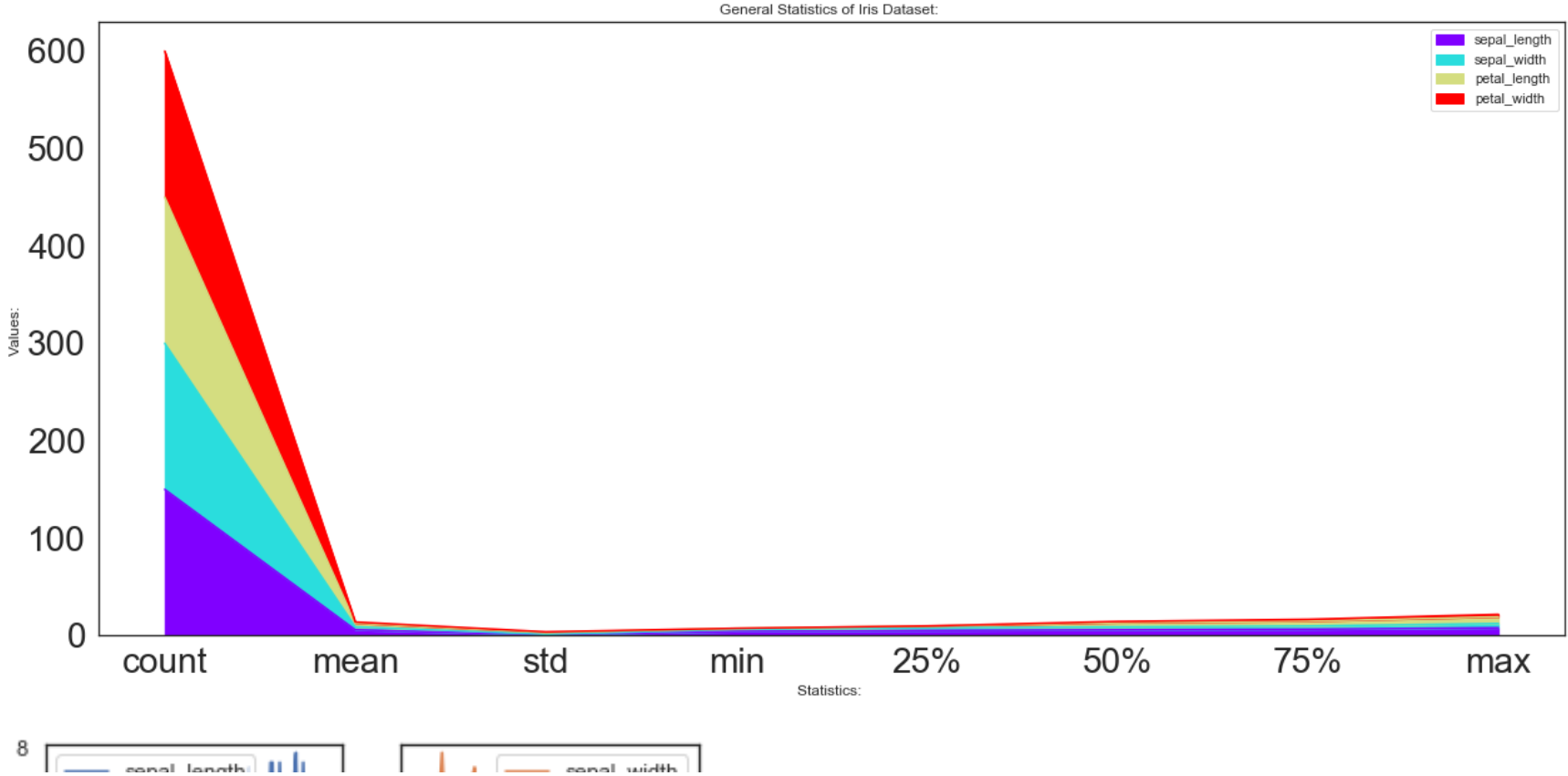
```

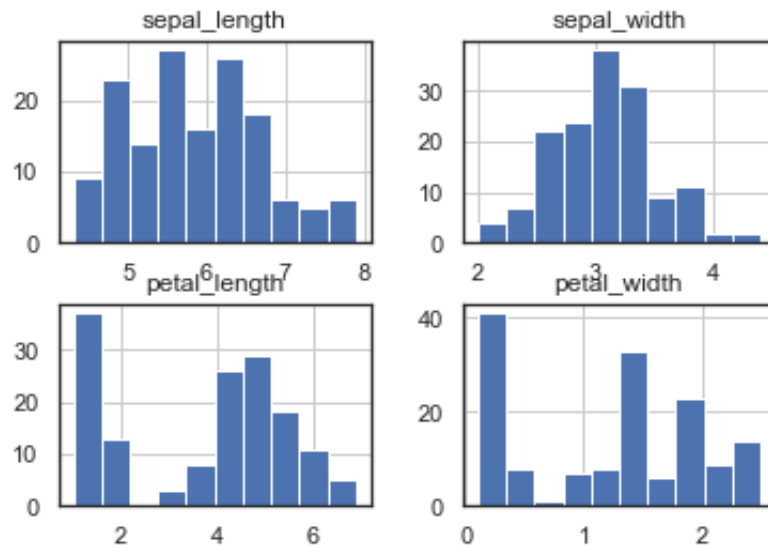
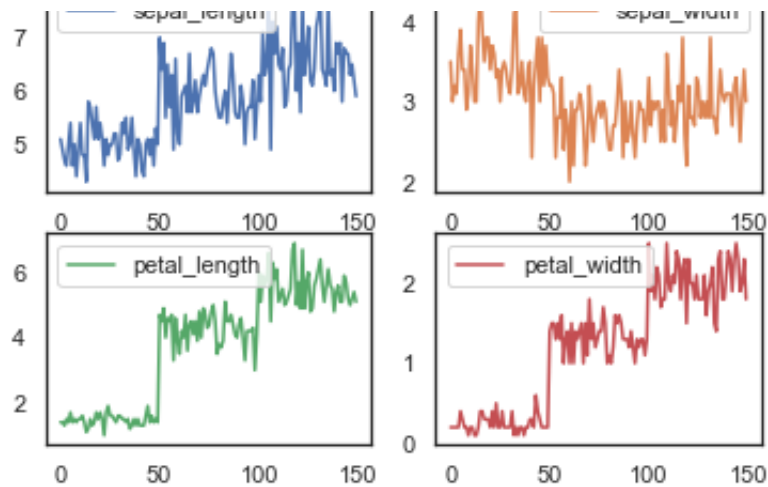
	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
..
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica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

[150 rows x 5 columns]

	sepal_length	sepal_width	petal_length	petal_width
count	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.054000	3.758667	1.198667
std	0.828066	0.433594	1.764420	0.763161
min	4.300000	2.000000	1.000000	0.100000
25%	5.100000	2.800000	1.600000	0.300000
50%	5.800000	3.000000	4.350000	1.300000
75%	6.400000	3.300000	5.100000	1.800000

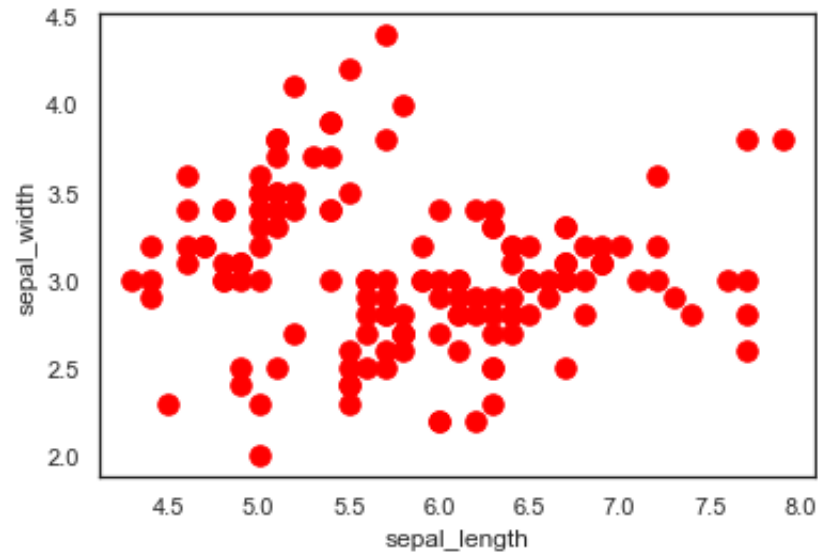
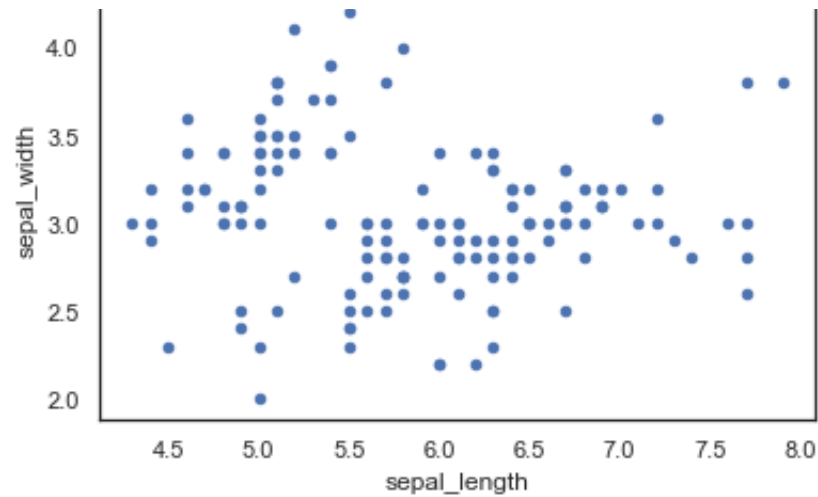
```
max      7.900000      4.400000      6.900000      2.500000
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
#   Column      Non-Null Count  Dtype
---  -
0   sepal_length 150 non-null    float64
1   sepal_width  150 non-null    float64
2   petal_length 150 non-null    float64
3   petal_width  150 non-null    float64
4   species      150 non-null    object
dtypes: float64(4), object(1)
memory usage: 6.0+ KB
```





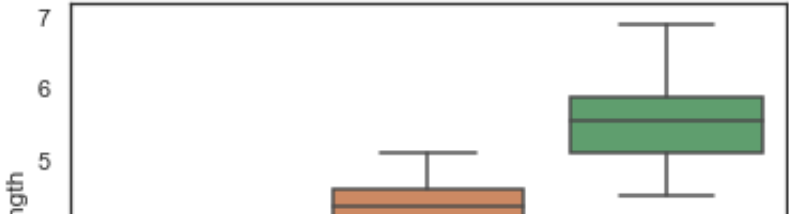
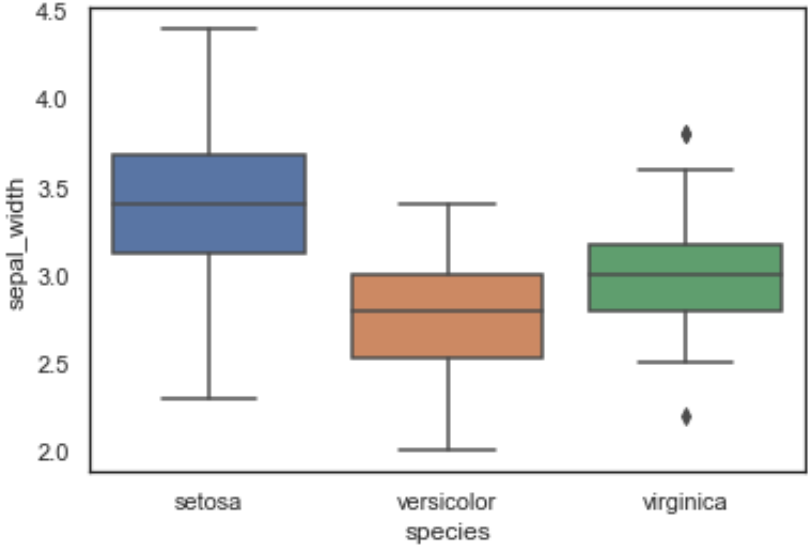
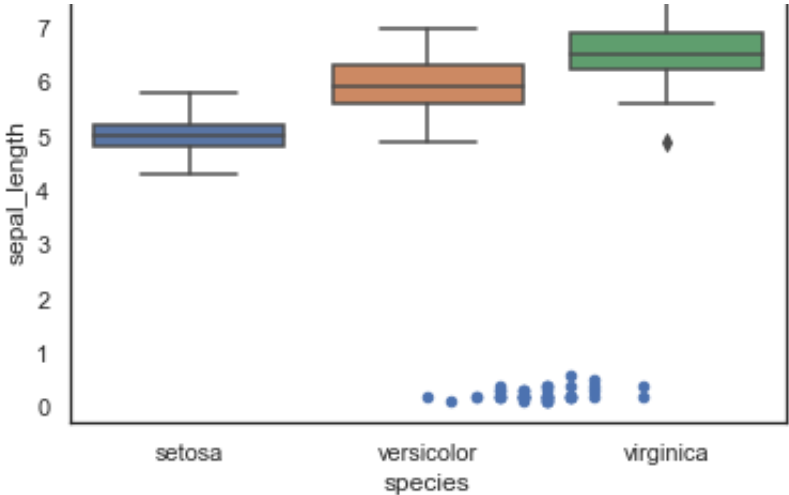
c argument looks like a single numeric RGB or RGBA sequence, which should be avoided as value-mapping will have precedence in case its length matches with *x* & *y*. Please use the *color* keyword-argument or provide a 2-D array with a single row if you intend to specify the same RGB or RGBA value for all points.

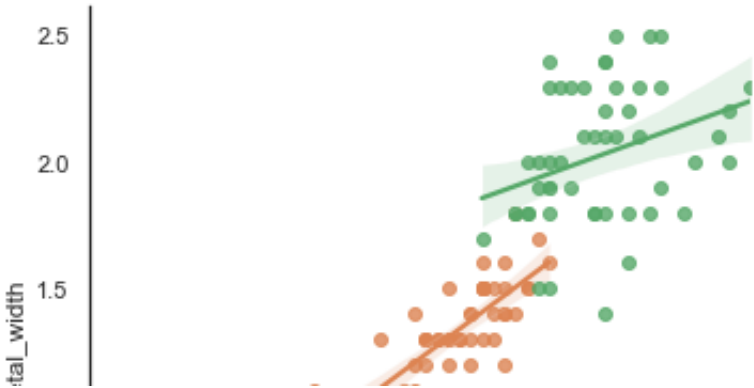
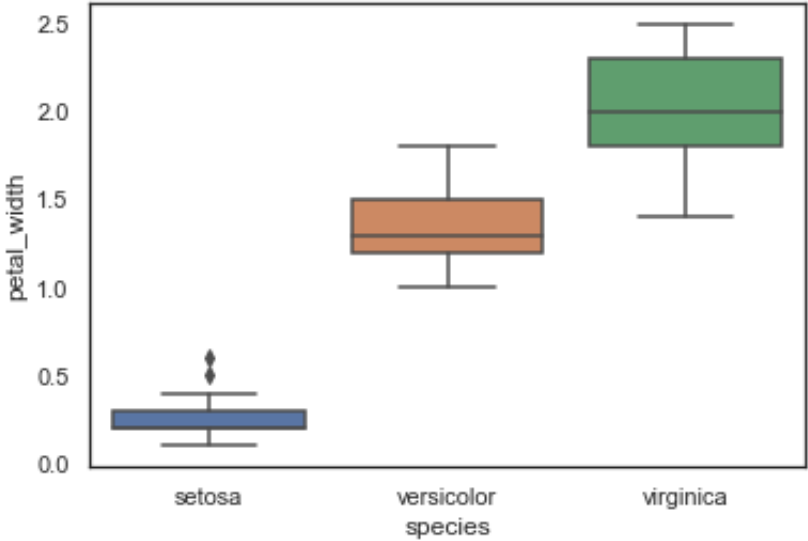


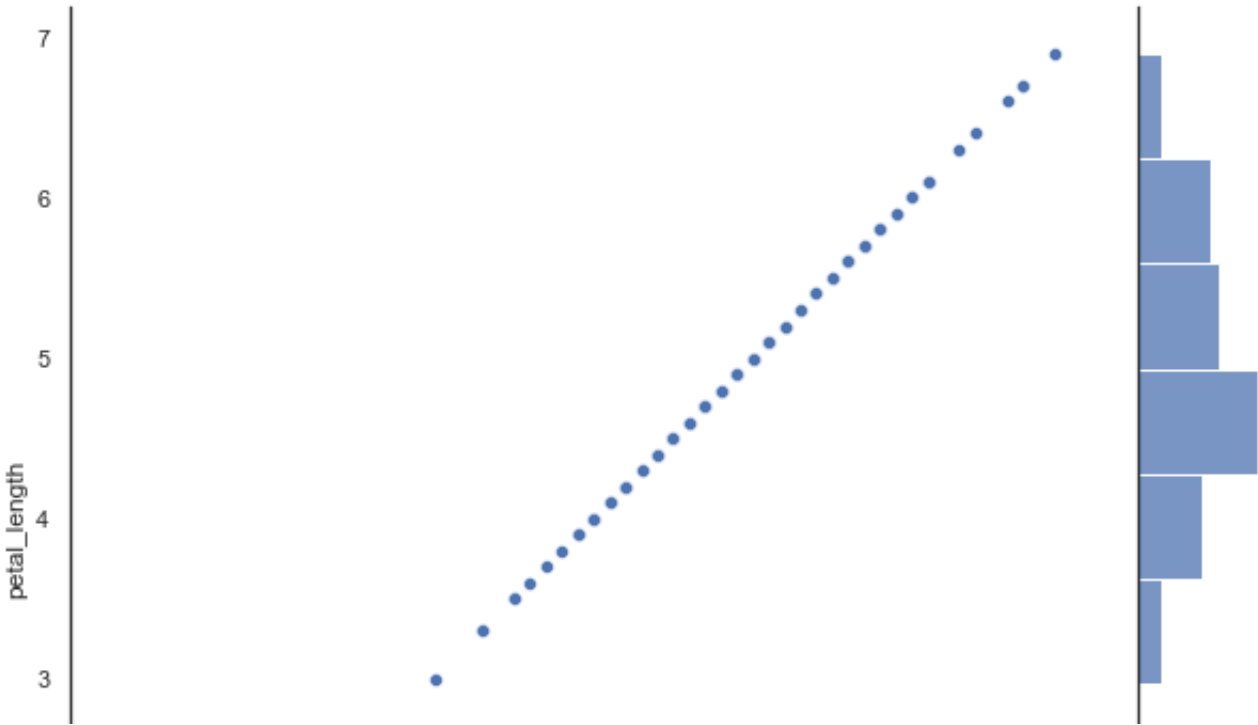
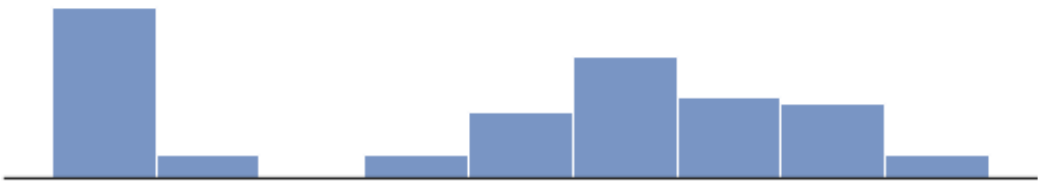
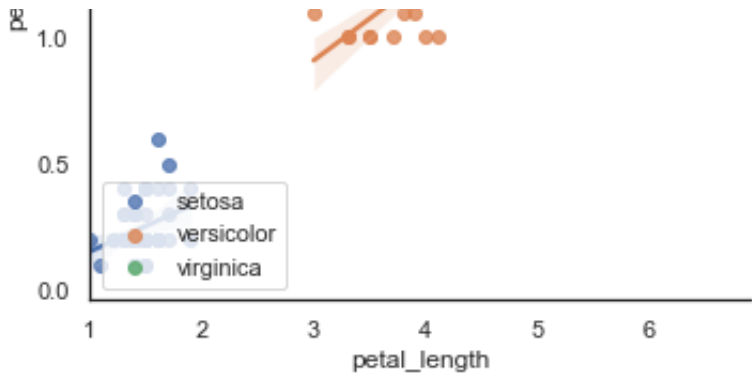


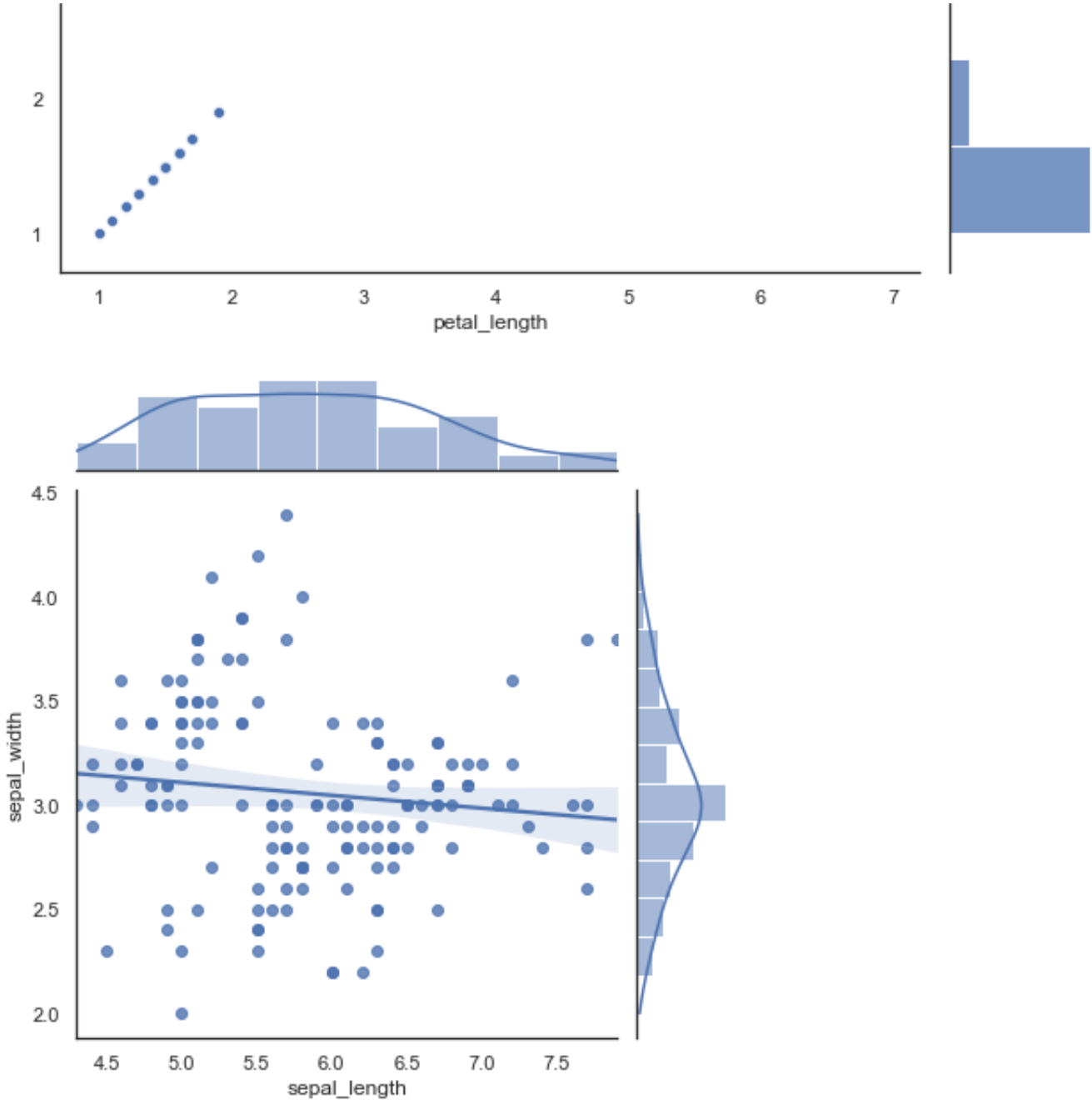
`*c*` argument looks like a single numeric RGB or RGBA sequence, which should be avoided as value-mapping will have precedence in case its length matches with `*x*` & `*y*`. Please use the `*color*` keyword-argument or provide a 2-D array with a single row if you intend to specify the same RGB or RGBA value for all points.

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Summary

```
In [32]: # According to our plot, the medians are vary  
# and we can see that the sepal is are longer  
# than the petal length in according to  
# sepal_length_width and petal_length_width.
```

```
In [ ]:
```