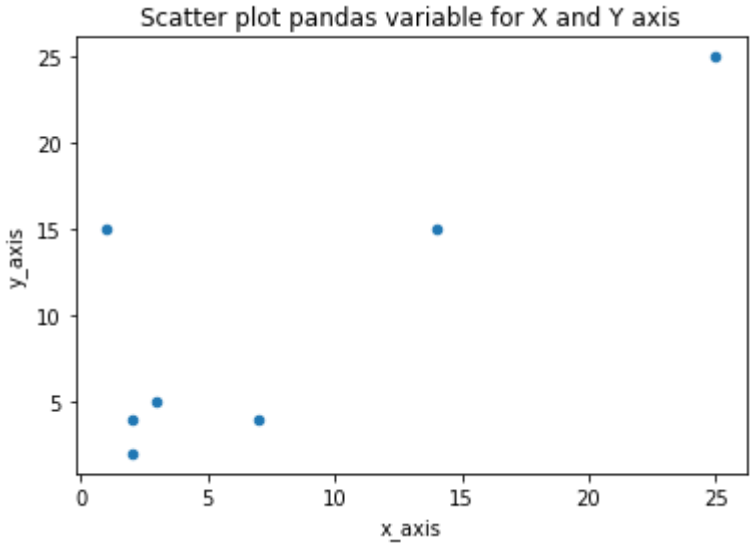
In [2]:

```
import numpy as np
a1=np.array([1,2,3,4])
print(a1)
```

```
[1 2 3 4]
```

In [45]:

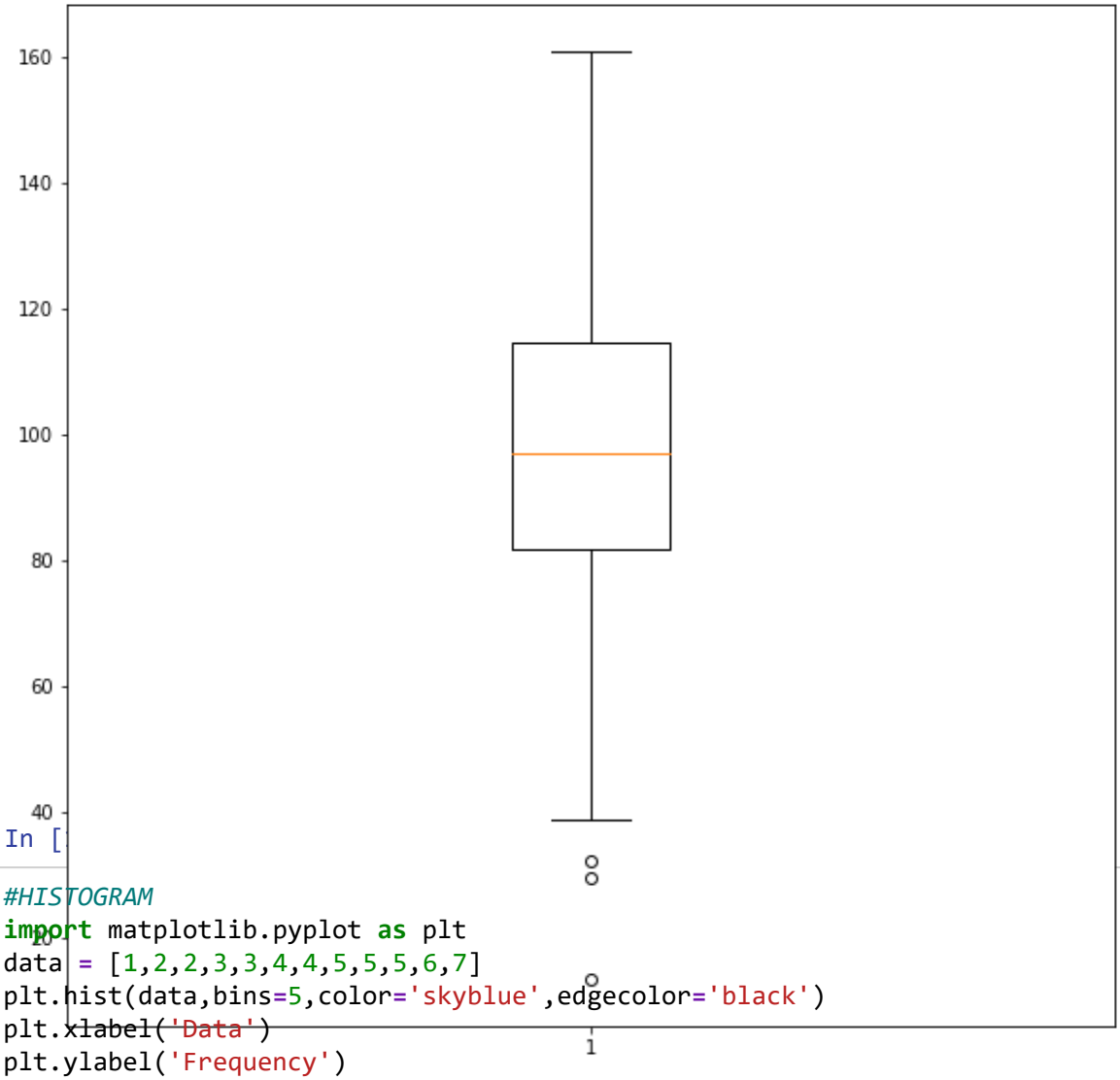
```
#SCATTER PLOT
import pandas as pd
import matplotlib.pyplot as plot
data_value = [(3, 5),(25, 25),(7, 4),(14, 15),(2, 2),(2, 4),(1, 15)]
dataFrame = pd.DataFrame(data = data_value, columns = ['x_axis', 'y_axis']);
dataFrame.plot.scatter(x = 'x_axis', y = 'y_axis', title = "Scatter plot pandas variable
plot.show();
```



In [23]:

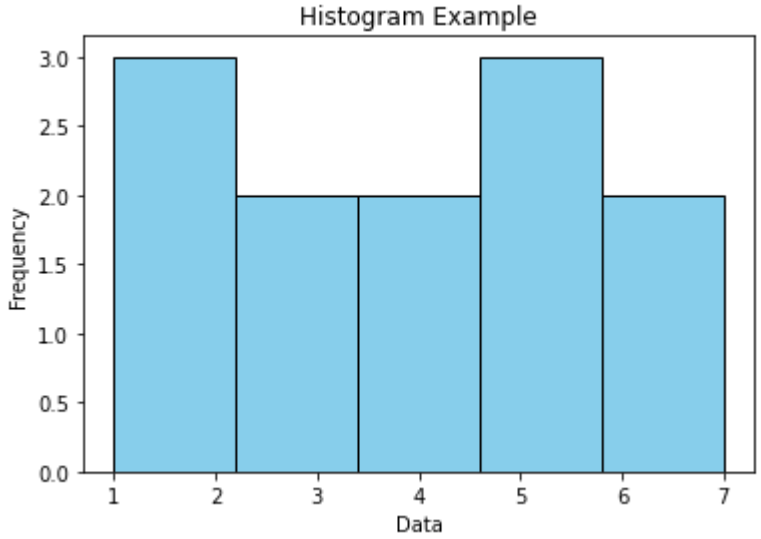
```
#BOX PLOT
import matplotlib.pyplot as plt
import numpy as np
np.random.seed(15)
dataSet = np.random.normal(100,25,200)
print(dataSet)
figure = plt.figure(figsize =(10,1))
plt.boxplot(dataSet)
plt.show()
```

```
[ 92.19178796 108.48211765  96.10228665  87.45525817 105.88922229
  55.90986858  72.6034489   72.80585646  92.3707487   88.1562907
  94.98513654 108.87991933 117.23794308 110.26474188  85.87553907
 114.98476725  95.92659237 140.00536256 117.04068011 100.37200253
  97.8055092   75.44705399 103.04226196  71.56406785 108.72506445
  53.53717098  70.82045285 135.62242075 137.41413406 132.24830139
  54.70636832  62.54231975  63.74641955  57.65232597 105.68160069
  87.75663223  99.98678734  87.74368458  80.16976446 151.22246908
 115.07963596  75.04494805 130.37603877  83.31208772  93.18735557
 135.41936202  80.43477606  93.74198257  92.29213846 143.24220075
 149.45680921 105.4922008  147.37049624  65.79751408  95.21736535
 132.18143833  93.8279014  108.56377706 105.56792605 117.03984264
 106.28622213  62.95377654  90.32945562  81.65798223 114.64945514
  56.60528101  79.3326197  129.59585574 108.87615111 161.07124787
  99.07686329  32.20714866 124.78724083 104.80606925  91.18018436
  66.51192932  95.28318534 114.91466617 108.51136205 102.0856336
 115.14980306 104.22343037  74.02771872 107.1309521  112.55978464
 148.34687455 101.20812195  73.70578273 129.16455966 118.38667938
  85.92175168  69.67479514 138.70320401  57.55311652  84.2051761
 107.15916508  73.80069834  95.33874434 112.43887223  89.88744502
  67.89738345  84.64357244  97.30326551 128.34058018  74.09384286
 137.7839358   78.29315533 134.80576506 154.37732885 132.47553033
  95.29796595 141.72558178 128.86435534 112.04505989  95.54907036
  90.34542164  96.74814278 158.99058932 112.9249928  111.03386674
  88.10688631 108.20957485  92.92986165  81.99452638 102.21147169
  88.18710846 103.24929912  97.32915535  82.39242987 112.92943743
 114.52115531  29.45519874  93.75956455  95.57265608  93.59160419
 131.78786683 102.02446007  89.55148216  80.82626142 115.78915266
  59.33883121  92.14936818  84.61319698  90.0253933   92.03590116
  70.47923884  70.67890759  98.69198547  78.84540275 135.3622987
 108.39633784  72.17848771 112.82765367  94.29203091 105.84468414
 138.53984177 122.96685739  77.1607719  112.56120292  89.29839782
 125.57530233  99.19448782  60.14245391  13.34350697  83.05348278
  79.2932265   80.27145406 154.3407693  102.922837   121.73024693
  76.20068871 116.39596557  86.14937884  60.70961411  91.87649956
  98.64221006  72.85996776 135.74855939 101.2670849   61.33703557
  38.63103471 119.03368284 119.77888939 115.96879491  76.93286545
  77.45094879 114.68438833  89.71494569 100.12671847 117.00184588
 128.07256991  80.81457043  96.21736343 106.72045219  84.85852151
 124.53939886  74.06766392 111.8435628   89.51934568 132.26284681]
```



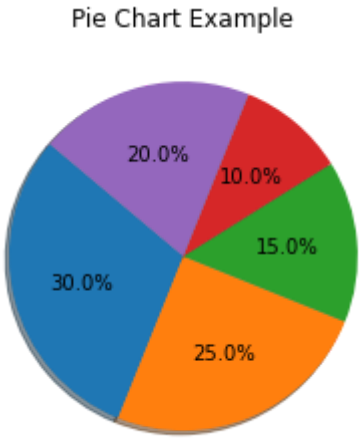
In [

```
#HISTOGRAM
import matplotlib.pyplot as plt
data = [1,2,2,3,3,4,4,5,5,5,6,7]
plt.hist(data,bins=5,color='skyblue',edgecolor='black')
plt.xlabel('Data')
plt.ylabel('Frequency')
plt.title('Histogram Example')
plt.show()
```



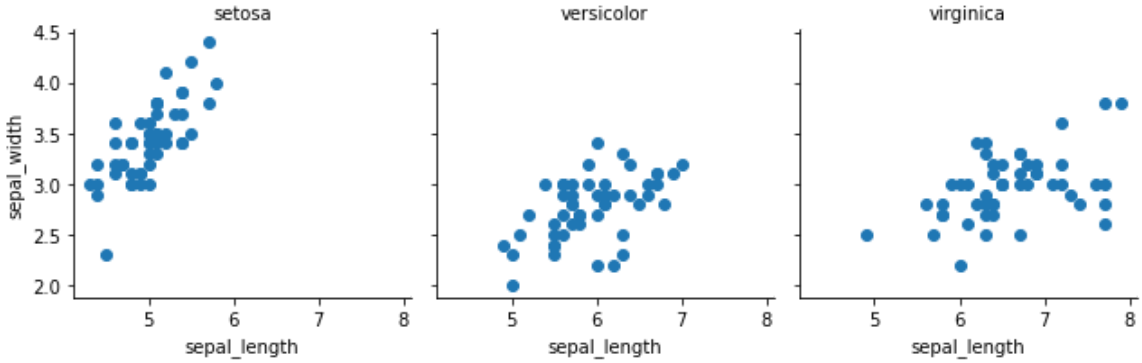
In [25]:

```
#PIE CHART
import matplotlib.pyplot as plt
data = [30, 25, 15, 10, 20]
labels = ['Category A', 'Category B', 'Category C', 'Category D', 'Category E']
colors = ['red', 'blue', 'green', 'orange', 'purple']
plt.pie(data,autopct='%1.1f%%', shadow=True, startangle=140)
plt.title('Pie Chart Example')
plt.show()
```



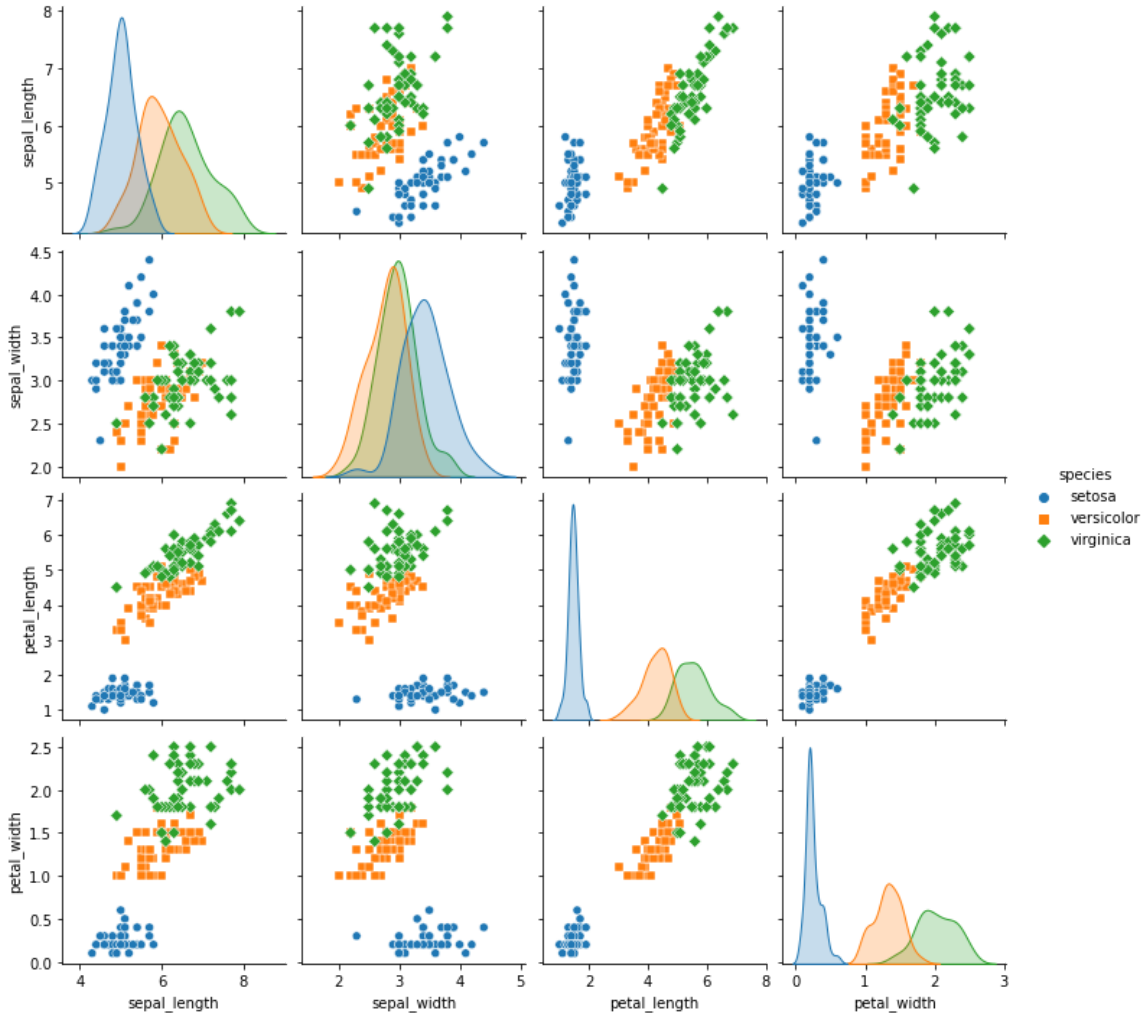
In [26]:

```
#FACET PLOT
import seaborn as sns
import matplotlib.pyplot as plt
data = sns.load_dataset("iris")
g = sns.FacetGrid(data, col="species")
g.map(plt.scatter, "sepal_length", "sepal_width")
g.set_titles("{col_name}")
plt.show()
```



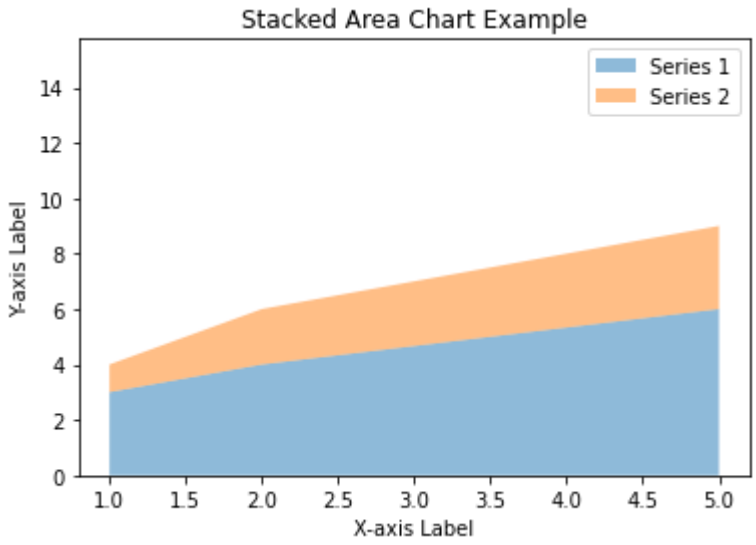
In [30]:

```
#PAIR PLOT
import seaborn as sns
import matplotlib.pyplot as plt
data = sns.load_dataset("iris")
sns.pairplot(data,hue="species",markers=["o", "s", "D"])
plt.show()
```



In [50]:

```
#AREA PLOT
import matplotlib.pyplot as plt
x_data = [1,2,5,5,5]
y_data1 = [3,4,6,8,10]
y_data2 = [1,2,3,4,5]
plt.stackplot(x_data,y_data1,y_data2,labels=['Series 1','Series 2'],alpha=0.5)
plt.xlabel('X-axis Label')
plt.ylabel('Y-axis Label')
plt.title('Stacked Area Chart Example')
plt.legend()
plt.show()
```

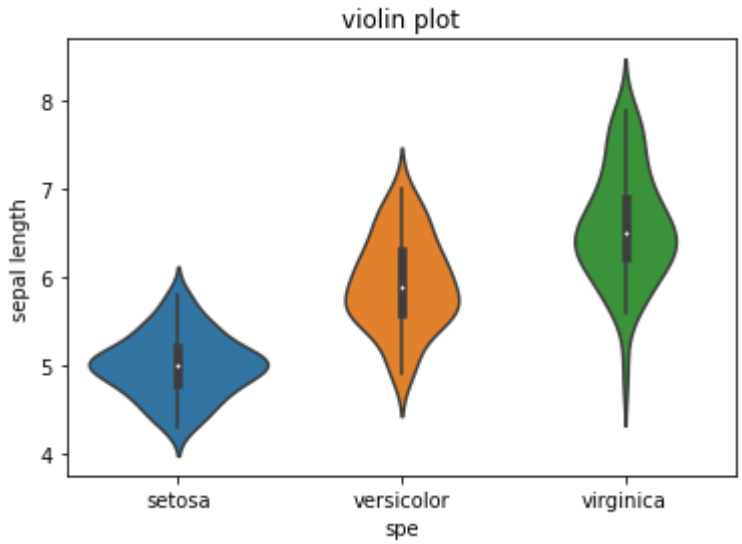


In [42]:

```
import matplotlib.pyplot as plt
data=sns.load_dataset("iris")
sns.violinplot(x="species",y="sepal_length",data=data,palatte="muted")
plt.xlabel('spe')
plt.ylabel('sepal length')
plt.title('violin plot')
```

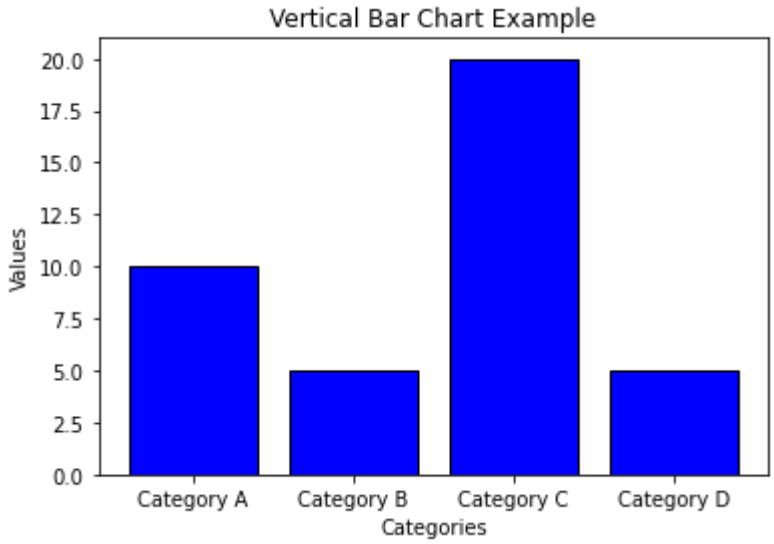
Out[42]:

```
Text(0.5, 1.0, 'violin plot')
```



In [44]:

```
#BAR CHART
import matplotlib.pyplot as plt
categories = ['Category A', 'Category B', 'Category C', 'Category D']
values = [10,5,20, 5]
plt.bar(categories, values, color='blue', edgecolor='black')
plt.xlabel('Categories')
plt.ylabel('Values')
plt.title('Vertical Bar Chart Example')
plt.show()
```



In [52]:

```
import pandas as pd
import matplotlib.pyplot as plt
df = pd.read_csv('car data.csv')
df.head()
```

Out[52]:

	Car_Name	Year	Selling_Price	Present_Price	Kms_Driven	Fuel_Type	Seller_Type	Transn
0	ritz	2014	3.35	5.59	27000	Petrol	Dealer	
1	sx4	2013	4.75	9.54	43000	Diesel	Dealer	
2	ciaz	2017	7.25	9.85	6900	Petrol	Dealer	
3	wagon r	2011	2.85	4.15	5200	Petrol	Dealer	
4	swift	2014	4.60	6.87	42450	Diesel	Dealer	

In [51]:

```
!pip install plotly
```

```
Collecting plotly
  Using cached plotly-5.16.1-py2.py3-none-any.whl (15.6 MB)
Requirement already satisfied: packaging in c:\programdata\anaconda3\lib\s
ite-packages (from plotly) (21.0)
Collecting tenacity>=6.2.0
  Using cached tenacity-8.2.3-py3-none-any.whl (24 kB)
Requirement already satisfied: pyparsing>=2.0.2 in c:\programdata\anaconda
3\lib\site-packages (from packaging->plotly) (3.0.4)
Installing collected packages: tenacity, plotly
Successfully installed plotly-5.16.1 tenacity-8.2.3
Note: you may need to restart the kernel to use updated packages.
```

In [ ]:

```

```