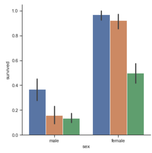
Data Visualization

- ploting different data Sets

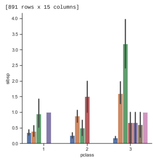
In [1]:
```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks", color_codes= True)

titanic = sns.load_dataset("titanic")
sns.catplot(x="sex", y="survived", hue="class", kind="bar", data=titanic)
plt.show()
```



Code Adoptation

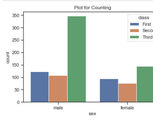
In [13]:
```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks", color_codes= True)

titanic = sns.load_dataset("titanic")
print(titanic)
sns.catplot(x="pclass", y="sibsp", hue="parch", kind="bar", data=titanic)
plt.show()
```

```
     survived  pclass     sex   age  sibsp  parch     fare embarked   class  \
0           0       3    male  22.0      1      0   7.2500        S   Third
1           1       1  female  38.0      1      0  71.2833        C   First
2           1       3  female  26.0      0      0   7.9250        S   Third
3           1       1  female  35.0      1      0  53.1000        S   First
4           0       3    male  35.0      0      0   8.0500        S   Third
..        ...     ...     ...   ...    ...    ...      ...      ...     ...
886         0       2    male  27.0      0      0  13.0000        S  Second
887         1       1  female  19.0      0      0  30.0000        S   First
888         0       3  female   NaN      1      2  23.4500        S   Third
889         1       1    male  26.0      0      0  30.0000        C   First
890         0       3    male  32.0      0      0   7.7500        Q   Third

     who  adult_male deck  embark_town alive  alone
0    man        True  NaN  Southampton    no  False
1  woman       False    C    Cherbourg   yes  False
2  woman       False  NaN  Southampton   yes   True
3  woman       False    C  Southampton   yes  False
4    man        True  NaN  Southampton    no   True
..   ...         ...  ...          ...   ...    ...
886  man        True  NaN  Southampton    no   True
887  woman     False    B  Southampton   yes   True
888  woman     False  NaN  Southampton    no  False
889    man        True    C    Cherbourg   yes   True
890    man        True  NaN   Queenstown    no   True

[891 rows x 15 columns]
```



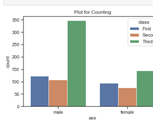
Plot-2

In [2]:
```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks", color_codes= True)

titanic = sns.load_dataset("titanic")
p1= sns.countplot(x="sex",  hue="class", data=titanic)
p1.set_title("Plot for Counting")
plt.show()
```

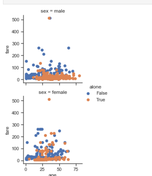


Scattered Plots

In [3]:
```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks", color_codes= True)

titanic = sns.load_dataset("titanic")
p1= sns.countplot(x="sex",  hue="class", data=titanic)
p1.set_title("Plot for Counting")
plt.show()
```



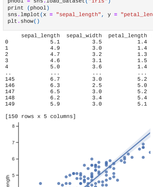
In [4]:
```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks", color_codes= True)

titanic = sns.load_dataset("titanic")
p2= sns.FacetGrid(titanic, row="sex",  hue="alone")
p2=(p2.map(plt.scatter, "age", "fare").add_legend())
plt.show()
```



Line plot:

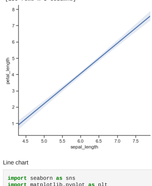
In [5]:
```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks", color_codes= True)
phool = sns.load_dataset("iris")
print (phool)
sns.lmplot(x = "sepal_length", y = "petal_length", data = phool, scatter = True)
plt.show()
```

```
     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]
```



In [6]:
```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks", color_codes= True)
phool = sns.load_dataset("iris")
print (phool)
sns.lmplot(x = "sepal_length", y = "petal_length", data = phool, scatter = False)
plt.show()
```

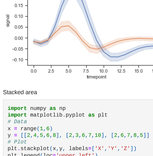
```
     sepal_length  sepal_width  petal_length  petal_width    species
0             5.1          3.5           1.4          0.2     setosa
1             4.9          3.0           1.4          0.2     setosa
2             4.7          3.2           1.3          0.2     setosa
3             4.6          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]
```



Line chart

In [7]:
```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks", color_codes= True)
fmri = sns.load_dataset("fmri")
print (fmri)
sns.lineplot(x="timepoint", y="signal", hue="event", data=fmri)
plt.show()
```

```
     subject  timepoint event    region    signal
0        s13         18  stim  parietal -0.017552
1         s5         14  stim  parietal -0.080883
2        s12         18  stim  parietal -0.081033
3        s11         18  stim  parietal -0.046134
4        s10         18  stim  parietal -0.037970
...      ...        ...   ...       ...       ...
1059     s10          0   cue   frontal  0.018165
1060     s12          7   cue   frontal -0.029130
1061     s13          7   cue   frontal -0.004939
1062     s11          7   cue   frontal -0.025367
1063     s9           0   cue   parietal -0.006899

[1064 rows x 5 columns]
```



Stacked area

In [10]:
```
import numpy as np
import matplotlib.pyplot as plt
# data
x = range(1,6)
y = [[2,4,5,6,8], [2,3,6,7,10], [2,6,7,8,5]]
# Plot
plt.stackplot(x,y, labels=['X','Y','Z'])
plt.legend(loc='upper left')
plt.show()
```