# Calculate BMI

## input height

## input weight

## input name

In [1]:
```
height= input("what is your height : ")
```

```
what is your height : 1.74
```

In [2]:
```
height= float(height)
```

In [3]:
```
weight= input("what is your weight : ")
```

```
what is your weight : 70
```

In [4]:
```
weight= float(weight)
```

In [5]:
```
name= input("What is your name? ")
```

```
What is your name? Hassan
```

In [6]:
```
BMI = weight/height**2
BMI
```

Out[6]:
```
23.120623596247853
```

In [8]:
```
print("My name is ", name ,"My BMI is ",BMI)
```

```
My name is  Hassan My BMI is  23.120623596247853
```

# Again BMI

In [9]:
```
height = input("What is your height ")
```

```
What is your height 1.80
```

In [14]:
```
height=float(height)
```

In [10]:
```
Weight = input("What is your Weight ")
```

```
What is your Weight 75
```

In [13]:
```
weight=float(weight)
```

In [11]:
```
name = input("What is your name ")
```

```
What is your name Hassan
```

In [15]:
```
BMI= weight/height**2
BMI
```

Out[15]:
```
21.604938271604937
```

In [16]:
```
print("My name is ", name ,"My BMI is ",BMI)
```

```
My name is  Hassan My BMI is  21.604938271604937
```

# Work like an artist or be a CopyCAT //use open source codes

# Python basic pakages or libraries

## scientific computing

- numpy: for matrices & array
- scipy: for optimization and solving differential equations
- pandas: for datastructure & tools 2D dataframes

# data visualization

- metaplotlib: for ploting graph and fig
- seaborn: for heat maps,time series & other plots

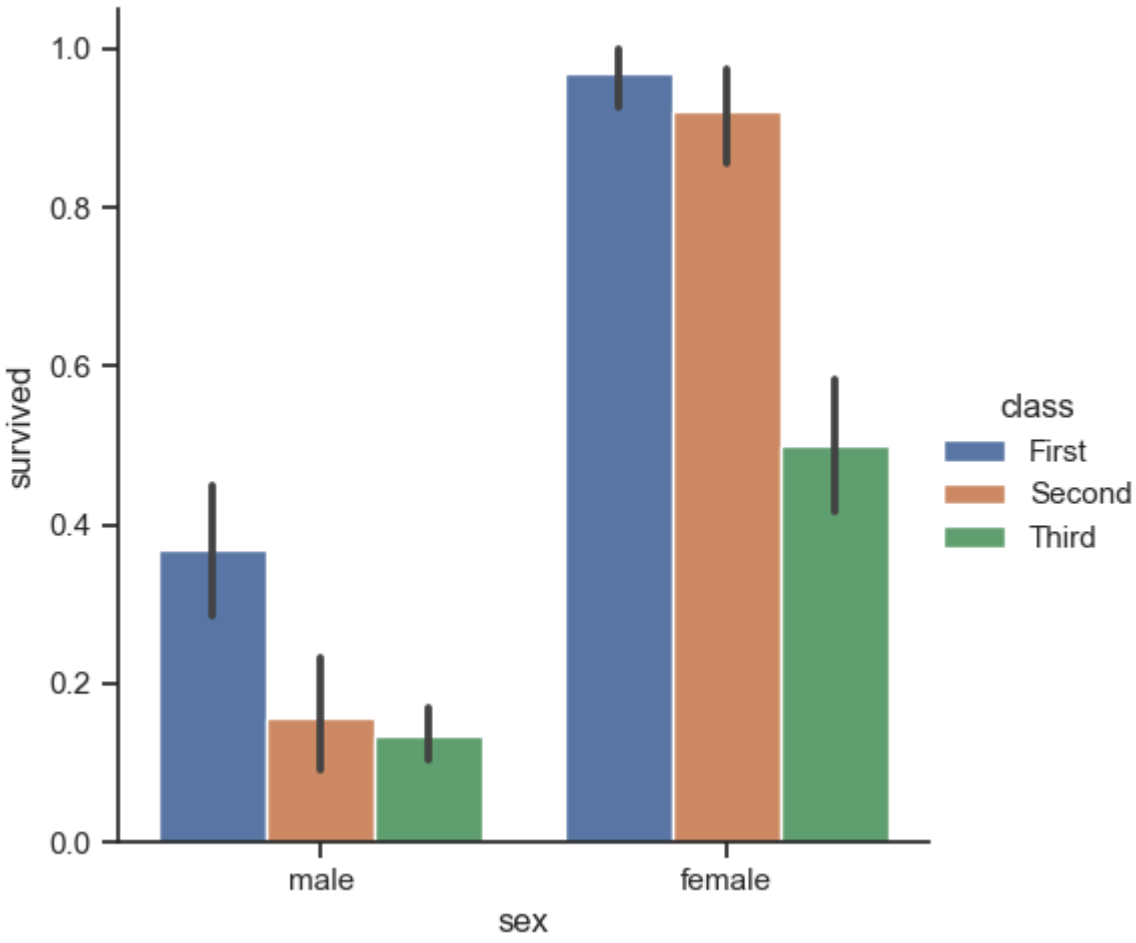
# ML Algorithm Development

- scikit-learn:
  machine learning algorithm regression,classification,clustring analysis and so on
- statsmodel:

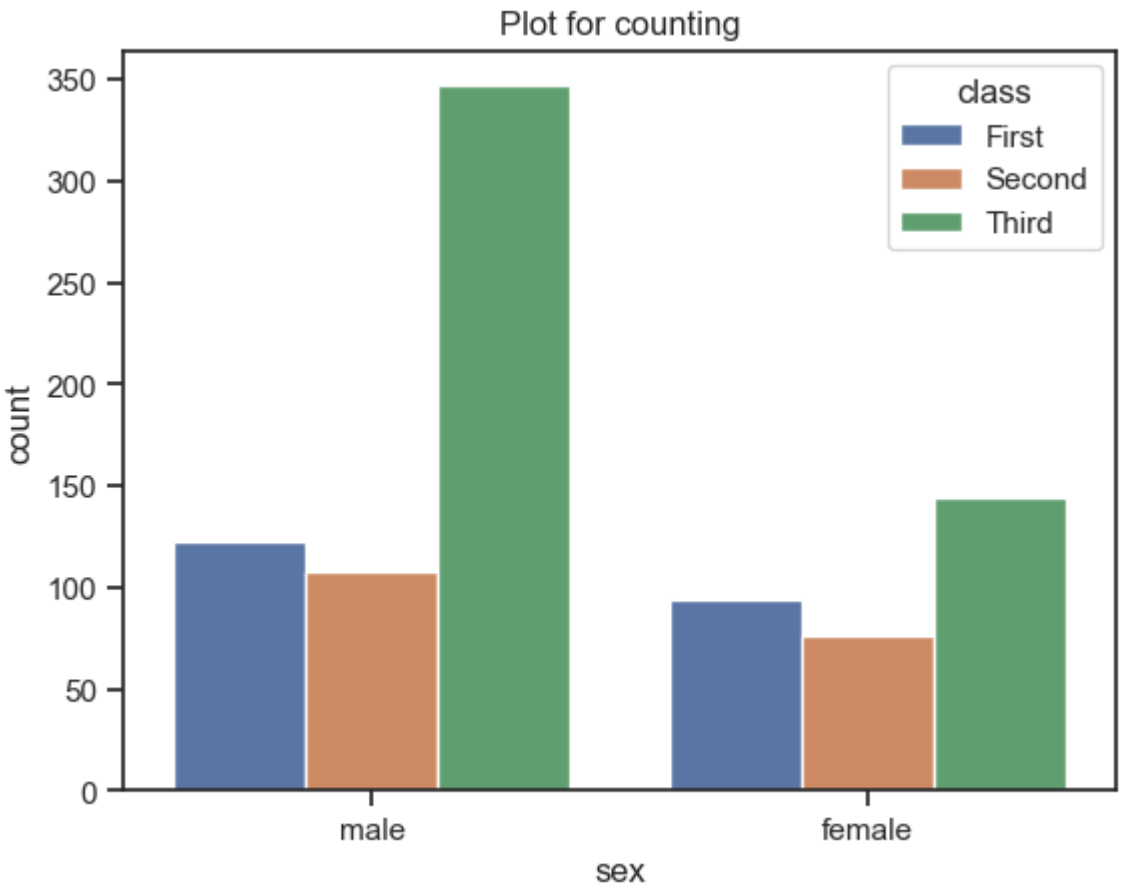
  explore date, estimation of statistical models and perform statistical analysis

In [27]:
```
# Barplot
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()
```

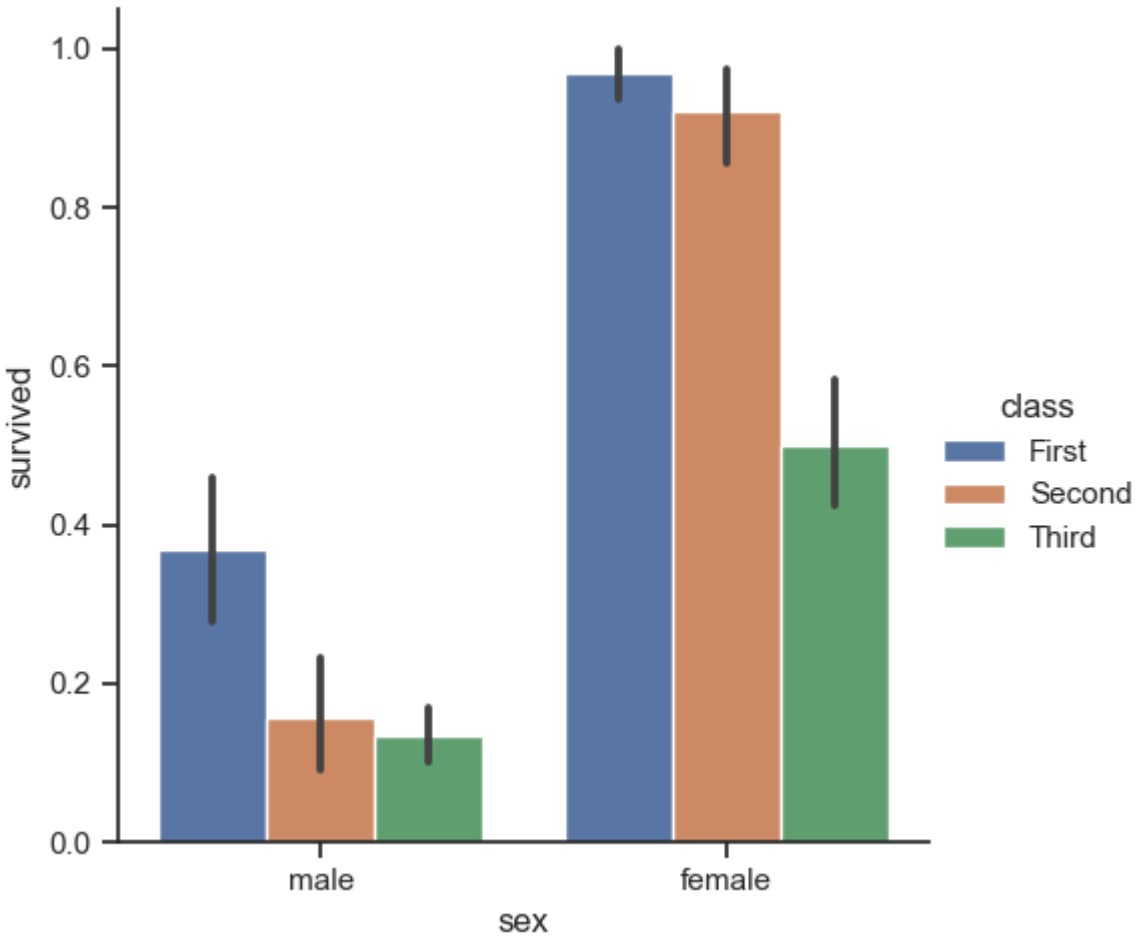



In [37]:
```
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks",color_codes=True)
titanic = sns.load_dataset("titanic")
p1=sns.countplot(x='sex',data=titanic,hue='class')
p1.set_title("Plot for counting")
plt.show()
```

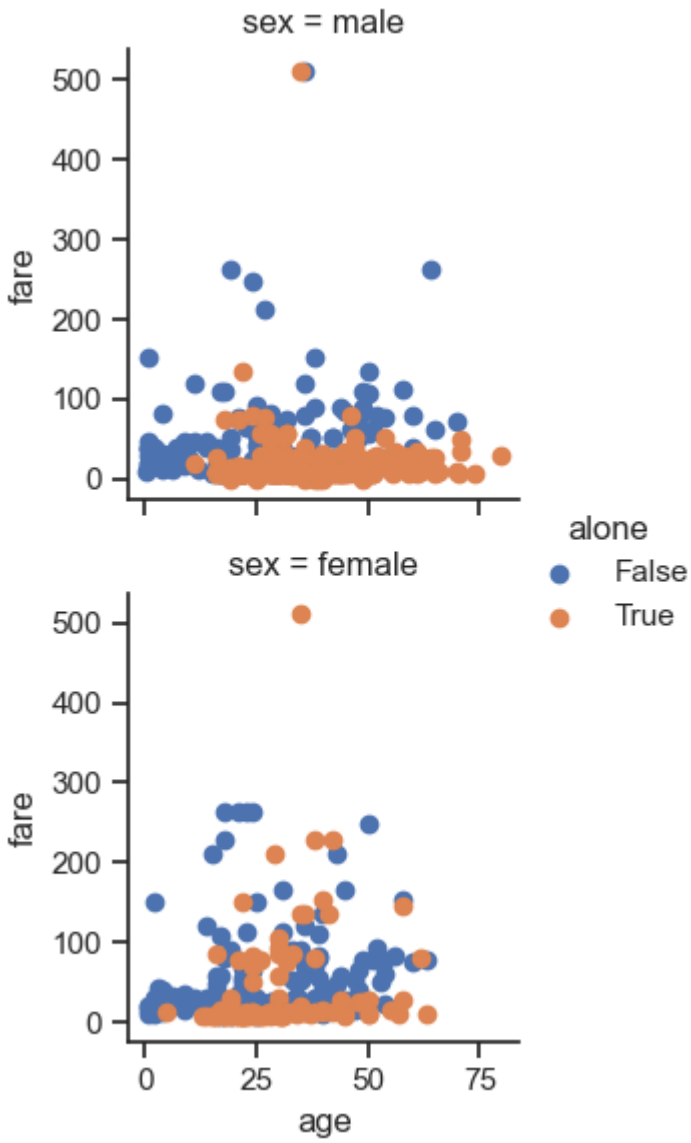



In [38]:
```
# Barplot
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme (style="ticks",color_codes=True)

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




In [42]:
```
# scatterplot
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme (style="ticks",color_codes=True)
titanic = sns.load_dataset("titanic")
g=sns.FacetGrid(titanic,row="sex",hue="alone")
g=(g.map(plt.scatter,"age","fare").add_legend())
plt.show()
```


sex = male
sex = female
fare
age
alone
False
True
0
100
200
300
400
500
0
25
50
75

In [ ]: