01_ Quiz BMI

```python
In [2]:   weight=int(input("please enter your weight in kg: "))
          height=float(input("please enter your height in metres: "))
          BMI=weight/height**2
          print("Your BMI is ", BMI)
```

```python
In [3]:   # using inside a function
          def BMI(weight,height):
          #     weight=int(input("please enter your weight: "))
          #     height=int(input("please enter your height: "))
              BMI=weight/height**2
              return BMI
              print("Your BMI is ", BMI)
```

```python
In [4]:   # BMI(55,1.74)
```

```python
In [5]:   # using if statement
          name=input("please enter your name: ")
          weight=int(input("please enter your weight in kg: "))
          height=float(input("please enter your height in metres: "))
          BMI=weight/height**2

          # print("Your BMI is ", BMI)
          # now using if else statement as well
          if BMI > 18:
              print(name, "Your BMI is good")
          elif BMI < 18:
              print(name, "Your BMI is below average")
          elif BMI > 24:
              print(name, "Your is above average")
```

```
please enter your name: Muhammad Shahzeb
please enter your weight in kg: 55
please enter your height in metres: 1.72
Muhammad Shahzeb Your BMI is good
```

learning some basic of data visualaziation from session day 2 vidoe

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## 02_ Basic of Data Visualization

Major parts

- Mapping(Data)
- Aesthetic(color,shape,size)
- Geometric(objects:line,bar,points,box,map)

```python
In [8]:   import seaborn as sns
          import matplotlib.pyplot as plt
          sns.set_theme(style="ticks",color_codes=True)   # just considering ticks as a deal no in
```

```python
titanic= sns.load_dataset("titanic")    #build in data in seaborn
sns.catplot(x="sex",y="survived",hue="class",kind="bar",data=titanic) #catplot is a catag
# x i s x axis and y is y axis
# in above line all the major parts are applied discuss in above cell

plt.show()
# Bar plots
```
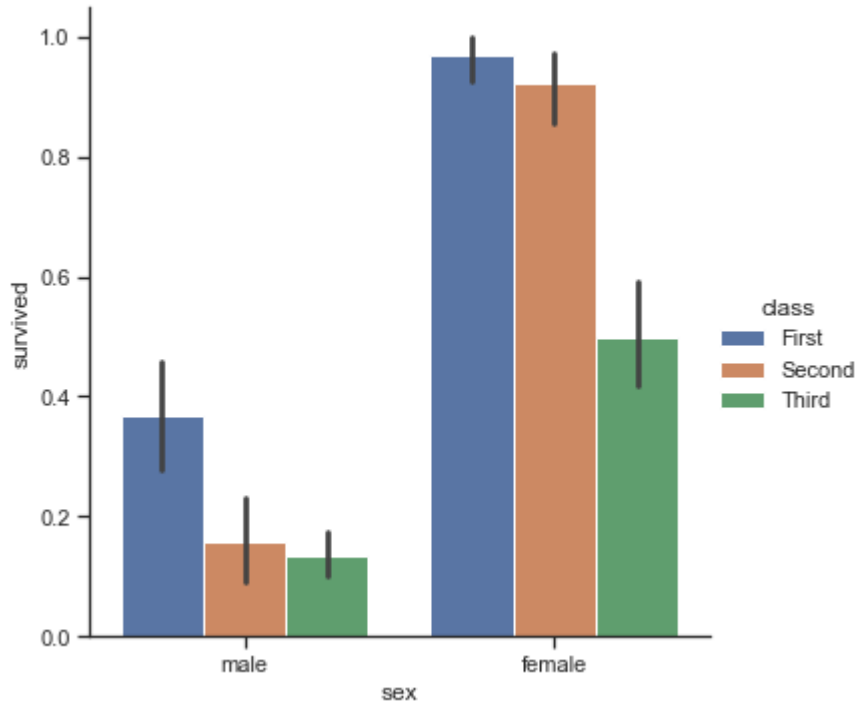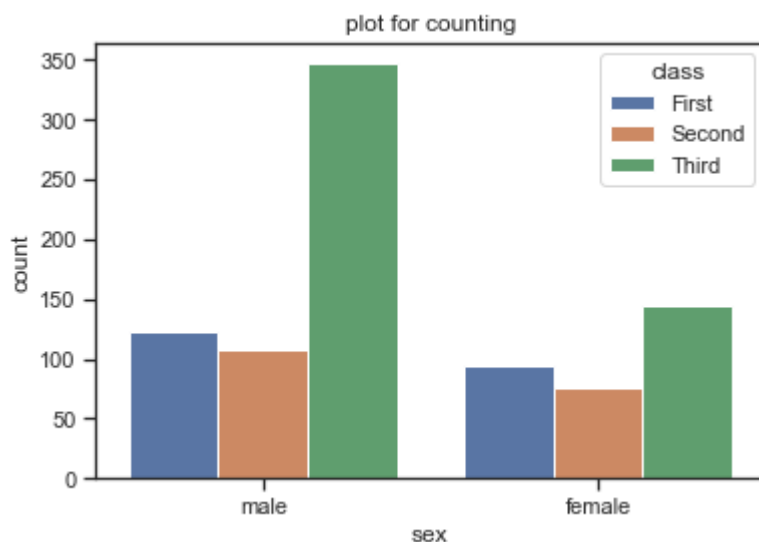


```python
In [10]:    # Count plot
            # to check how many males and females were there

            sns.set_theme(style="ticks",color_codes=True)
            titanic= sns.load_dataset("titanic")    #build in data in seaborn
            p1=sns.countplot(x="sex",hue="class",data=titanic)
            p1.set_title("plot for counting")
            plt.show()
```

In [13]:
```python
# Scatterplot
import seaborn as sns
import matplotlib.pyplot as plt
sns.set_theme(style="ticks",color_codes=True)
titanic= sns.load_dataset("titanic")    #build in data in seaborn
g=sns.FacetGrid(titanic, row="sex",hue="alone")
g=(g.map(plt.scatter, "age", "fare").add_legend())
plt.show()
```
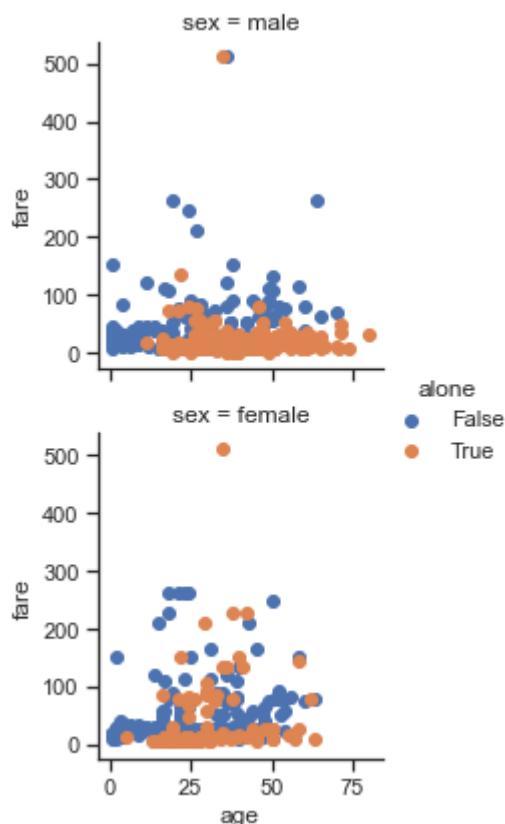

In [14]:
```python
type(titanic)
```

Out[14]:   pandas.core.frame.DataFrame

In [16]:
```python
# we can do all the above works in vs code as well
```

In [17]:
```python
print(titanic)
```

```
     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]
```

In [19]:
```python
# some manipulation in data
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="who",hue="alone",data=titanic)  # changing values on x axis from sex
p1.set_title("plot for counting")
plt.show()

# analyize or compare with the previous one
```