

```
In [2]: 1 import pandas as pd
        2 from pandas import Series, DataFrame
```

```
In [3]: 1 titanic_df=pd.read_csv(r'C:\Users\Dell\Downloads\train.csv')
        2 titanic_df.head()
```

```
Out[3]:
```

| | PassengerId | Survived | Pclass | Name | Sex | Age | SibSp | Parch | Ticket | Fare | Cabin |
|---|-------------|----------|--------|--|--------|------|-------|-------|------------------|---------|-------|
| 0 | 1 | 0 | 3 | Braund, Mr. Owen Harris | male | 22.0 | 1 | 0 | A/5 21171 | 7.2500 | Na |
| 1 | 2 | 1 | 1 | Cumings, Mrs. John Bradley (Florence Briggs Th...) | female | 38.0 | 1 | 0 | PC 17599 | 71.2833 | C8 |
| 2 | 3 | 1 | 3 | Heikkinen, Miss. Laina | female | 26.0 | 0 | 0 | STON/O2. 3101282 | 7.9250 | Na |
| 3 | 4 | 1 | 1 | Futrelle, Mrs. Jacques Heath (Lily May Peel) | female | 35.0 | 1 | 0 | 113803 | 53.1000 | C12 |
| 4 | 5 | 0 | 3 | Allen, Mr. William Henry | male | 35.0 | 0 | 0 | 373450 | 8.0500 | Na |

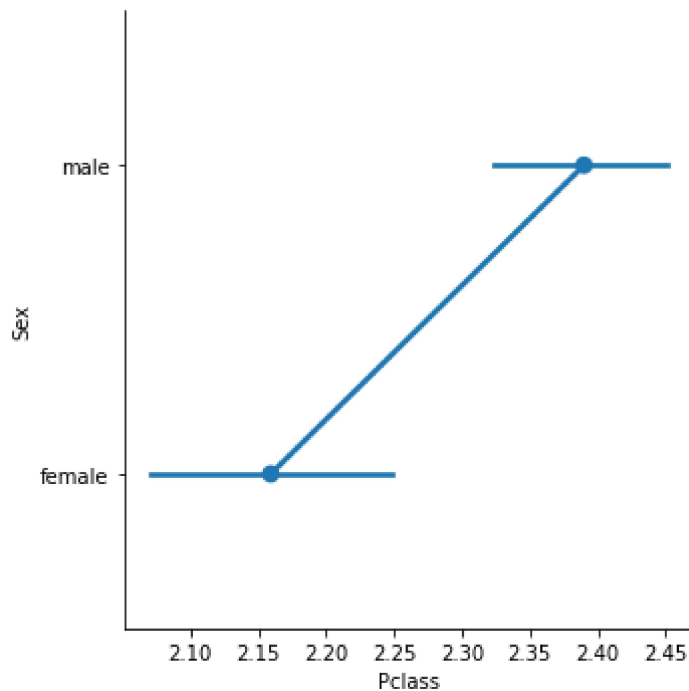
```
In [4]: 1 import numpy as np
        2 import matplotlib.pyplot as plt
        3 import seaborn as sns
        4 %matplotlib inline
```

```
In [5]: 1 sns.factorplot(y='Sex',x='Pclass',data=titanic_df)
```

C:\Users\Dell\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.10_qbz5n2kfra8p0\LocalCache\local-packages\Python310\site-packages\seaborn\categorical.py:3717: UserWarning: The `factorplot` function has been renamed to `catplot`. The original name will be removed in a future release. Please update your code. Note that the default `kind` in `factorplot` (`'point'`) has changed to `strip` in `catplot`.

```
warnings.warn(msg)
```

```
Out[5]: <seaborn.axisgrid.FacetGrid at 0x20ee50376d0>
```



```
In [6]: 1 def male_female_child(Passenger):
2         age,sex=Passenger
3         if age<16:
4             return 'child'
5         else:
6             return sex
```

```
In [7]: 1 titanic_df['Person']=titanic_df[['Age','Sex']].apply(male_female_child,axis=
2         titanic_df[0:10]
```

```
Out[7]:
```

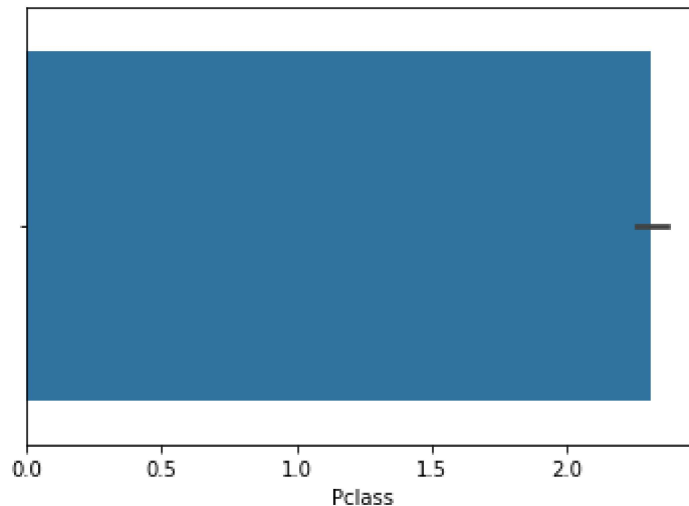
| | PassengerId | Survived | Pclass | Name | Sex | Age | SibSp | Parch | Ticket | Fare | Cabin |
|---|-------------|----------|--------|--|--------|------|-------|-------|---------------------|---------|-------|
| 0 | 1 | 0 | 3 | Braund, Mr. Owen Harris | male | 22.0 | 1 | 0 | A/5 21171 | 7.2500 | Na |
| 1 | 2 | 1 | 1 | Cumings, Mrs. John Bradley (Florence Briggs Th... | female | 38.0 | 1 | 0 | PC 17599 | 71.2833 | C85 |
| 2 | 3 | 1 | 3 | Heikkinen, Miss. Laina | female | 26.0 | 0 | 0 | STON/O2. 3101282 | 7.9250 | Na |
| 3 | 4 | 1 | 1 | Futrelle, Mrs. Jacques Heath (Lily May Peel) | female | 35.0 | 1 | 0 | 113803 | 53.1000 | C12 |
| 4 | 5 | 0 | 3 | Allen, Mr. William Henry | male | 35.0 | 0 | 0 | 373450 | 8.0500 | Na |
| 5 | 6 | 0 | 3 | Moran, Mr. James | male | NaN | 0 | 0 | 330877 | 8.4583 | Na |
| 6 | 7 | 0 | 1 | McCarthy, Mr. Timothy J | male | 54.0 | 0 | 0 | 17463 | 51.8625 | E4 |
| 7 | 8 | 0 | 3 | Palsson, Master. Gosta Leonard | male | 2.0 | 3 | 1 | 349909 | 21.0750 | Na |
| 8 | 9 | 1 | 3 | Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg) | female | 27.0 | 0 | 2 | 347742 | 11.1333 | Na |
| 9 | 10 | 1 | 2 | Nasser, Mrs. Nicholas (Adele Achem) | female | 14.0 | 1 | 0 | 237736 | 30.0708 | Na |

```
In [8]: 1 sns.barplot('Pclass',data=titanic_df,hue='Person')
```

C:\Users\Dell\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.10_qbz5n2kfra8p0\LocalCache\local-packages\Python310\site-packages\seaborn_decorators.py:36: FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.

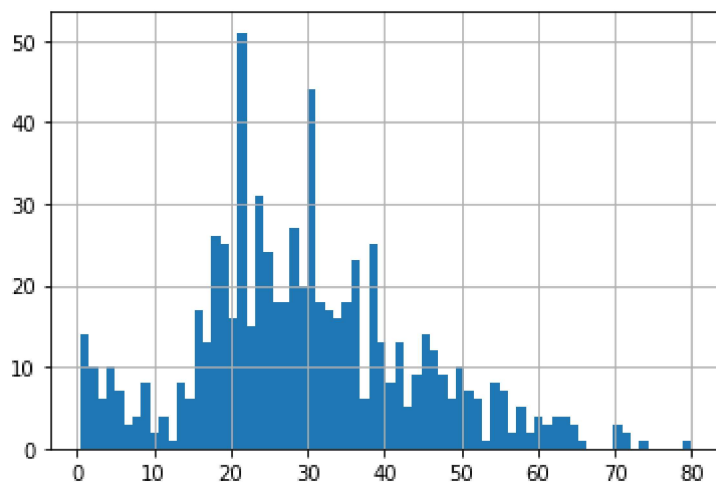
```
warnings.warn(
```

```
Out[8]: <AxesSubplot:xlabel='Pclass'>
```



```
In [9]: 1 titanic_df['Age'].hist(bins=70)
```

```
Out[9]: <AxesSubplot:>
```



```
In [10]: 1 titanic_df['Age'].mean()
```

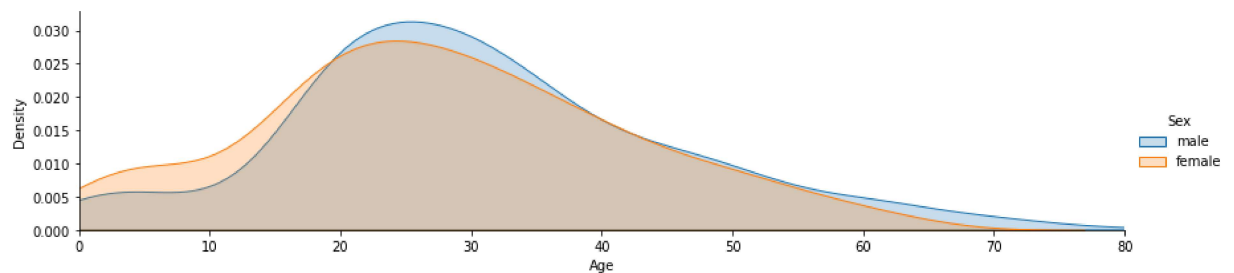
```
Out[10]: 29.69911764705882
```

```
In [11]: 1 titanic_df['Person'].value_counts()
```

```
Out[11]: male      537  
female    271  
child      83  
Name: Person, dtype: int64
```

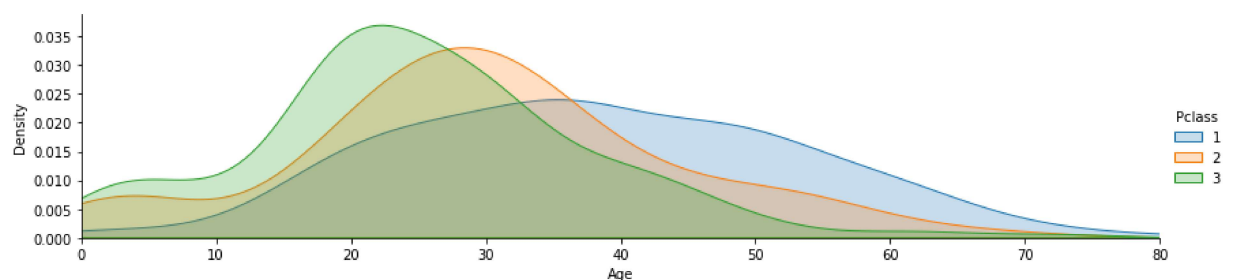
```
In [15]: 1 fig=sns.FacetGrid(titanic_df,hue='Sex',aspect=4)  
2 fig.map(sns.kdeplot, 'Age',shade=True)  
3 oldest=titanic_df['Age'].max()  
4 fig.set(xlim=(0,oldest))  
5 fig.add_legend()
```

```
Out[15]: <seaborn.axisgrid.FacetGrid at 0x20ee5133460>
```



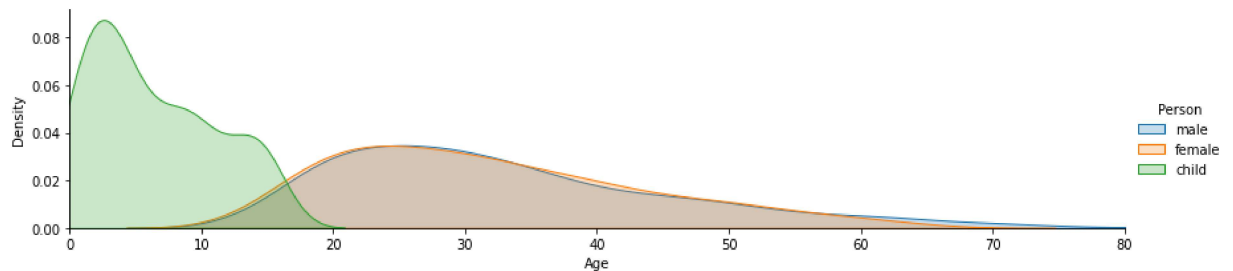
```
In [16]: 1 fig=sns.FacetGrid(titanic_df,hue='Pclass',aspect=4)  
2 fig.map(sns.kdeplot, 'Age',shade=True)  
3 oldest=titanic_df['Age'].max()  
4 fig.set(xlim=(0,oldest))  
5 fig.add_legend()
```

```
Out[16]: <seaborn.axisgrid.FacetGrid at 0x20efe51bf40>
```



```
In [17]: 1 fig=sns.FacetGrid(titanic_df,hue='Person',aspect=4)
2 fig.map(sns.kdeplot,'Age',shade=True)
3 oldest=titanic_df['Age'].max()
4 fig.set(xlim=(0,oldest))
5 fig.add_legend()
```

Out[17]: <seaborn.axisgrid.FacetGrid at 0x20ef82138e0>



```
In [18]: 1 titanic_df.head()
```

Out[18]:

| | PassengerId | Survived | Pclass | Name | Sex | Age | SibSp | Parch | Ticket | Fare | Cabin |
|---|-------------|----------|--------|--|--------|------|-------|-------|------------------|---------|-------|
| 0 | 1 | 0 | 3 | Braund, Mr. Owen Harris | male | 22.0 | 1 | 0 | A/5 21171 | 7.2500 | Na |
| 1 | 2 | 1 | 1 | Cumings, Mrs. John Bradley (Florence Briggs Th...) | female | 38.0 | 1 | 0 | PC 17599 | 71.2833 | C8 |
| 2 | 3 | 1 | 3 | Heikkinen, Miss. Laina | female | 26.0 | 0 | 0 | STON/O2. 3101282 | 7.9250 | Na |
| 3 | 4 | 1 | 1 | Futrelle, Mrs. Jacques Heath (Lily May Peel) | female | 35.0 | 1 | 0 | 113803 | 53.1000 | C12 |
| 4 | 5 | 0 | 3 | Allen, Mr. William Henry | male | 35.0 | 0 | 0 | 373450 | 8.0500 | Na |

```
In [19]: 1 deck=titanic_df['Cabin'].dropna()
```

```
In [20]: 1 deck.head()
```

Out[20]:

```
1      C85
3      C123
6      E46
10     G6
11     C103
Name: Cabin, dtype: object
```

```
In [27]: 1 levels=[]
2 for level in deck:
3     levels.append(level[0])
4 cabin_df=DataFrame(levels)
5 cabin_df.columns=['Cabin']
6 sns.barplot(x='Cabin',y='Cabin.count()',data=cabin_df,palette='winter_d')
```

```
-----
ValueError                                Traceback (most recent call last)
Input In [27], in <cell line: 6>()
      4 cabin_df=DataFrame(levels)
      5 cabin_df.columns=['Cabin']
----> 6 sns.barplot(x='Cabin',y='Cabin.count()',data=cabin_df,palette='winter_d
')
```

```
File ~\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.10_qbz5n2kfra8p
0\LocalCache\local-packages\Python310\site-packages\seaborn\_decorators.py:46,
in _deprecate_positional_args.<locals>.inner_f(*args, **kwargs)
    36     warnings.warn(
    37         "Pass the following variable{} as {}keyword arg{}: {}". "
    38         "From version 0.12, the only valid positional argument "
    (...)
    43         FutureWarning
    44     )
    45     kwargs.update({k: arg for k, arg in zip(sig.parameters, args)})
----> 46     return f(**kwargs)
```

```
File ~\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.10_qbz5n2kfra8p
0\LocalCache\local-packages\Python310\site-packages\seaborn\categorical.py:3182
, in barplot(x, y, hue, data, order, hue_order, estimator, ci, n_boot, units, s
eed, orient, color, palette, saturation, errcolor, errwidth, capsize, dodge, a
x, **kwargs)
    3169 @_deprecate_positional_args
    3170 def barplot(
    3171     *,
    (...)
    3179     **kwargs,
    3180 ):
-> 3182     plotter = _BarPlotter(x, y, hue, data, order, hue_order,
    3183                             estimator, ci, n_boot, units, seed,
    3184                             orient, color, palette, saturation,
    3185                             errcolor, errwidth, capsize, dodge)
    3187     if ax is None:
    3188         ax = plt.gca()
```

```
File ~\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.10_qbz5n2kfra8p
0\LocalCache\local-packages\Python310\site-packages\seaborn\categorical.py:1584
, in _BarPlotter.__init__(self, x, y, hue, data, order, hue_order, estimator, c
i, n_boot, units, seed, orient, color, palette, saturation, errcolor, errwidth,
capsize, dodge)
    1579 def __init__(self, x, y, hue, data, order, hue_order,
    1580                     estimator, ci, n_boot, units, seed,
    1581                     orient, color, palette, saturation, errcolor,
    1582                     errwidth, capsize, dodge):
    1583     """Initialize the plotter."""
-> 1584     self.establish_variables(x, y, hue, data, orient,
```