Data Visualization on titanic data

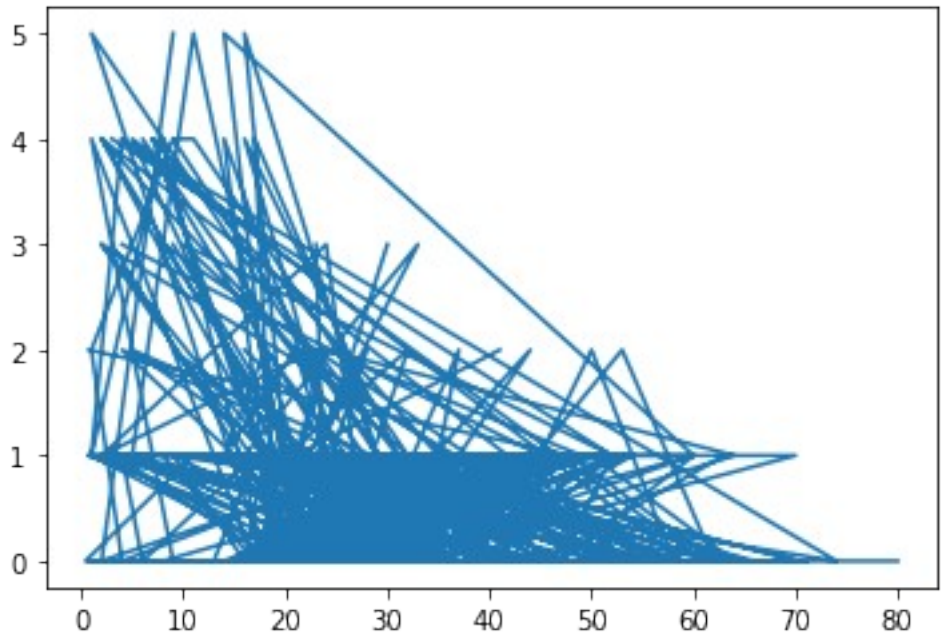
```
import seaborn as sns
import matplotlib.pyplot as plt
import pandas as pd

df = sns.load_dataset('titanic')

df
```

```
     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]
```

Line Plot

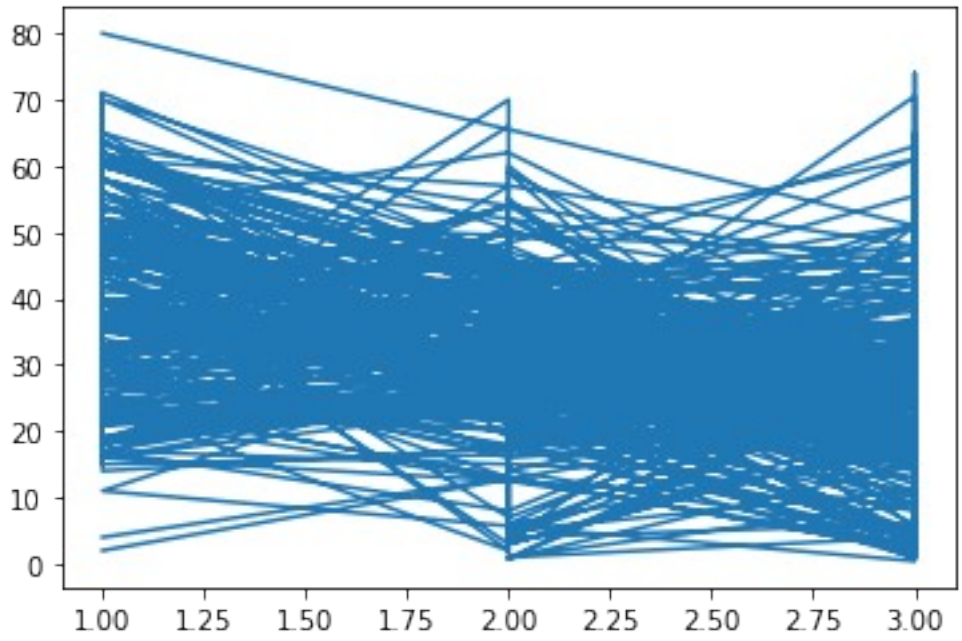
```
plt.plot(df.age,df.sibsp)
```

```
[<matplotlib.lines.Line2D at 0x1df4076a370>]
```

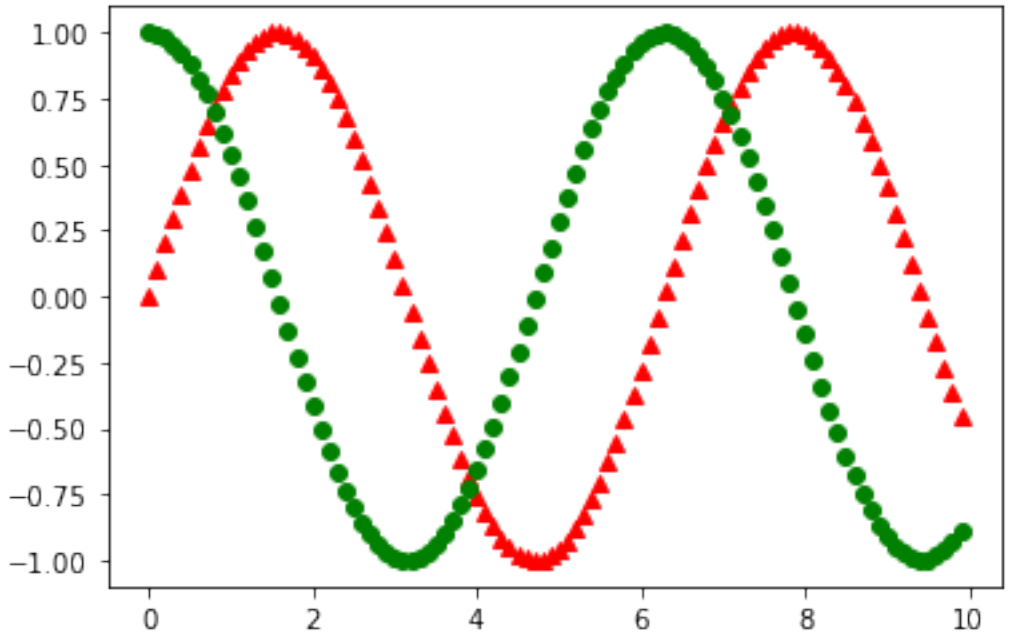



```
plt.plot(df.pclass ,df.age)
```

```
[<matplotlib.lines.Line2D at 0x1df4081bf70>]
```

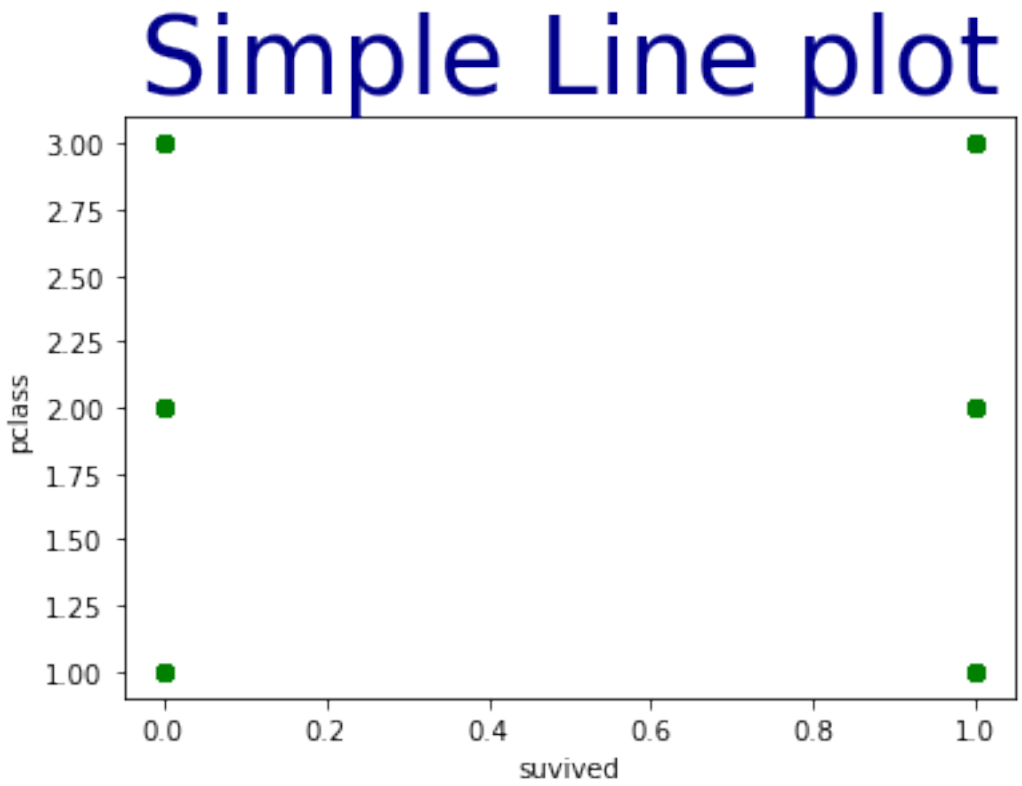


```
from numpy import sin
from numpy import cos
x = [x*0.1 for x in range(100)]
y = sin(x)
z = cos(x)
plt.plot(x,y,'r^',linewidth = 4)
plt.plot(x,z,'go',linewidth = 4)
plt.show()
```




```
x = df.survived
y = df.pclass
plt.plot(x,y,'go',linewidth = 4)
plt.xlabel('suvived')
plt.ylabel('pclass')
plt.title('Simple Line plot',color = 'darkblue',fontsize = 40)
```

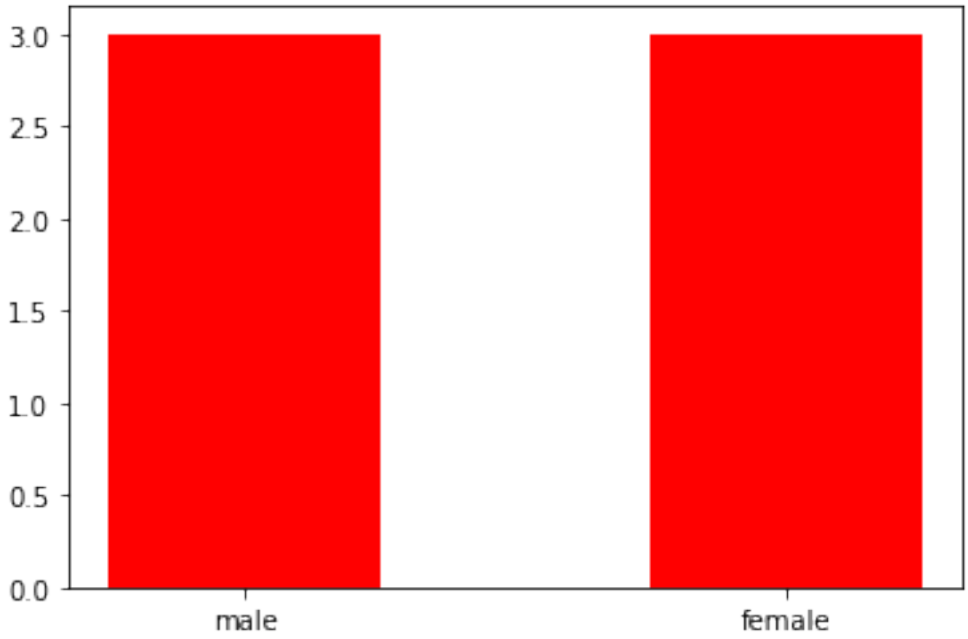
```
Text(0.5, 1.0, 'Simple Line plot')
```



Bar Graph

```
x = df.sex
y = df.pclass
z = df.fare
plt.bar(x,y,width = 0.5,color = 'r')
plt.figure(figsize = (10,5))
```

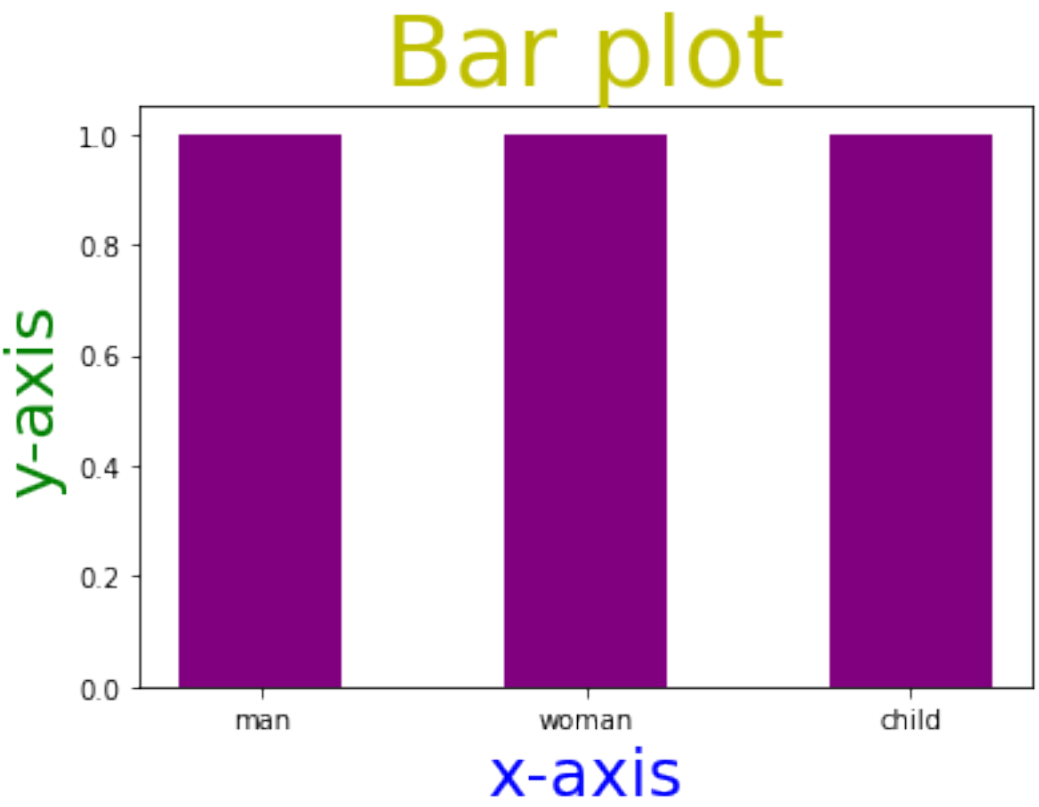
```
<Figure size 720x360 with 0 Axes>
```




```
<Figure size 720x360 with 0 Axes>
```

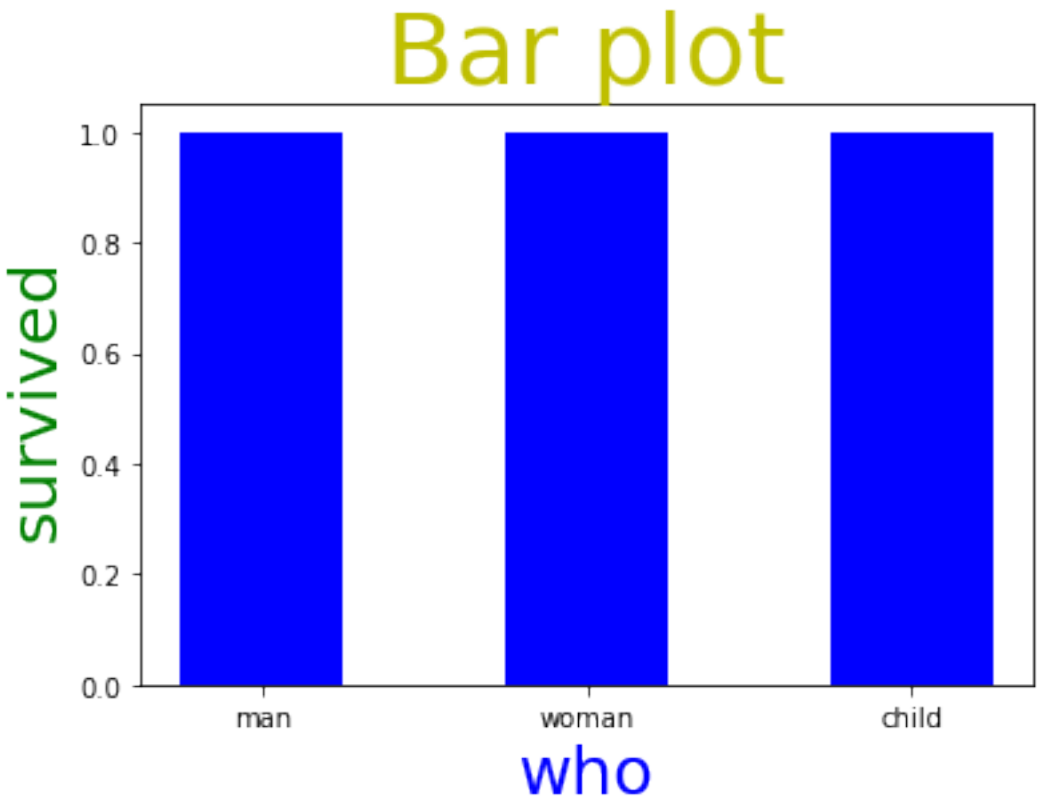
```
x = df.who
y = df.survived
z = df.pclass
plt.bar(x,y,width = 0.5,color = 'purple')
plt.title("Bar plot",color = 'y',fontsize = 38)
plt.xlabel('x-axis',color = 'b',fontsize = 25)
plt.ylabel('y-axis',color = 'g',fontsize = 25)
#plt.bar(x,z,width = 0.5)
```

```
Text(0, 0.5, 'y-axis')
```



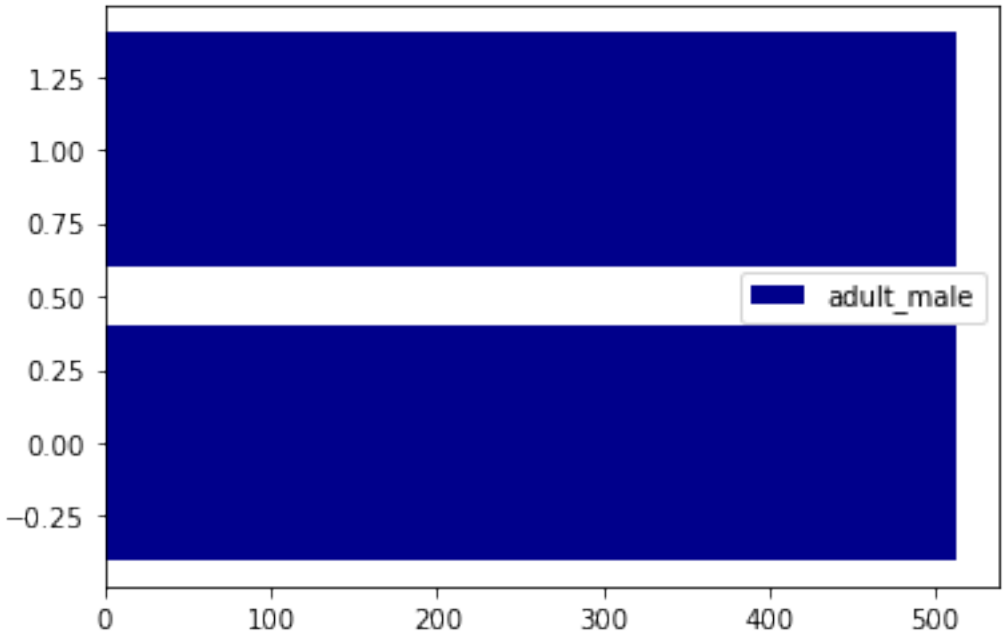

```
x = df.who
y = df.survived
z = df.pclass
plt.bar(x,y,width = 0.5,color = 'b')
plt.title("Bar plot",color = 'y',fontsize = 38)
plt.xlabel('who',color = 'b',fontsize = 25)
plt.ylabel('survived',color = 'g',fontsize = 25)
```

```
Text(0, 0.5, 'survived')
```




```
plt.barh(df.adult_male,df.fare,color = 'darkblue')
plt.legend(['adult_male'])
```

```
<matplotlib.legend.Legend at 0x1df421195b0>
```



Histogram

```
bins = [1,2,3,4,5,6,7,8,9,10]
plt.hist(df.alive,bins,histtype = 'bar',rwidth = 0.5)
plt.hist(df.sex,bins,histtype = 'bar',rwidth = 0.5,color = 'g')
plt.hist(df.fare,bins,histtype = 'bar',rwidth = 0.5,color)
```

```
  File
"C:\Users\bharg\AppData\Local\Temp/ipykernel_15448/1408627654.py",
line 4
    plt.hist(df.fare,bins,histtype = 'bar',rwidth = 0.5,color)
                                                          ^
SyntaxError: positional argument follows keyword argument
```

```
bins = [1,2,3,4,5,6,7,8,9,10]
plt.hist(df.alive,bins,histtype = 'bar',rwidth = 0.5)
plt.hist(df.sex,bins,histtype = 'bar',rwidth = 0.5,color = 'g')
plt.hist(df.fare,bins,histtype = 'bar',rwidth = 0.5,color = 'r')
plt.hist(df.age,bins,histtype = 'bar',rwidth = 0.5,color = 'b')
#plt.legend(['alive','sex','fare','age'])
```

```
bins = [1,2,3,4,5,6,7,8,9,10]
plt.hist(df.alive,bins,histtype = 'bar',rwidth = 0.5)
plt.hist(df.sex,bins,histtype = 'bar',rwidth = 0.5,color = 'g')
plt.hist(df.fare,bins,histtype = 'bar',rwidth = 0.5,color = 'r')
plt.hist(df.age,bins,histtype = 'bar',rwidth = 0.5,color = 'b')
plt.legend(['alive','sex','fare','age'])
```

```
bins = [1,2,3,4,5,6,7,8,9,10]
plt.hist(df.alive,bins,histtype = 'bar',rwidth = 0.9)
plt.hist(df.sex,bins,histtype = 'bar',rwidth = 0.9,color = 'g')
plt.hist(df.fare,bins,histtype = 'bar',rwidth = 0.9,color = 'r')
plt.hist(df.age,bins,histtype = 'bar',rwidth = 0.9,color = 'b')
plt.legend(['alive','sex','fare','age'])
```

```
bins = [1,2,3,4,5,6,7,8,9,10]
plt.hist(df.alive,bins,histtype = 'bar',rwidth = 0.9)
plt.hist(df.sex,bins,histtype = 'bar',rwidth = 0.9,color = 'g')
plt.hist(df.fare,bins,histtype = 'bar',rwidth = 0.9,color = 'r')
plt.hist(df.age,bins,histtype = 'bar',rwidth = 0.9,color = 'b')
plt.legend(['alive','sex','fare','age'])
plt.xlabel('x-axis',fontsize = 20,color = 'g')
plt.ylabel('y-axis',fontsize = 20,color = 'purple')
plt.title('Simple histogram',fontsize = 40,color = 'darkblue')
```

Scatter plot

```
plt.scatter(df.sex,df.age)
```

```
plt.scatter(df.sex,df.age)
sns.set_style('dark')
```

```
plt.scatter(df.sex,df.age)
sns.set_style('dark')
sns.set_style('darkgrid')
sns.set_style('darkgrid',{'grid.color':'.0'})
```

```
plt.scatter(df.sex,df.age)
sns.set_style('dark')
sns.set_style('darkgrid')
sns.set_style('darkgrid',{'grid.color':'.0'})
sns.despine()
```

```
plt.scatter(df.sex,df.age)
sns.set_style('dark')
sns.set_style('darkgrid')
sns.set_style('darkgrid',{'grid.color':'.0'})
sns.despine()
sns.set_context('poster')
```

```
plt.scatter(df.sex,df.age)
sns.set_style('dark')
sns.set_style('darkgrid')
sns.set_style('darkgrid',{'grid.color':'.0'})
sns.despine()
sns.set_context('paper')
```

```
df.head()
```

relplot

```
sns.relplot(data=df,x = 'survived',y = 'alive')
sns.despine()
```

```
sns.barplot(x="embark_town",y = 'survived', data= df,palette=
"copper")
sns.barplot(x="embark_town",y = 'survived', data= df,palette=
"Greens")
```

```
sns.barplot(x="embark_town",y = 'survived', data= df,palette=
"copper")
```

regplot

```
x = sns.regplot(x = "age",y = 'fare',data= df)
```

lmplot

```
x = sns.lmplot(x = 'age',y = 'fare',data = df)
```

Boxplot

```
x = sns.boxplot(x = 'survived',y = 'age',data = df)

df
```

pie chart

```
ipl_matches=[120,80,64,32]
players=['Virat','ABD','AR','IK']
colors=['r','g','m','k']
plt.pie(ipl_matches,labels=players,colors=colors)
```

Area plot

```
import numpy as np
x = np.arange(1,7)
y = [[1,5,9,3,17,3],[2,6,10,4,16,3],[3,5,11,5,19,1]]
plt.stackplot(x,y,labels= ['y1','y2','y3'])
plt.legend()
```

```
<matplotlib.legend.Legend at 0x1df42952280>
```