

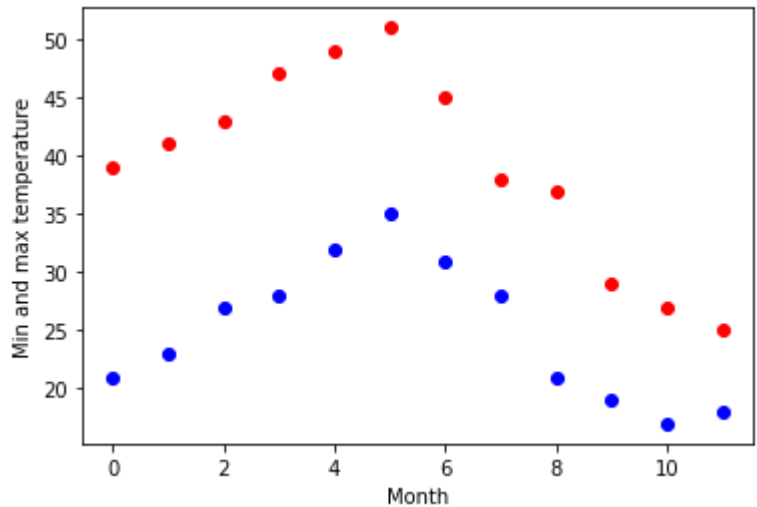
Scipy:

```
In [9]: import numpy as np

temp_max = np.array([39, 41, 43, 47, 49, 51, 45, 38, 37, 29, 27, 25])
temp_min = np.array([21, 23, 27, 28, 32, 35, 31, 28, 21, 19, 17, 18])

import matplotlib.pyplot as plt
months = np.arange(12)
plt.plot(months, temp_max, 'ro')
plt.plot(months, temp_min, 'bo')
plt.xlabel('Month')
plt.ylabel('Min and max temperature')

Out[9]: Text(0, 0.5, 'Min and max temperature')
```



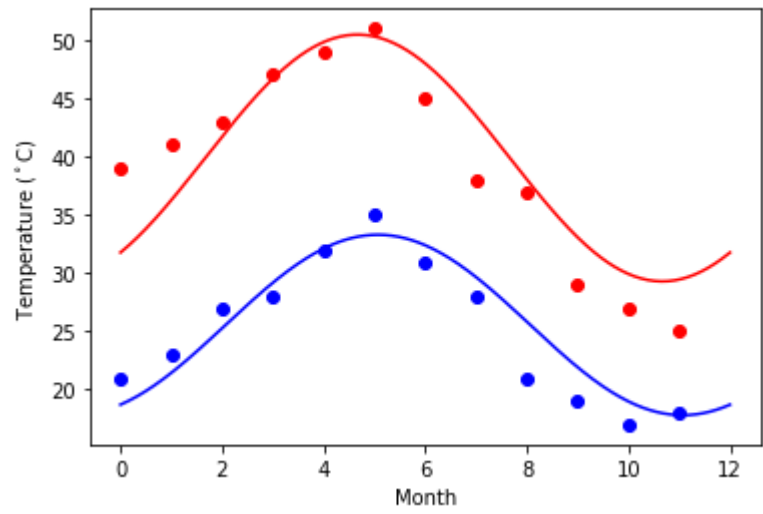
```
In [10]: from scipy import optimize
def yearly_temps(times, avg, ampl, time_offset):
    return (avg
            + ampl * np.cos((times + time_offset) * 2 * np.pi / times.max()))

res_max, cov_max = optimize.curve_fit(yearly_temps, months,
                                     temp_max, [20, 10, 0])
res_min, cov_min = optimize.curve_fit(yearly_temps, months,
                                     temp_min, [-40, 20, 0])
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In [11]: days = np.linspace(0, 12, num=365)

plt.figure()
plt.plot(months, temp_max, 'ro')
plt.plot(days, yearly_temps(days, *res_max), 'r-')
plt.plot(months, temp_min, 'bo')
plt.plot(days, yearly_temps(days, *res_min), 'b-')
plt.xlabel('Month')
plt.ylabel('Temperature ($^\circ$C)')

plt.show()
```



Matplotlib:

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In [31]: import pandas as pd
url="https://raw.githubusercontent.com/Geoyi/Cleaning-Titanic-Data/master/titanic_original.csv"
```

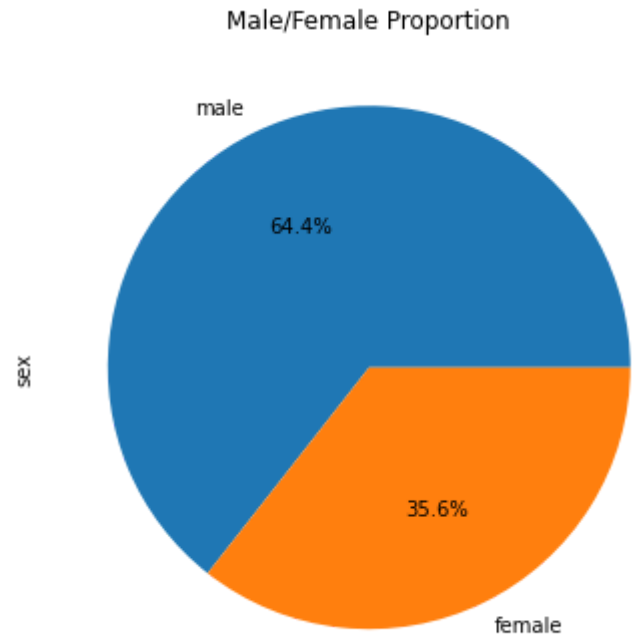
```
In [32]: titanic=pd.read_csv(url)
```

```
In [33]: titanic.head(10)
```

	pclass	survived	name	sex	age	sibsp	parch	ticket	fare	cabin	embarked	boat	body	home.dest
0	1.0	1.0	Allen, Miss. Elisabeth Walton	female	29.0000	0.0	0.0	24160	211.3375	B5	S	2	NaN	St Louis, MO
1	1.0	1.0	Allison, Master. Hudson Trevor	male	0.9167	1.0	2.0	113781	151.5500	C22 C26	S	11	NaN	Montreal, PQ / Chesterville, ON
2	1.0	0.0	Allison, Miss. Helen Loraine	female	2.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON
3	1.0	0.0	Allison, Mr. Hudson Joshua Creighton	male	30.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	135.0	Montreal, PQ / Chesterville, ON
4	1.0	0.0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON
5	1.0	1.0	Anderson, Mr. Harry	male	48.0000	0.0	0.0	19952	26.5500	E12	S	3	NaN	New York, NY
6	1.0	1.0	Andrews, Miss. Kornelia Theodosia	female	63.0000	1.0	0.0	13502	77.9583	D7	S	10	NaN	Hudson, NY
7	1.0	0.0	Andrews, Mr. Thomas Jr	male	39.0000	0.0	0.0	112050	0.0000	A36	S	NaN	NaN	Belfast, NI
8	1.0	1.0	Appleton, Mrs. Edward Dale (Charlotte Lamson)	female	53.0000	2.0	0.0	11769	51.4792	C101	S	D	NaN	Bayside, Queens, NY
9	1.0	0.0	Artagaveytia, Mr. Ramon	male	71.0000	0.0	0.0	PC 17609	49.5042	NaN	C	NaN	22.0	Montevideo, Uruguay

```
In [38]: plt.figure(figsize=(10,6))
titanic['sex'].value_counts().plot(kind='pie', autopct='%1.1f%%',title='Male/Female Proportion')
```

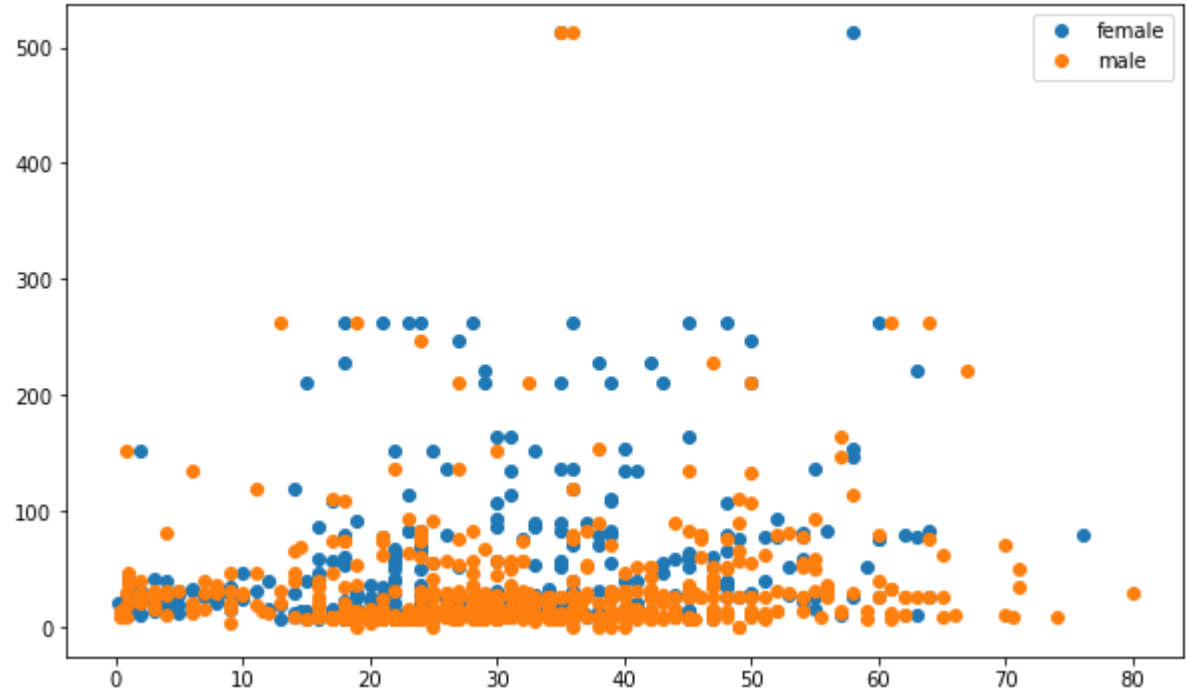
```
Out[38]: <AxesSubplot:title={'center':'Male/Female Proportion'}, ylabel='sex'>
```



```
In [61]: groups = titanic.groupby('sex')
plt.figure(figsize=(10,6))
for name, group in groups:
    plt.plot(group["age"], group["fare"], marker="o", linestyle="", label=name)

plt.legend()
```

```
Out[61]: <matplotlib.legend.Legend at 0x262770ee8b0>
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In [ ]:
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In [ ]:
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