In [1]:

```python
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import warnings
warnings.filterwarnings('ignore')
%matplotlib inline
```

In [4]:

```python
tips = sns.load_dataset('tips')
```

In [8]:

```python
tips.head(2)
```

Out[8]:

	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3

In [5]:

```python
titanic = pd.read_csv("/Users/sudhanshubiswal/Project/titanic.csv")
```

In [9]:

```python
titanic.head()
```

Out[9]:

	Passengerid	Age	Fare	Sex	sibsp	zero	zero.1	zero.2	zero.3	zero.4	...	zero.12	zero
0	1	22.0	7.2500	0	1	0	0	0	0	0	...	0	
1	2	38.0	71.2833	1	1	0	0	0	0	0	...	0	
2	3	26.0	7.9250	1	0	0	0	0	0	0	...	0	
3	4	35.0	53.1000	1	1	0	0	0	0	0	...	0	
4	5	35.0	8.0500	0	0	0	0	0	0	0	...	0	

5 rows × 28 columns

In [6]:

```python
flights = sns.load_dataset('flights')
```

In [10]:

```
1  flights.head()
```

Out[10]:

	year	month	passengers
0	1949	Jan	112
1	1949	Feb	118
2	1949	Mar	132
3	1949	Apr	129
4	1949	May	121

In [7]:

```
1  iris = sns.load_dataset('iris')
```

In [11]:

```
1  iris.head()
```

Out[11]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

1. Scatterplot (Numerical - Numerical)

In [12]:

```
1  sns.scatterplot(tips['total_bill'],tips['tip']) #bi-variate
```

Out[12]:

```
<AxesSubplot:xlabel='total_bill', ylabel='tip'>
```
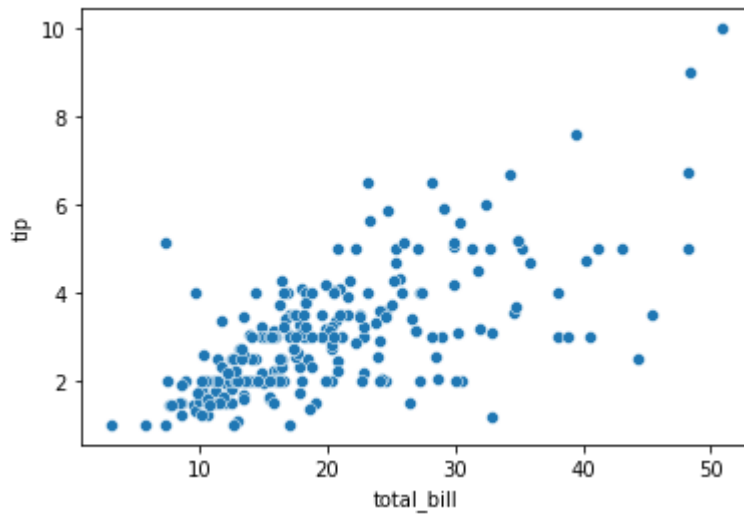

In [15]:
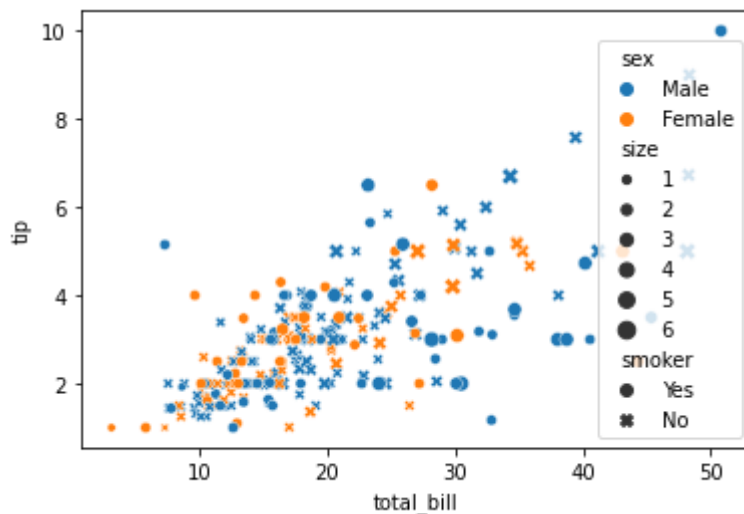
```
1  sns.scatterplot(tips['total_bill'],
2                  tips['tip'],
3                  hue=df['sex'],
4                  style=df['smoker'],
5                  size=df['size']) #multi-variate
```
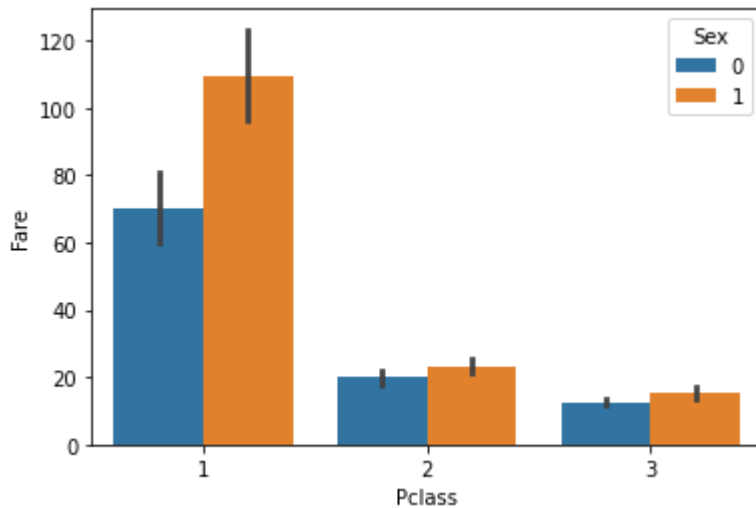
Out[15]:

```
<AxesSubplot:xlabel='total_bill', ylabel='tip'>
```

2. Bar Plot (Numerical - Categorical)

In [19]:

```
1  sns.barplot(titanic['Pclass'],
2              titanic['Fare'],
3              hue=titanic['Sex'])
```
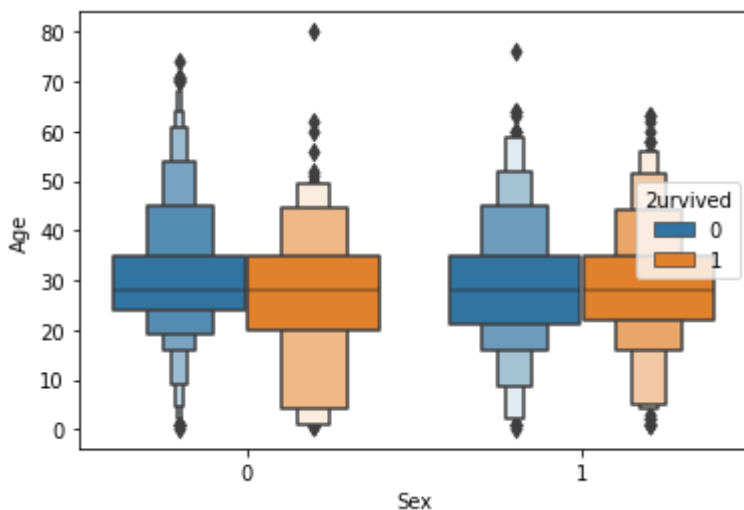
Out[19]:

```
<AxesSubplot:xlabel='Pclass', ylabel='Fare'>
```


3. Box Plot

In [22]:

```
1  sns.boxenplot(titanic['Sex'],titanic['Age'],hue=titanic['2urvived'])
```

Out[22]:

```
<AxesSubplot:xlabel='Sex', ylabel='Age'>
```
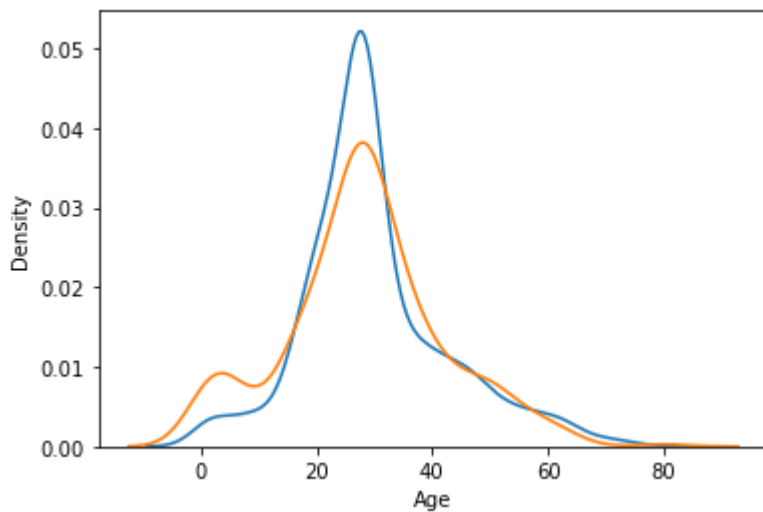

4. Distplot (Numerical - Categorical)

In [25]:

```
1  sns.distplot(titanic[titanic['2urvived']==0]['Age'],hist=False)
2  sns.distplot(titanic[titanic['2urvived']==1]['Age'],hist=False)
```

Out[25]:

```
<AxesSubplot:xlabel='Age', ylabel='Density'>
```


5. HeatMap (Categorical - Categorical)

In [29]:

```
1  pd.crosstab(titanic['Pclass'],titanic['2urvived'])
```
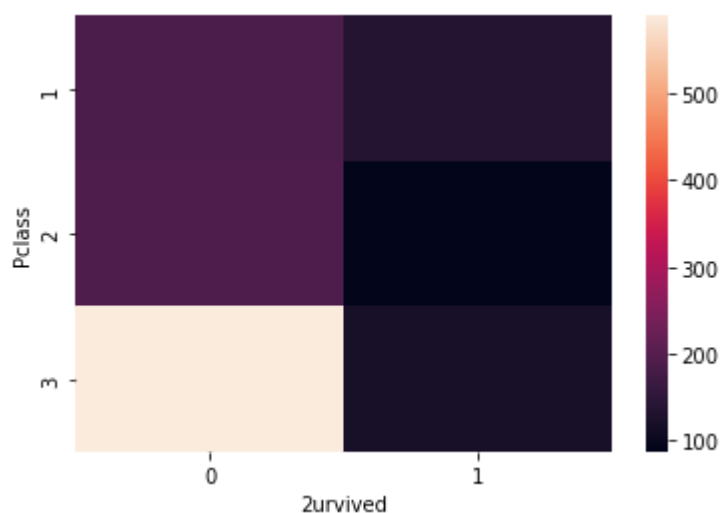
Out[29]:

2urvived	0	1
Pclass		
1	187	136
2	190	87
3	590	119

In [31]:

```python
sns.heatmap(pd.crosstab(titanic['Pclass'],titanic['2urvived']))
```

Out[31]:

```
<AxesSubplot:xlabel='2urvived', ylabel='Pclass'>
```


In [32]:

```python
(titanic.groupby('Pclass').mean()['2urvived']*100)
```

Out[32]:

```
Pclass
1    42.105263
2    31.407942
3    16.784203
Name: 2urvived, dtype: float64
```

In [33]:

```python
(titanic.groupby('Sex').mean()['2urvived']*100)
```

Out[33]:

```
Sex
0    12.930012
1    50.000000
Name: 2urvived, dtype: float64
```

6. Cluster (Categorical - Categorical)

In [34]:

```
1  pd.crosstab(titanic['sibsp'],titanic['2urvived'])
```
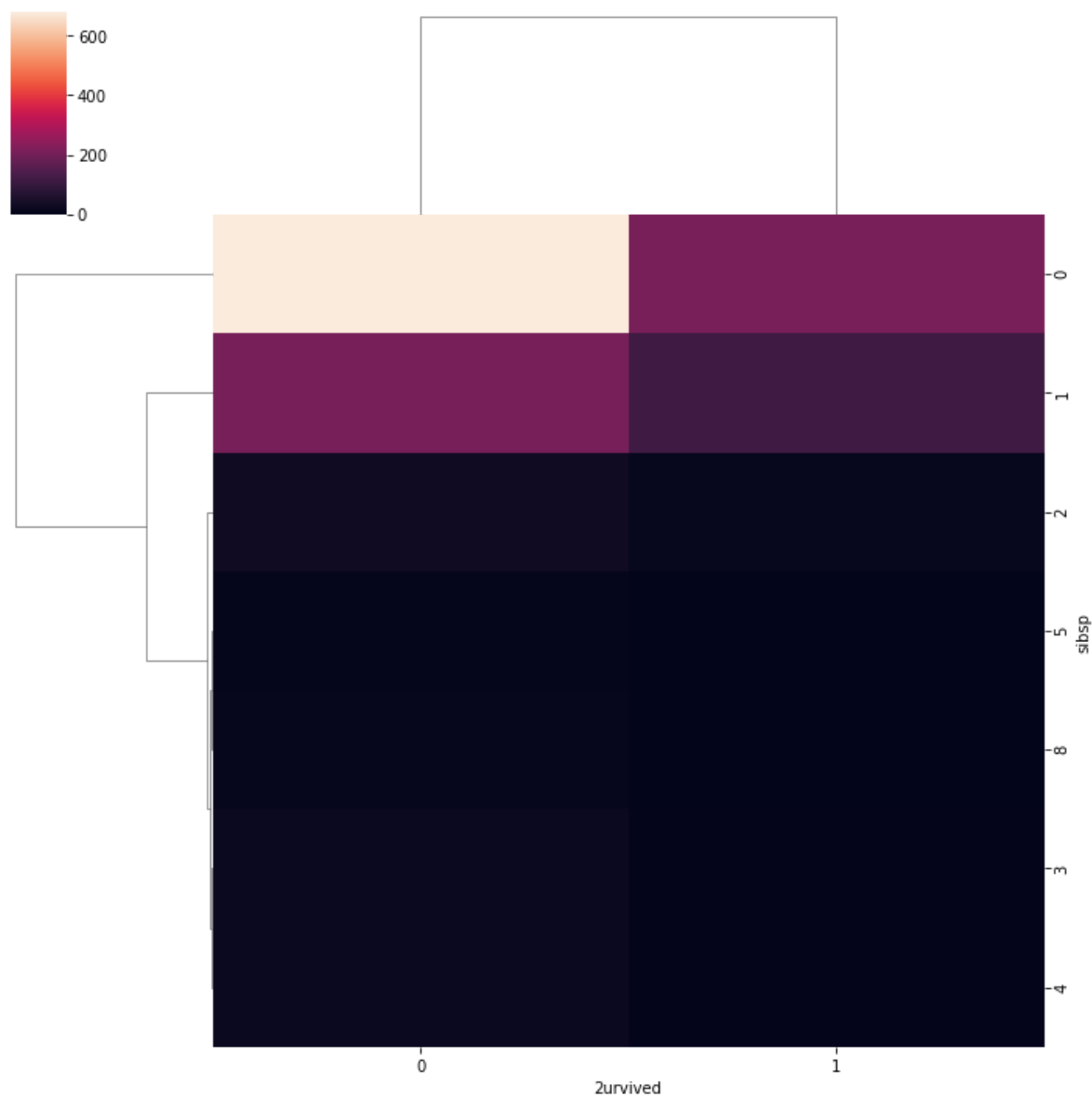
Out[34]:

2urvived	0	1
sibsp		
0	681	210
1	207	112
2	29	13
3	16	4
4	19	3
5	6	0
8	9	0

In [35]:

```
1  sns.clustermap(pd.crosstab(titanic['sibsp'],titanic['2urvived']))
```

Out[35]:

```
<seaborn.matrix.ClusterGrid at 0x7fb611038a30>
```

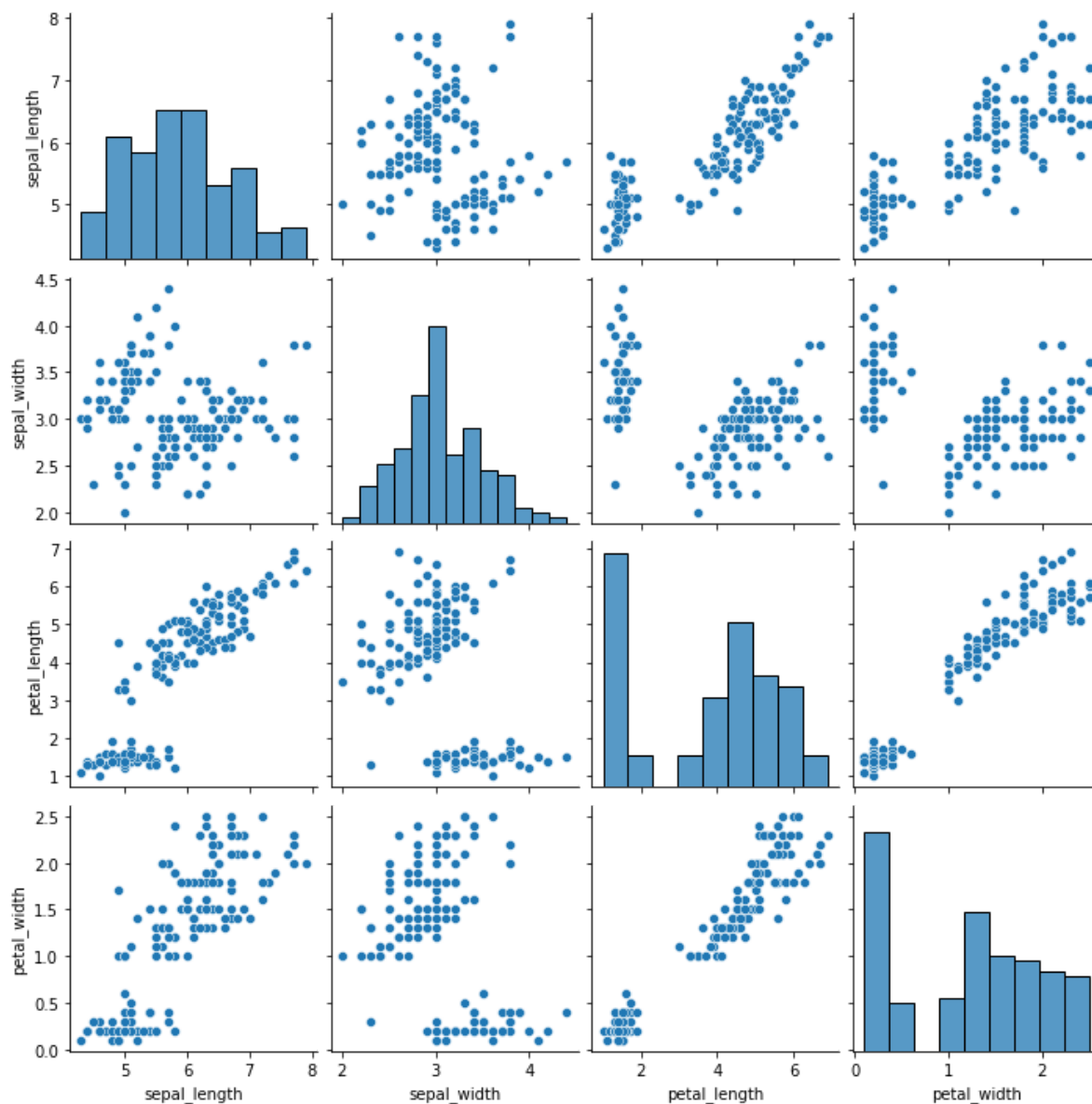# 7. Pair plot

In [36]:

```
1  sns.pairplot(iris)
```

Out[36]:

```
<seaborn.axisgrid.PairGrid at 0x7fb62548e820>
```
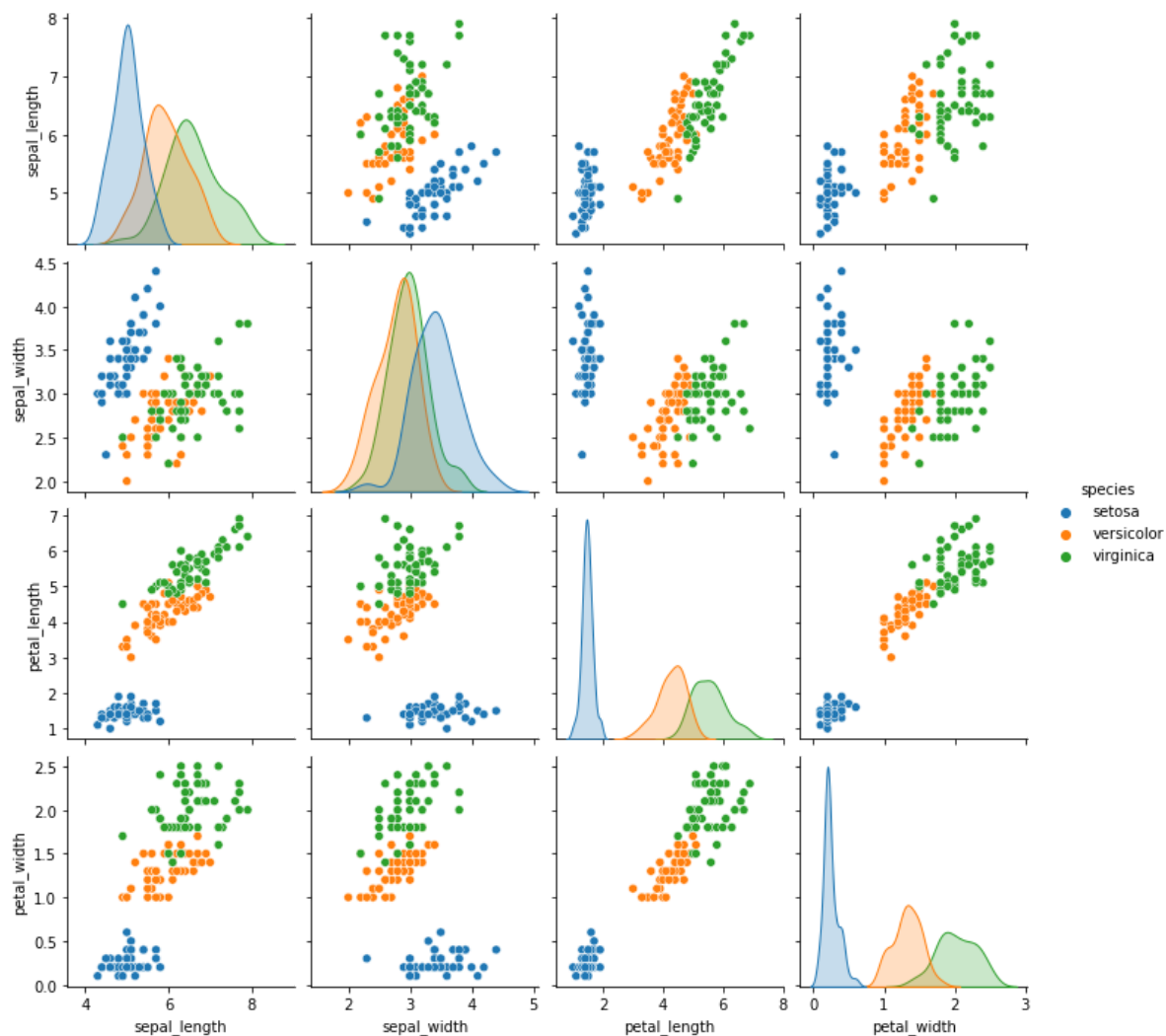
In [37]:

```
1  sns.pairplot(iris,hue = 'species')
```

Out[37]:

```
<seaborn.axisgrid.PairGrid at 0x7fb5a07a2490>
```


8. Line Plot

In [39]:

```
1  new = flights.groupby('year').sum().reset_index()
```
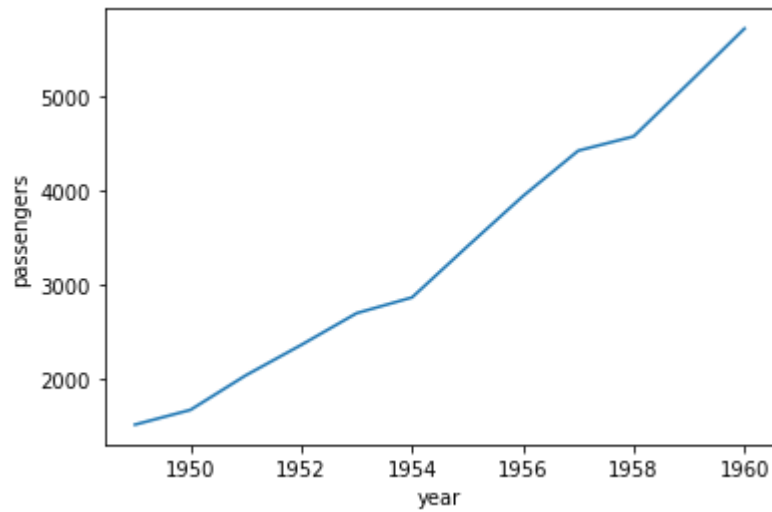
In [40]:

```
1  sns.lineplot(new['year'],new['passengers'])
```

Out[40]:

`<AxesSubplot:xlabel='year', ylabel='passengers'>`

In [41]:

```
flights.pivot_table(values='passengers',index='month',columns='year')
```

Out[41]:

year	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
month												
Jan	112	115	145	171	196	204	242	284	315	340	360	417
Feb	118	126	150	180	196	188	233	277	301	318	342	391
Mar	132	141	178	193	236	235	267	317	356	362	406	419
Apr	129	135	163	181	235	227	269	313	348	348	396	461
May	121	125	172	183	229	234	270	318	355	363	420	472
Jun	135	149	178	218	243	264	315	374	422	435	472	535
Jul	148	170	199	230	264	302	364	413	465	491	548	622
Aug	148	170	199	242	272	293	347	405	467	505	559	606
Sep	136	158	184	209	237	259	312	355	404	404	463	508
Oct	119	133	162	191	211	229	274	306	347	359	407	461
Nov	104	114	146	172	180	203	237	271	305	310	362	390
Dec	118	140	166	194	201	229	278	306	336	337	405	432

In [42]:

```
1  sns.heatmap(flights.pivot_table(values='passengers',
2                                   index='month',
3                                   columns='year'))
```

Out[42]:

```
<AxesSubplot:xlabel='year', ylabel='month'>
```
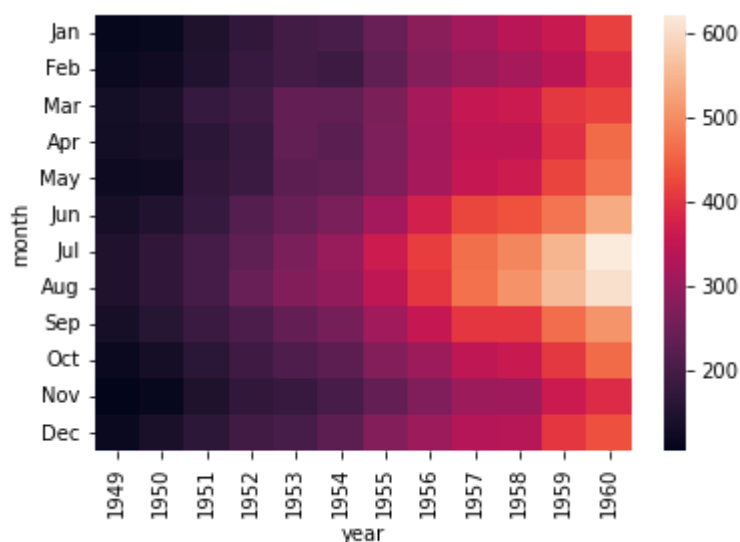
In [43]:
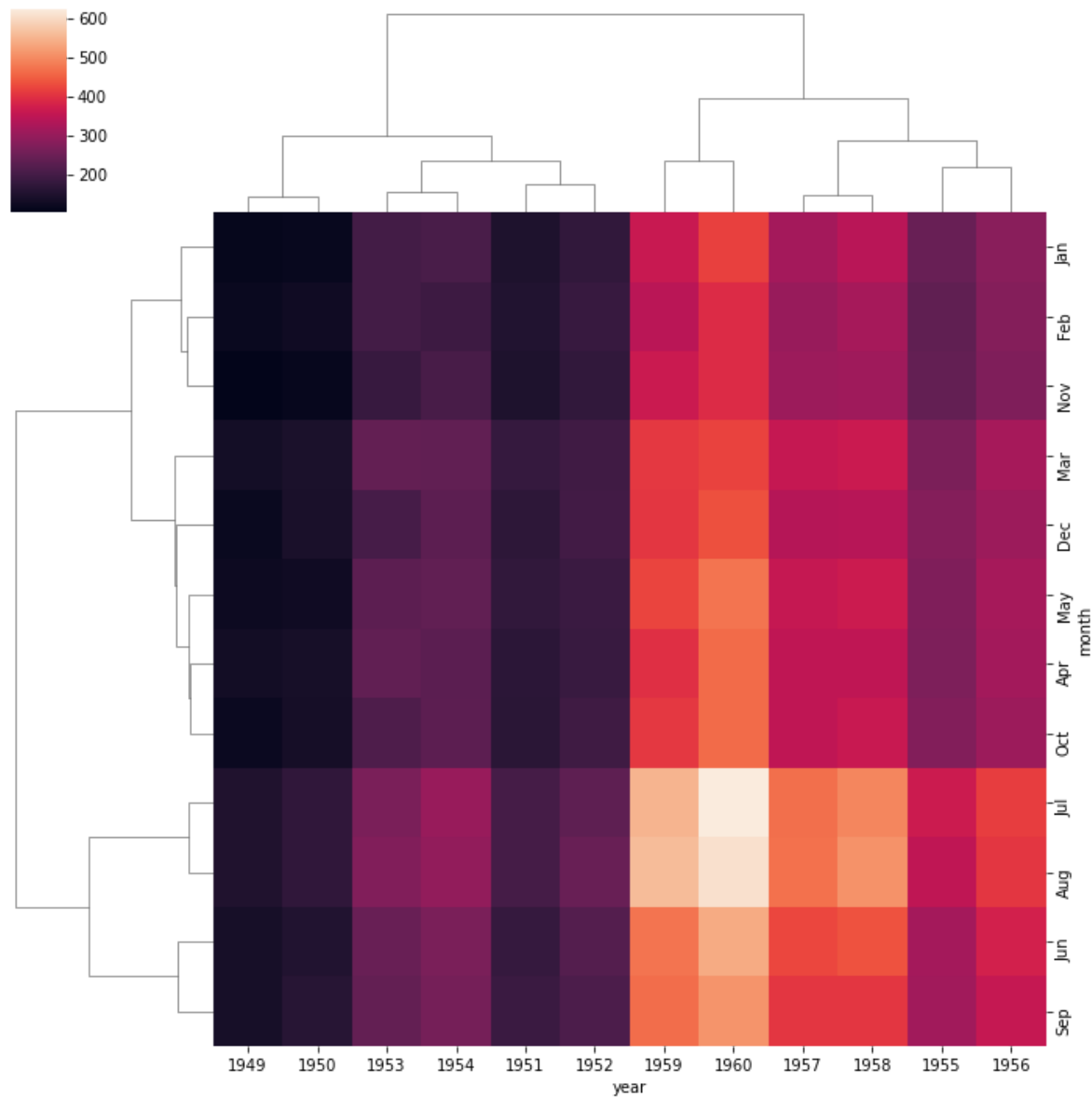
```
1  sns.clustermap(flights.pivot_table(values='passengers',
2                                     index='month',
3                                     columns='year'))
```

Out[43]:

<seaborn.matrix.ClusterGrid at 0x7fb5a1145cd0>

In [ ]:

```
1
```