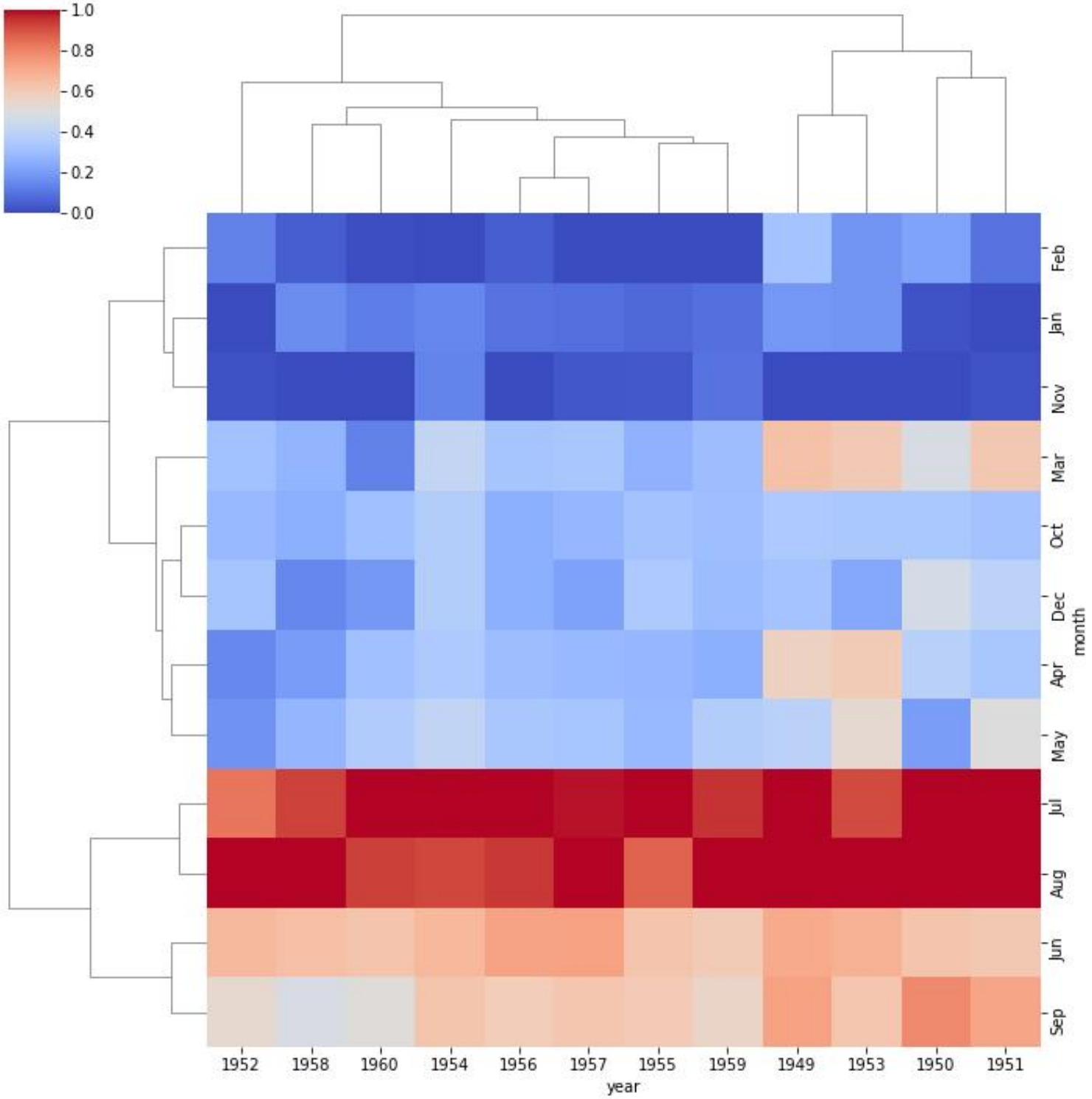

1.0
0.8
0.6
0.4
0.2
0.0
Feb
Jan
Nov
Mar
Oct
Dec
Apr
May
Jul
Aug
Jun
Sep
month
1952
1958
1960
1954
1956
1957
1955
1959
1949
1953
1950
1951
year

Matrix Plots

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import cv2
%matplotlib inline
```

[1] ✓ 7.8s

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

[2] ✓ 1.4s

```
tips.head()
```

[3] ✓ 0.7s

	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2

```
tips.head()
```

[3] ✓ 0.7s

	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
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4

```
flights.head()
```

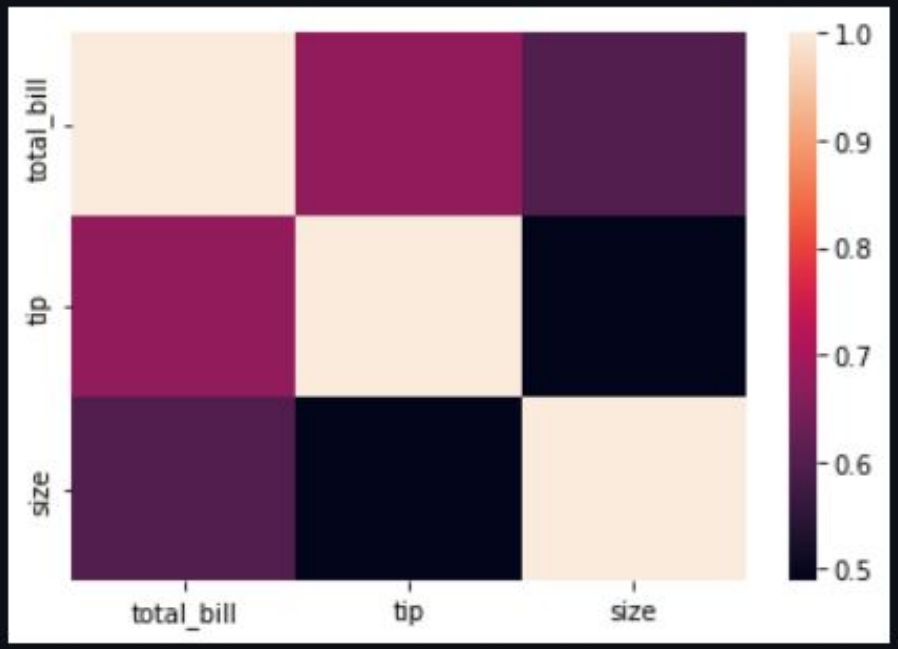
[4] ✓ 0.6s

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

```
[8]  tc = tips.corr()
     ✓ 0.6s
```

```
[9]  sns.heatmap(tc)
     ✓ 0.4s
```

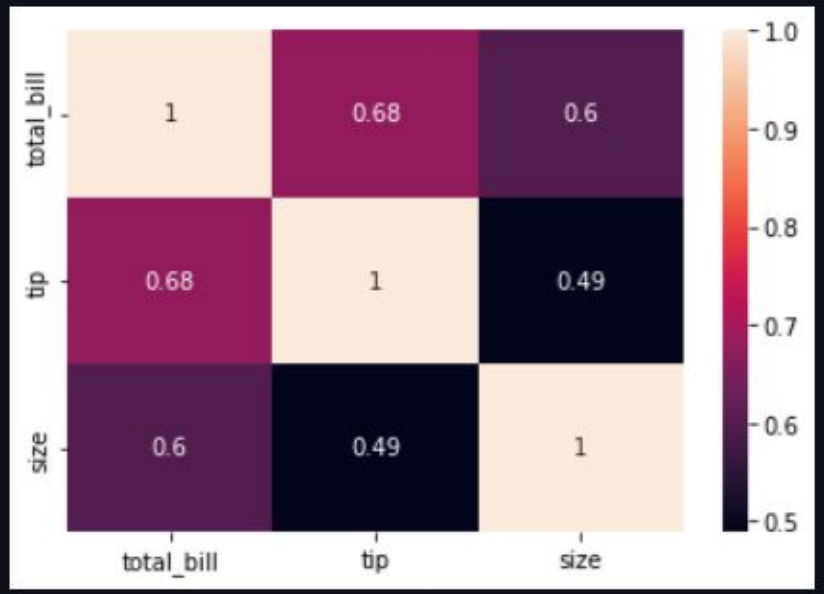
```
<AxesSubplot:>
```



```
sns.heatmap(tc, annot=True)
```

[10] ✓ 0.3s

```
<AxesSubplot:>
```



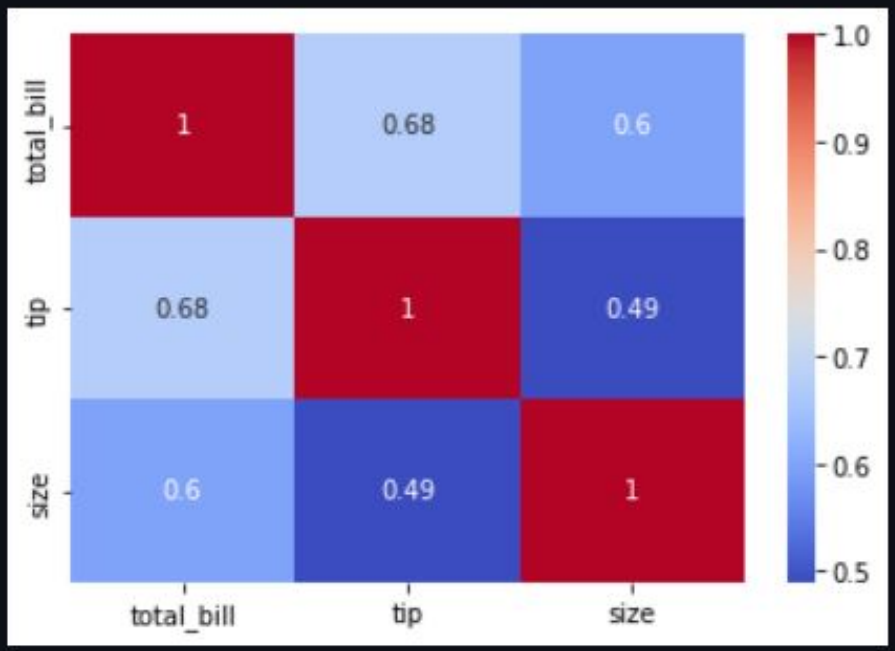

```
sns.heatmap(tc,annot=True, cmap=('coolwarm'))
```

[11] ✓ 0.4s

```
sns.heatmap(tc,annot=True, cmap=('coolwarm'))
```

[11] ✓ 0.4s

```
<AxesSubplot:>
```




```
flights
```

[13] ✓ 0.7s

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

[14] ✓ 0.1s

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

```
fp = flights.pivot_table(index='month', columns='year', values='passengers')
sns.heatmap(fp, cmap='coolwarm', linecolor='black', linewidth=3)
```

26] ✓ 0.6s

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