Python for Data Science

Matrix Plots

Seaborn

In [60]:
```
import seaborn as sns
%matplotlib inline
tips = sns.load_dataset('tips')
flights = sns.load_dataset('flights')
tips.head()
```

Out[60]:

	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

In [61]:
```
flights.head()
```

Out[60]:

	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

In [61]:
```
flights.head()
```

Out[61]:

	year	month	passengers
0	1949	January	112
1	1949	February	118
2	1949	March	132
3	1949	April	129
4	1949	May	121

jupyter seaborn (unsaved changes)


```
tips = sns.load_dataset('tips')
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0	16.99	1.01	Female	No	Sun	Dinner	2
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In [61]:
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3	1949	April	129

jupyter seaborn (unsaved changes)

2	1949	March	132
3	1949	April	129
4	1949	May	121

In [65]:
```
tips.corr()
```

Out[65]:

	total_bill	tip	size
total_bill	1.000000	0.675734	0.598315
tip	0.675734	1.000000	0.489299
size	0.598315	0.489299	1.000000

In [ ]:
```

```

jupyter seaborn (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Python [conda env:py35]

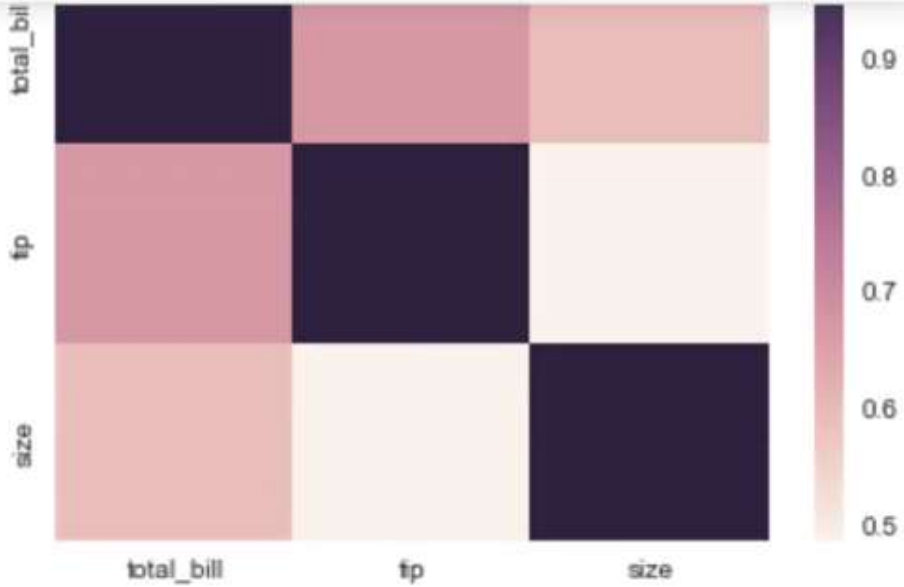
In [66]:
```
tc = tips.corr()
```

In [67]:
```
sns.heatmap(tc)
```

Out[67]: <matplotlib.axes._subplots.AxesSubplot at 0x254c605d240>

In [ ]:

jupyter seaborn (unsaved changes)



In [68]:
```
tc
```

Out[68]:

	total_bill	tip	size
total_bill	1.000000	0.675734	0.598315
tip	0.675734	1.000000	0.489299
size	0.598315	0.489299	1.000000

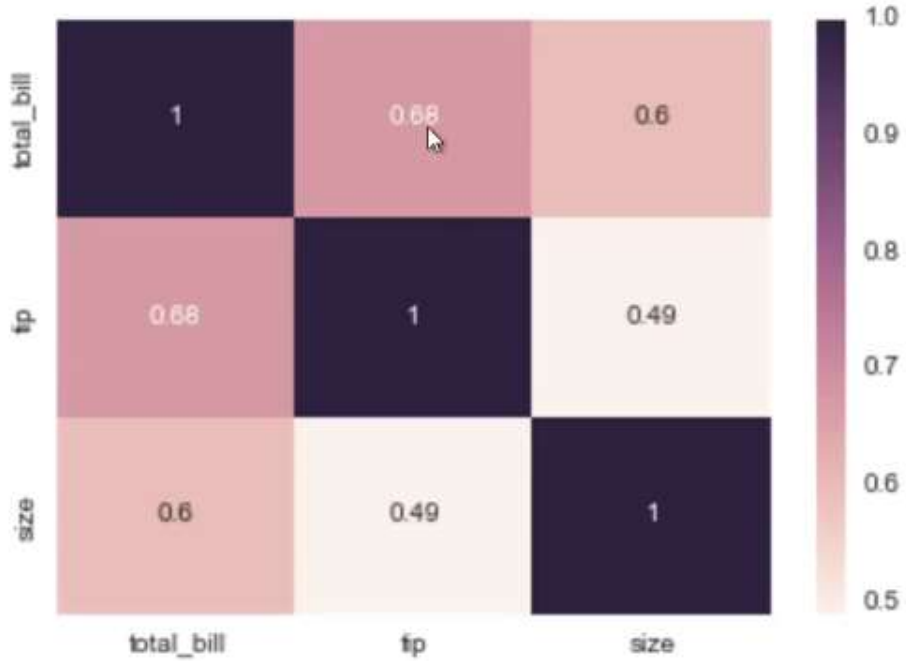
In [ ]:

jupyter seaborn (unsaved changes)

In [66]:
```
tc = tips.corr()
```

In [69]:
```
sns.heatmap(tc,annot=True)
```

Out[69]: <matplotlib.axes._subplots.AxesSubplot at 0x254c61f6550>



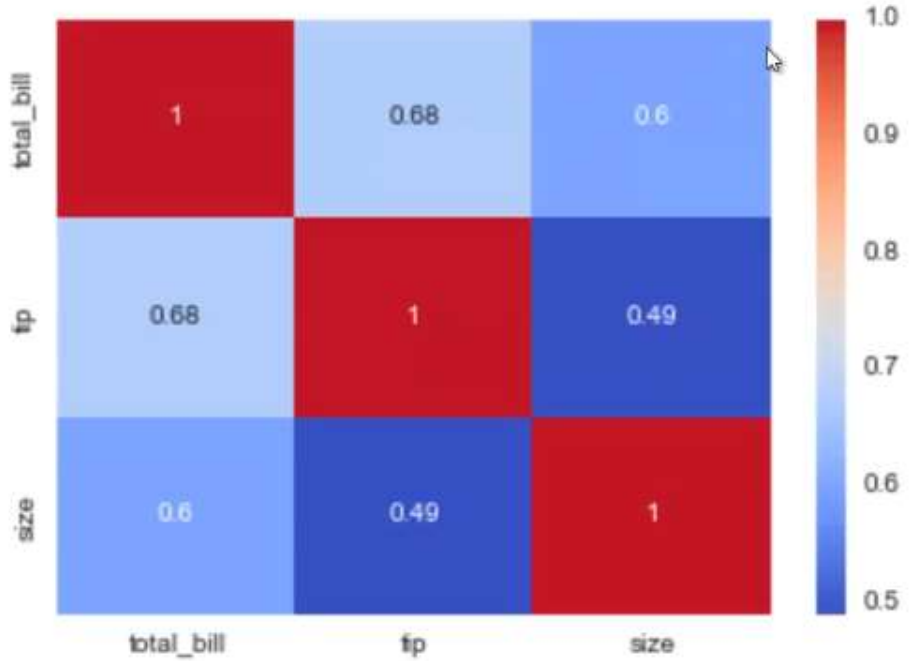
In [68]:
```
tc
```

jupyter seaborn (unsaved changes)

In [66]:
```
tc = tips.corr()
```

In [70]:
```
sns.heatmap(tc,annot=True,cmap='coolwarm')
```

Out[70]: <matplotlib.axes._subplots.AxesSubplot at 0x254c5fdd128>



In [68]:
```
tc
```

total_bill tip size

In [71]:
```
flights
```

Out[71]:

	year	month	passengers
0	1949	January	112
1	1949	February	118
2	1949	March	132
3	1949	April	129
4	1949	May	121
5	1949	June	135
6	1949	July	148
7	1949	August	148
8	1949	September	136
9	1949	October	119
10	1949	November	104

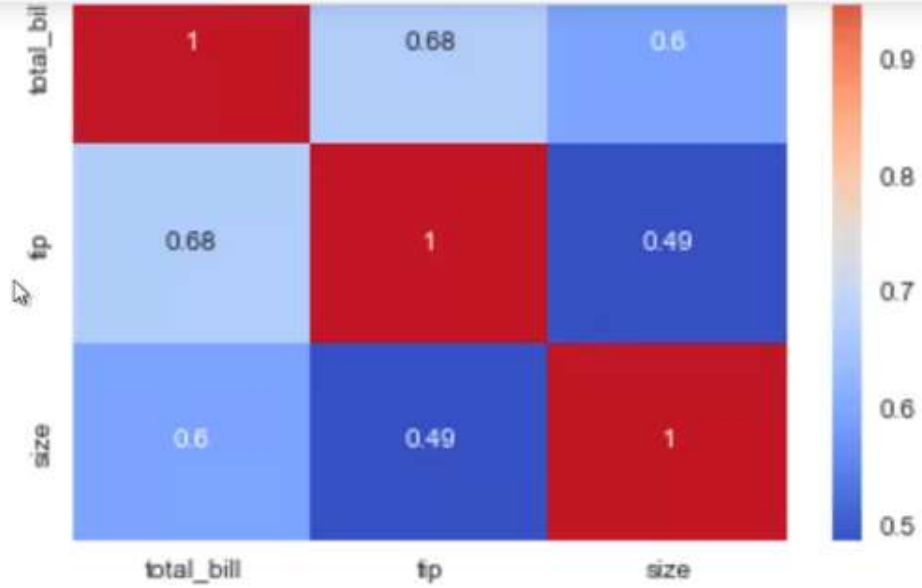
total_bill tip size

In [72]:
```
flights.pivot_table(index='month',columns='year',values='passengers')
```

Out[72]:

year	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
month												
January	112	115	145	171	196	204	242	284	315	340	360	417
February	118	126	150	180	196	188	233	277	301	318	342	391
March	132	141	178	193	236	235	267	317	356	362	406	419
April	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
June	135	149	178	218	243	264	315	374	422	435	472	535
July	148	170	199	230	264	302	364	413	465	491	548	622
August	148	170	199	242	272	293	347	405	467	505	559	606
September	136	158	184	209	237	259	312	355	404	404	463	508
October	119	133	162	191	211	229	274	306	347	359	407	461
November	104	114	146	172	180	203	237	271	305	310	362	390

jupyter seaborn (unsaved changes)



In [73]:
```
fp =flights.pivot_table(index='month',columns='year',values='passengers')
```

In [ ]:

seaborn

localhost:8888/notebooks/Python-Data-Science-and-Machine-Learning-Bootcamp-master/Python-Data-Science-and-Machine-Learning-Bootcamp-master/Python-for-Data-Visualization/Matplotlib/seaborn.ipynb

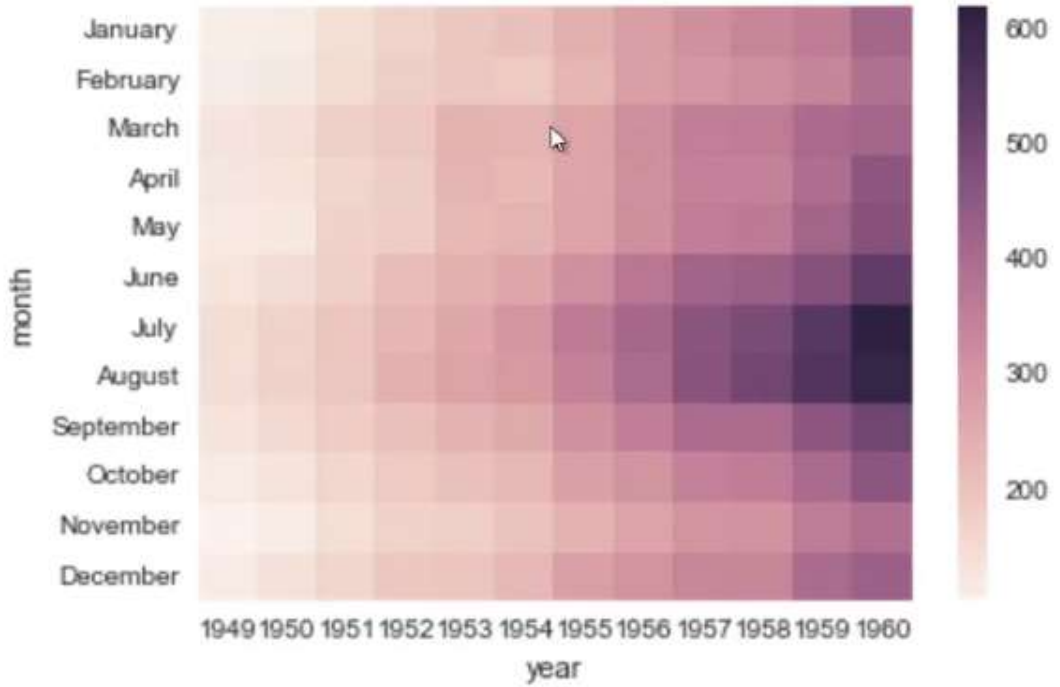
jupyter seaborn (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Python [conda env:py35]

In [73]:
```
fp =flights.pivot_table(index='month',columns='year',values='passengers')
```

In [74]:
```
sns.heatmap(fp)
```

Out[74]: <matplotlib.axes._subplots.AxesSubplot at 0x254c636ae10>

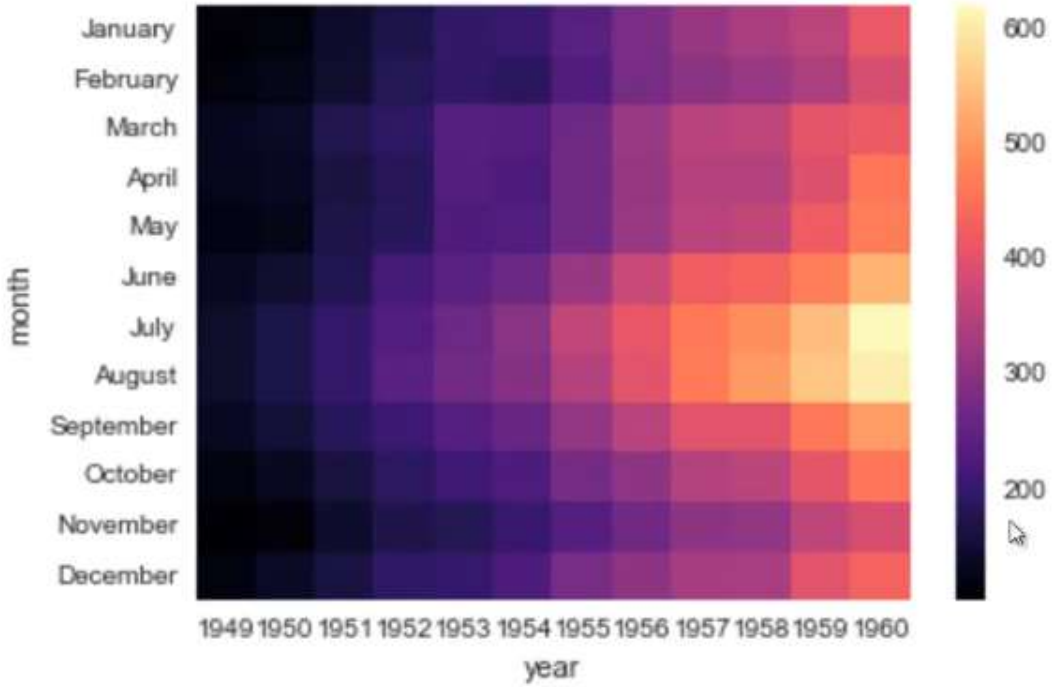


In [ ]:

In [73]:
```
fp =flights.pivot_table(index='month',columns='year',values='passengers')
```

In [75]:
```
sns.heatmap(fp,cmap='magma')
```

Out[75]: <matplotlib.axes._subplots.AxesSubplot at 0x254c6402b70>



seaborn

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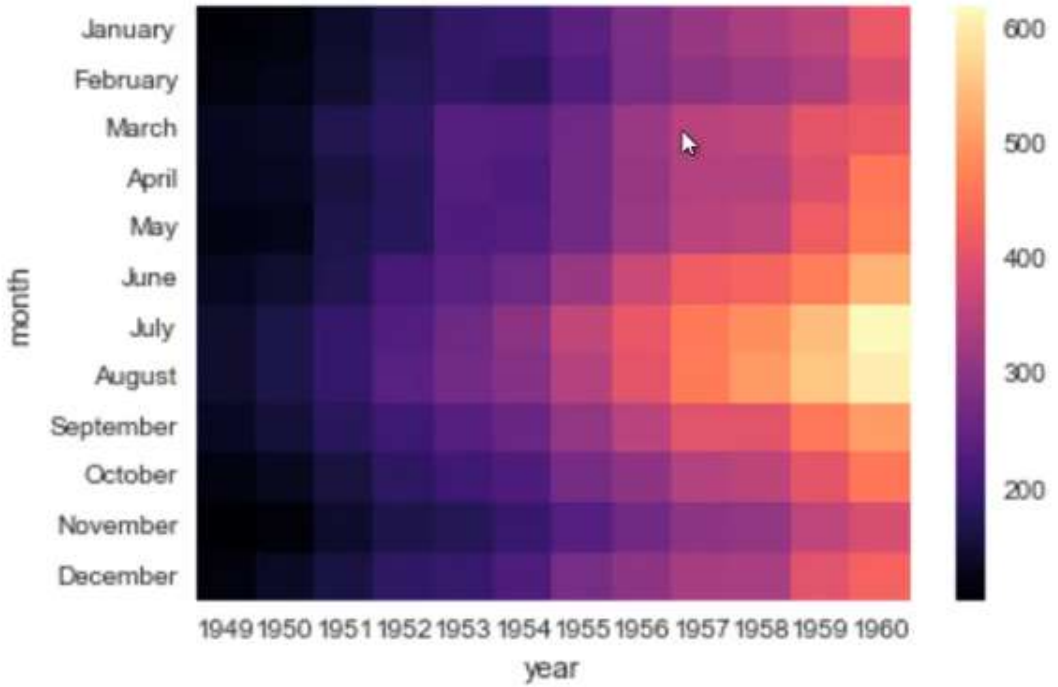
jupyter seaborn (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Python [conda env:py35]

In [73]:
```
fp =flights.pivot_table(index='month',columns='year',values='passengers')
```

In [75]:
```
sns.heatmap(fp,cmap='magma',linecolor=,linewidths=)
```

Out[75]: <matplotlib.axes._subplots.AxesSubplot at 0x254c6402b70>



In [ ]:

seaborn

localhost:8888/notebooks/Python-Data-Science-and-Machine-Learning-Bootcamp-master/Python-Data-Science-and-Machine-Learning-Bootcamp-master/Python-for-Data-Visualization/Matplotlib/seaborn.ipynb

jupyter seaborn (unsaved changes)

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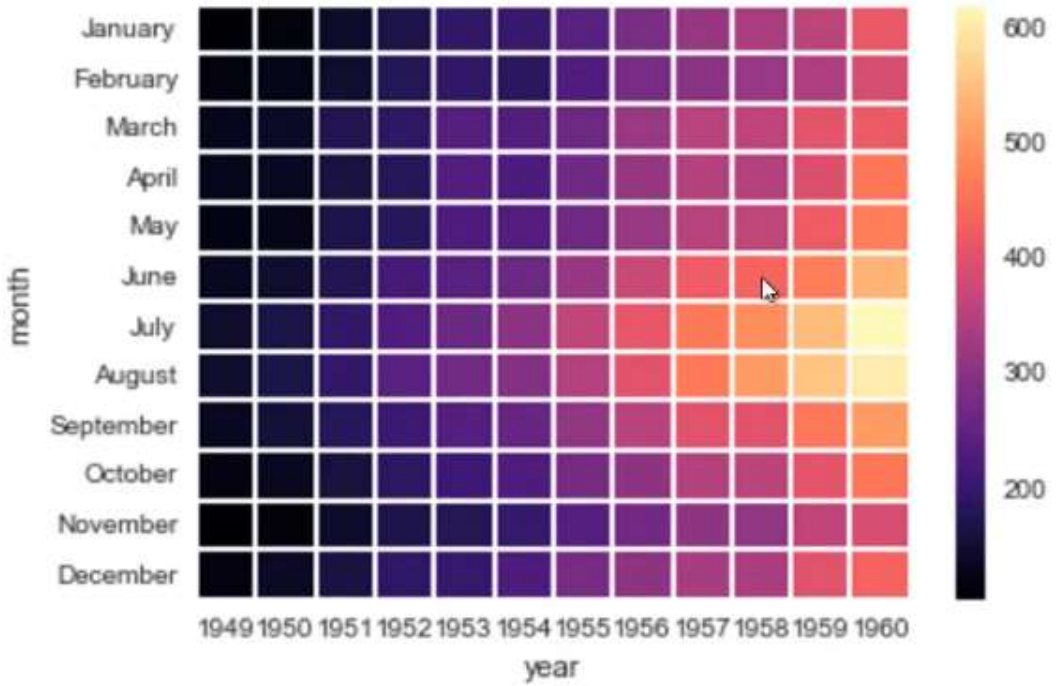
In [73]:
```
fp =flights.pivot_table(index='month',columns='year',values='passengers')
```

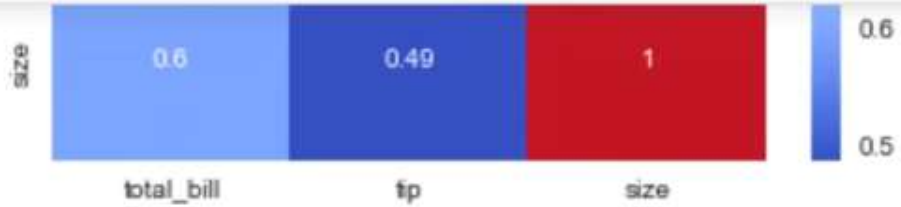
In [76]:
```
sns.heatmap(fp,cmap='magma',linecolor='white',linewidths=1)
```

Out[76]: <matplotlib.axes._subplots.AxesSubplot at 0x254c64e85c0>



In [ ]:

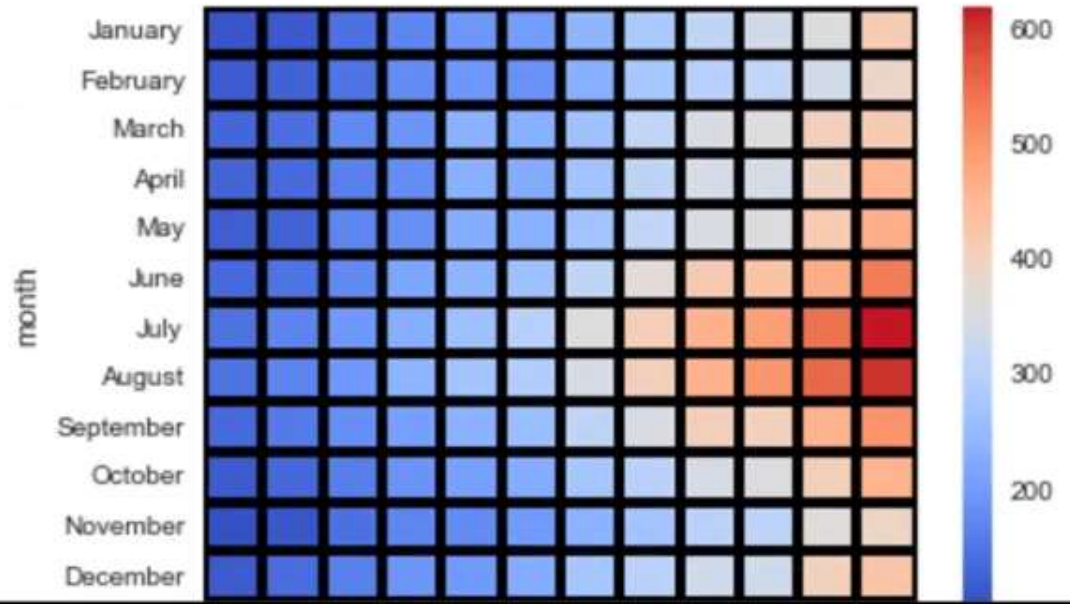
jupyter seaborn (unsaved changes)



In [73]:
```
fp =flights.pivot_table(index='month',columns='year',values='passengers')
```

In [79]:
```
sns.heatmap(fp,cmap='coolwarm',linecolor='black',linewidths=3)
```

Out[79]: <matplotlib.axes._subplots.AxesSubplot at 0x254c6562588>



seaborn

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jupyter seaborn (unsaved changes)

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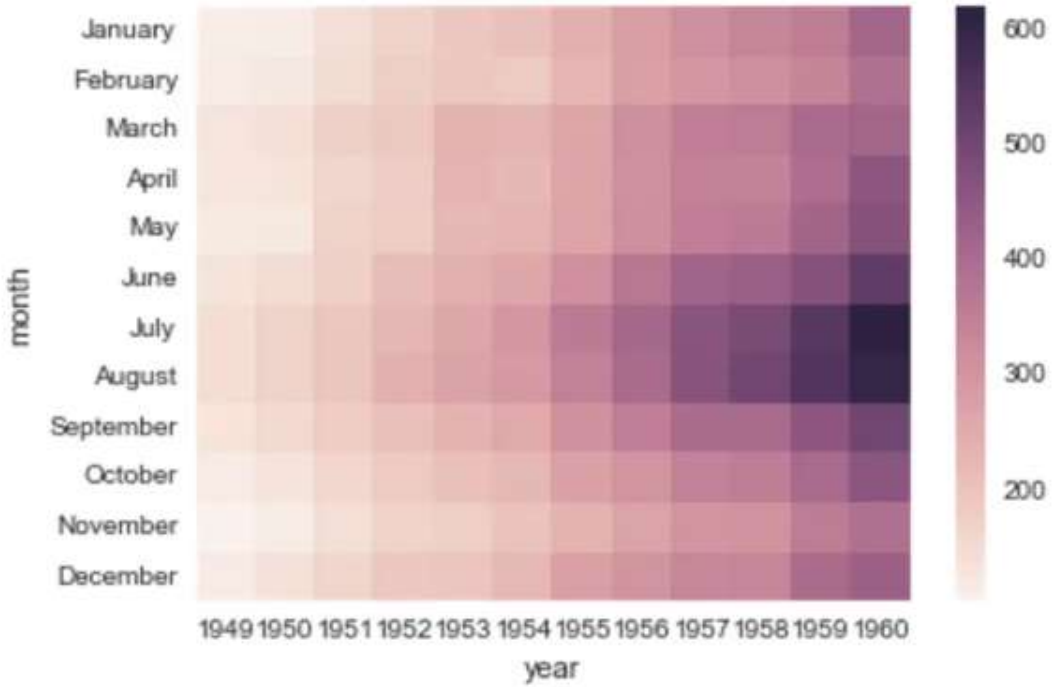
In [73]:
```
fp =flights.pivot_table(index='month',columns='year',values='passengers')
```

In [80]:
```
sns.heatmap(fp)
```

Out[80]: <matplotlib.axes._subplots.AxesSubplot at 0x254c777bef0>



In [ ]:

(Busy) seaborn

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jupyter seaborn (unsaved changes)

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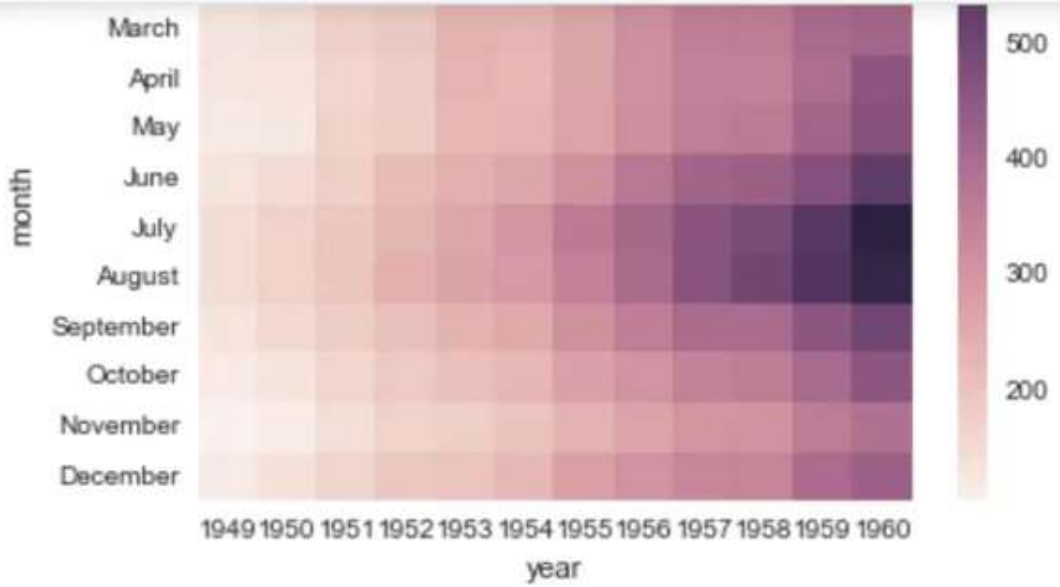


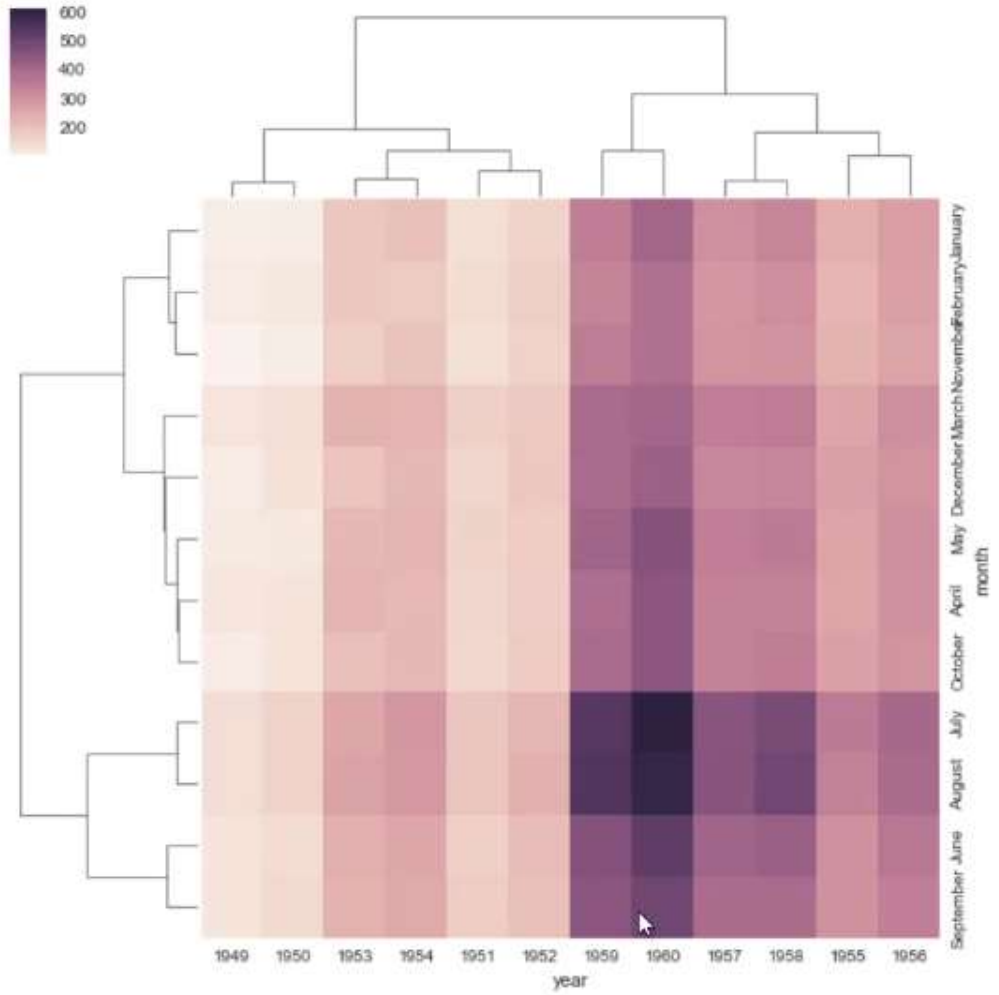
In [*]:
```
sns.clustermap(fp)
```

Out[81]: <seaborn.matrix.ClusterGrid at 0x254c78746a0>

In [ ]:

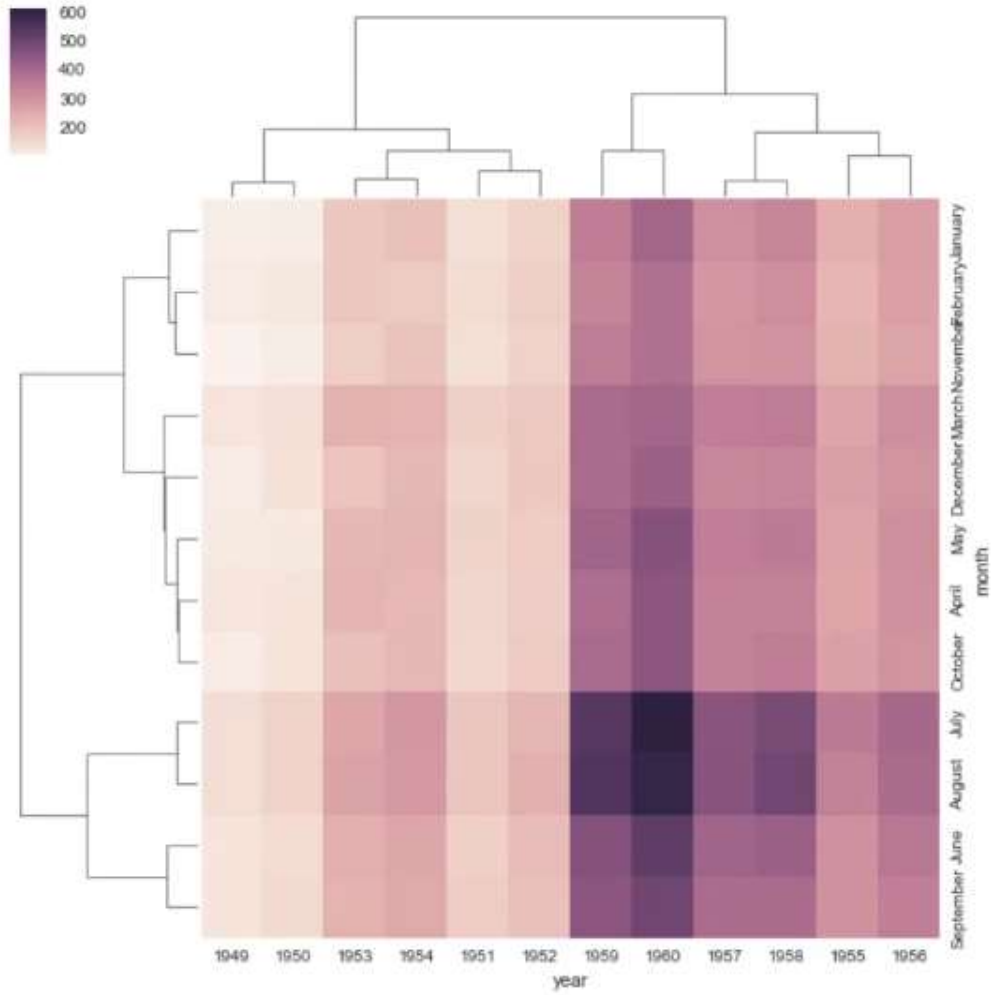
In [81]:
```
sns.clustermap(fp)
```

Out[81]: <seaborn.matrix.ClusterGrid at 0x254c78746a0>



In [81]:
```
sns.clustermap(fp,cmap='coolwarm')
```

Out[81]: <seaborn.matrix.ClusterGrid at 0x254c78746a0>



seaborn

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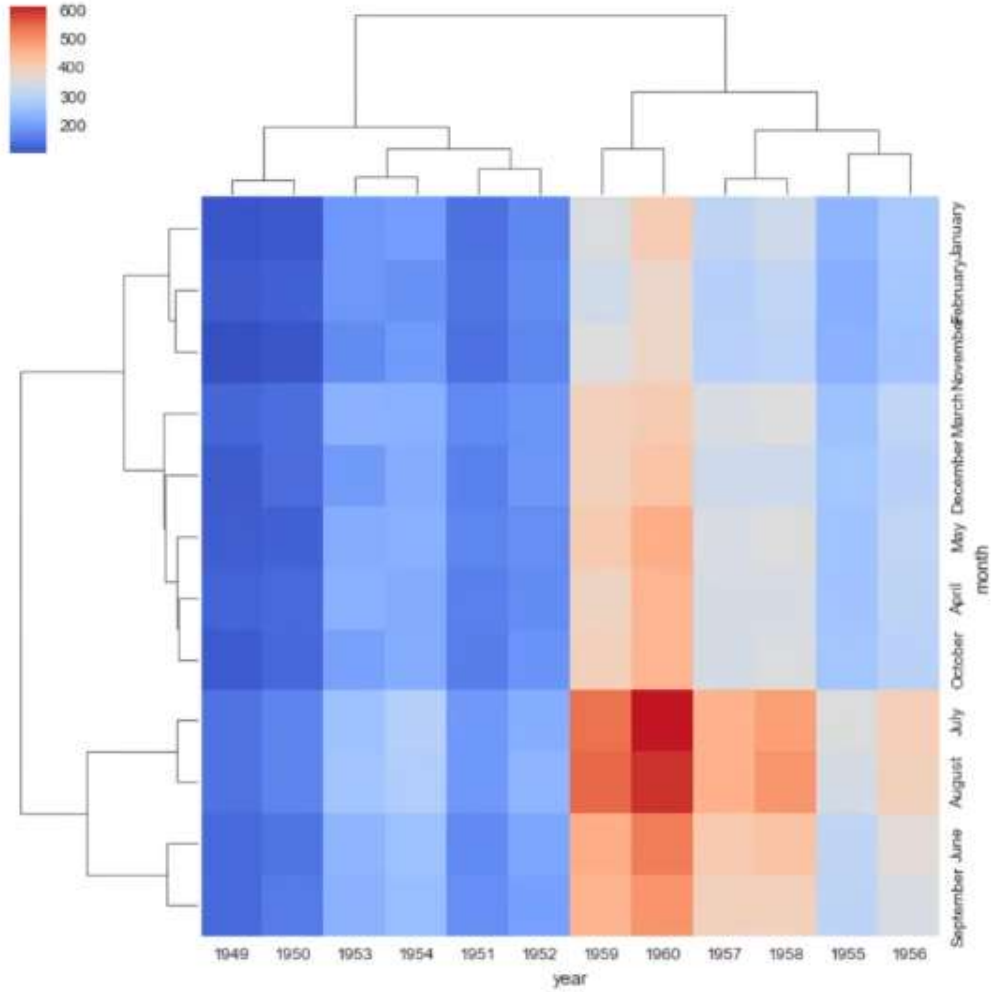
In [82]:
```
sns.clustermap(tp,cmap= 'coolwarm' )
```

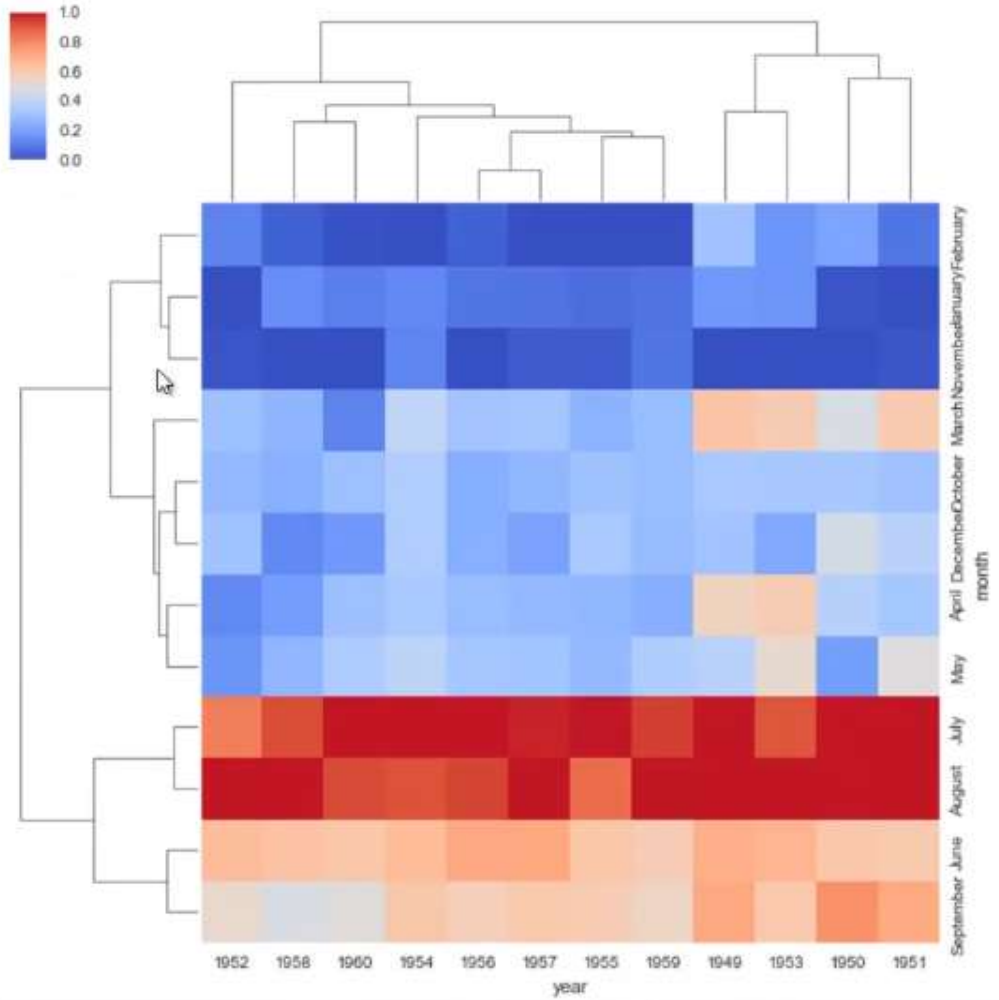
Out[82]: <seaborn.matrix.ClusterGrid at 0x254c7c86b00>



In [ ]:

In [83]:
```
sns.clustermap(fp,cmap='coolwarm',standard_scale=1)
```

Out[83]: <seaborn.matrix.ClusterGrid at 0x254c7e24a20>



seaborn

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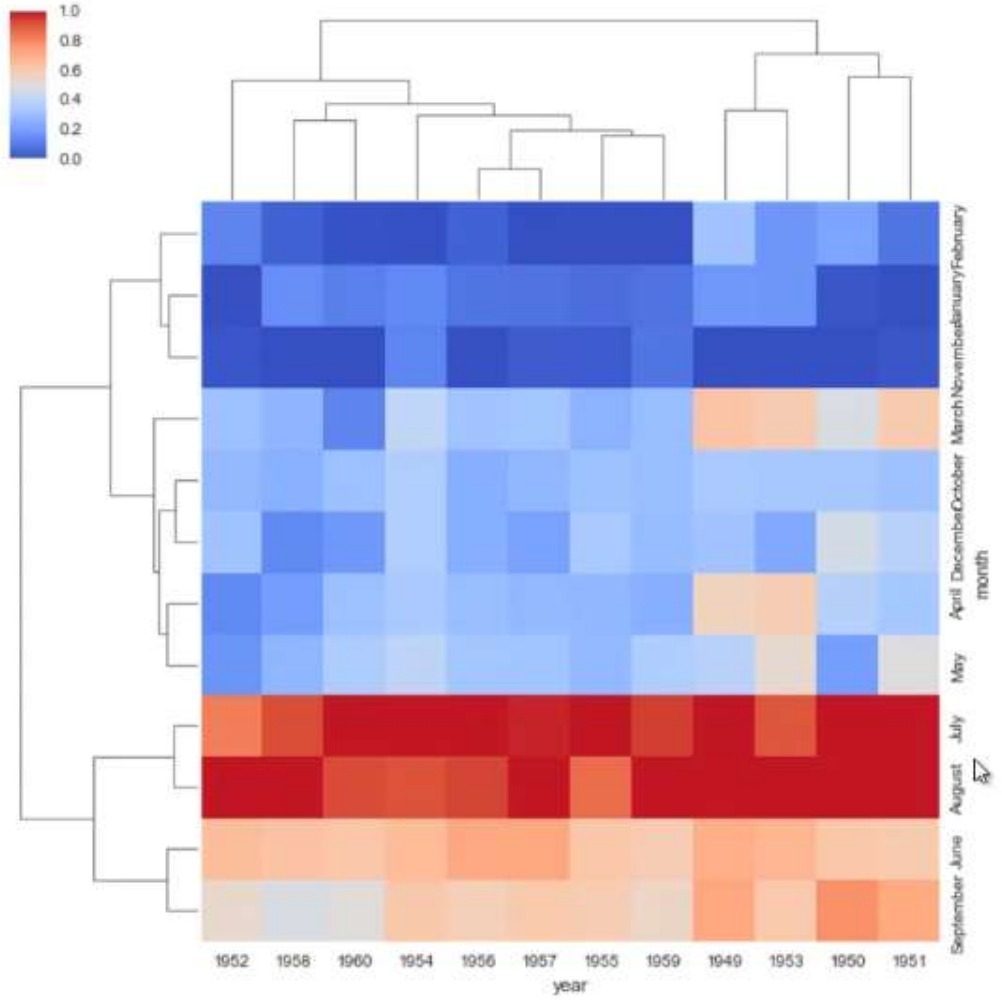
Python [conda env:py35]

In [83]:
```
sns.clustermap(tp,cmap= 'coolwarm' ,standard_scale=1)
```

Out[83]: <seaborn.matrix.ClusterGrid at 0x254c7e24a20>



In [ ]: