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Grids

Imports

```
In [1]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

The Data

```
In [32]: df = pd.read_csv('StudentsPerformance.csv')
```

```
In [33]: df.head()
```

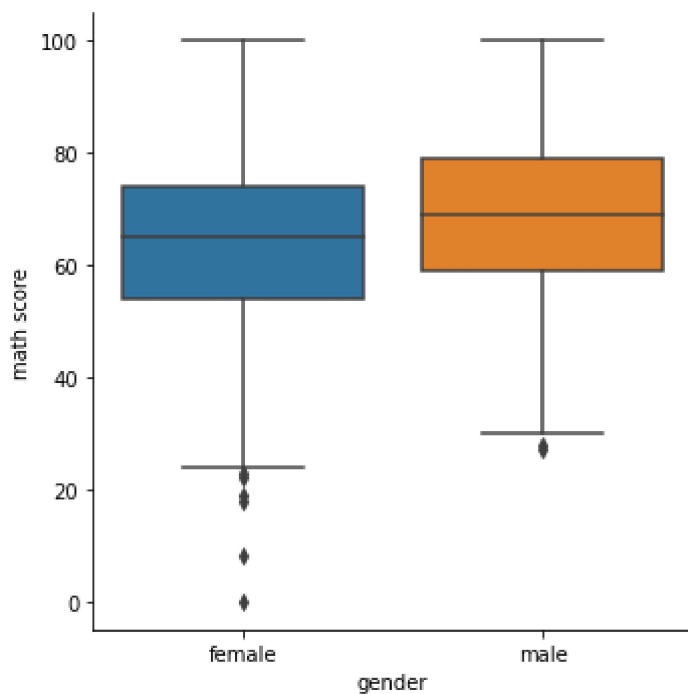
```
Out[33]:
```

	gender	race/ethnicity	parental level of education	lunch	test preparation course	math score	reading score	writing score
0	female	group B	bachelor's degree	standard	none	72	72	74
1	female	group C	some college	standard	completed	69	90	88
2	female	group B	master's degree	standard	none	90	95	93
3	male	group A	associate's degree	free/reduced	none	47	57	44
4	male	group C	some college	standard	none	76	78	75

catplot()

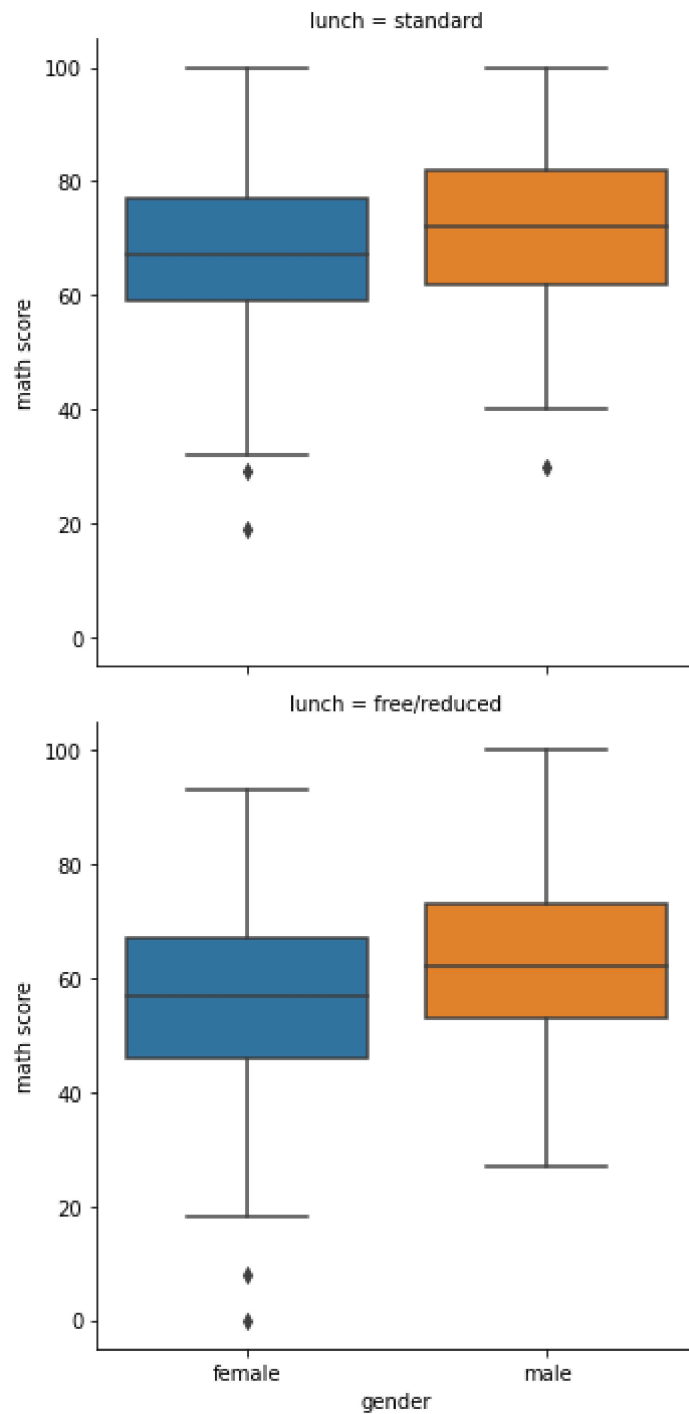
```
In [9]: # Kind Options are: "point", "bar", "strip", "swarm", "box", "violin", or "  
sns.catplot(x='gender',y='math score',data=df,kind='box')
```

Out[9]: <seaborn.axisgrid.FacetGrid at 0x1e24e235b08>



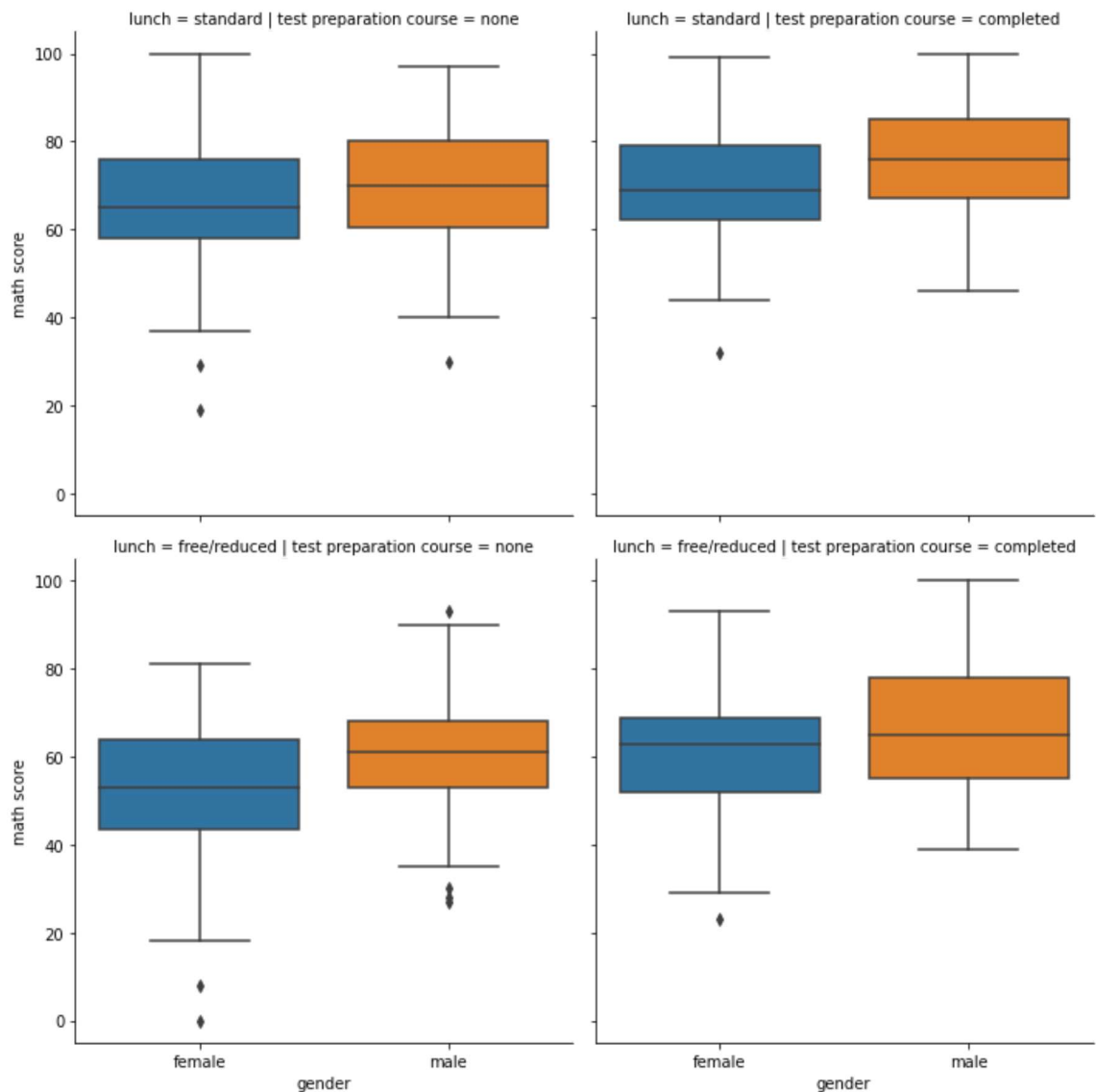
```
In [11]: sns.catplot(x='gender',y='math score',data=df,kind='box',row='lunch')
```

```
Out[11]: <seaborn.axisgrid.FacetGrid at 0x1e24e37b2c8>
```



```
In [13]: sns.catplot(x='gender',y='math score',data=df,kind='box',row='lunch',col='test preparation course')
```

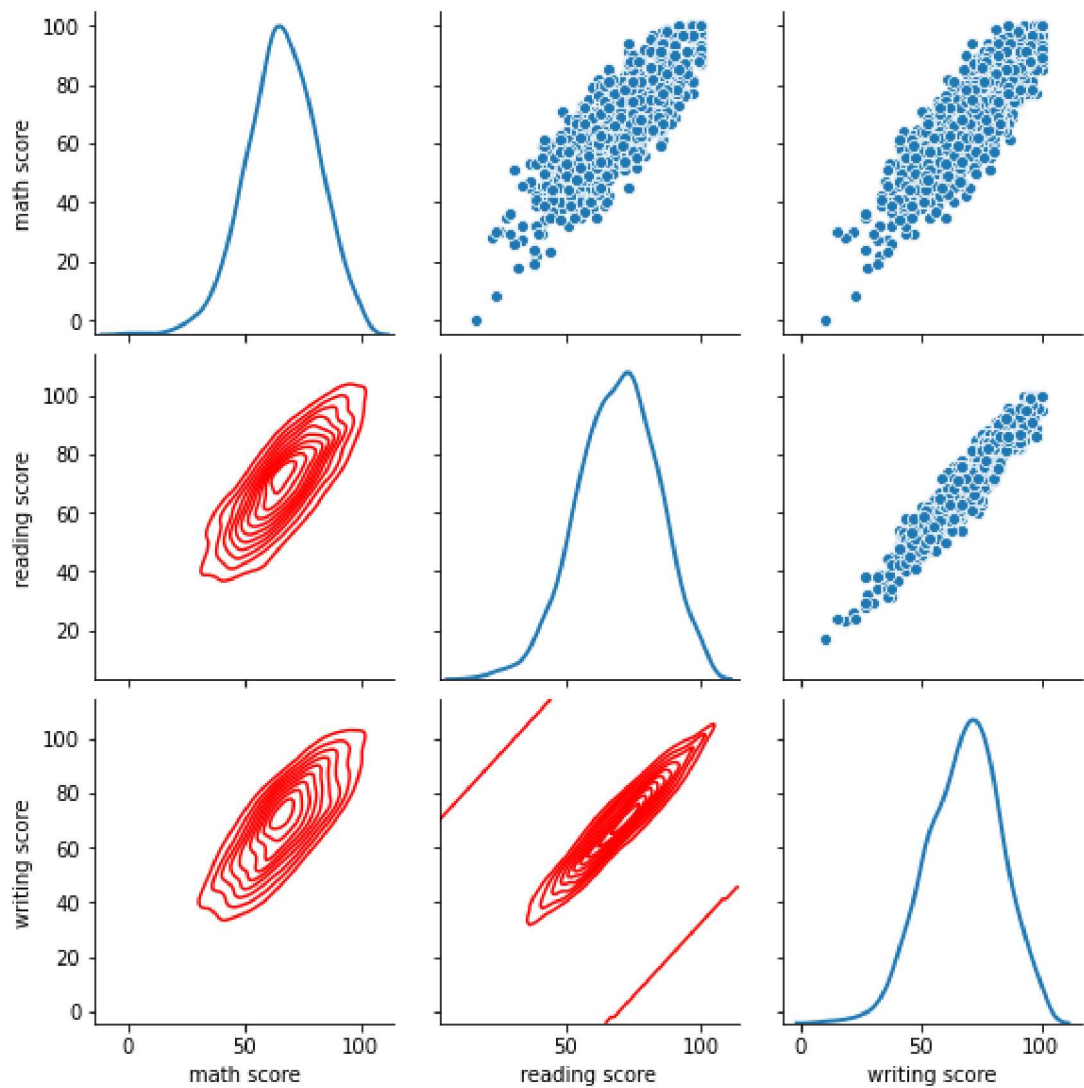
```
Out[13]: <seaborn.axisgrid.FacetGrid at 0x1e24e856388>
```



Pairgrid

Grid that pairplot is built on top of, allows for heavy customization of the pairplot seen earlier.

```
In [16]: g = sns.PairGrid(df)
g = g.map_upper(sns.scatterplot)
g = g.map_diag(sns.kdeplot, lw=2)
g = g.map_lower(sns.kdeplot, colors="red")
```

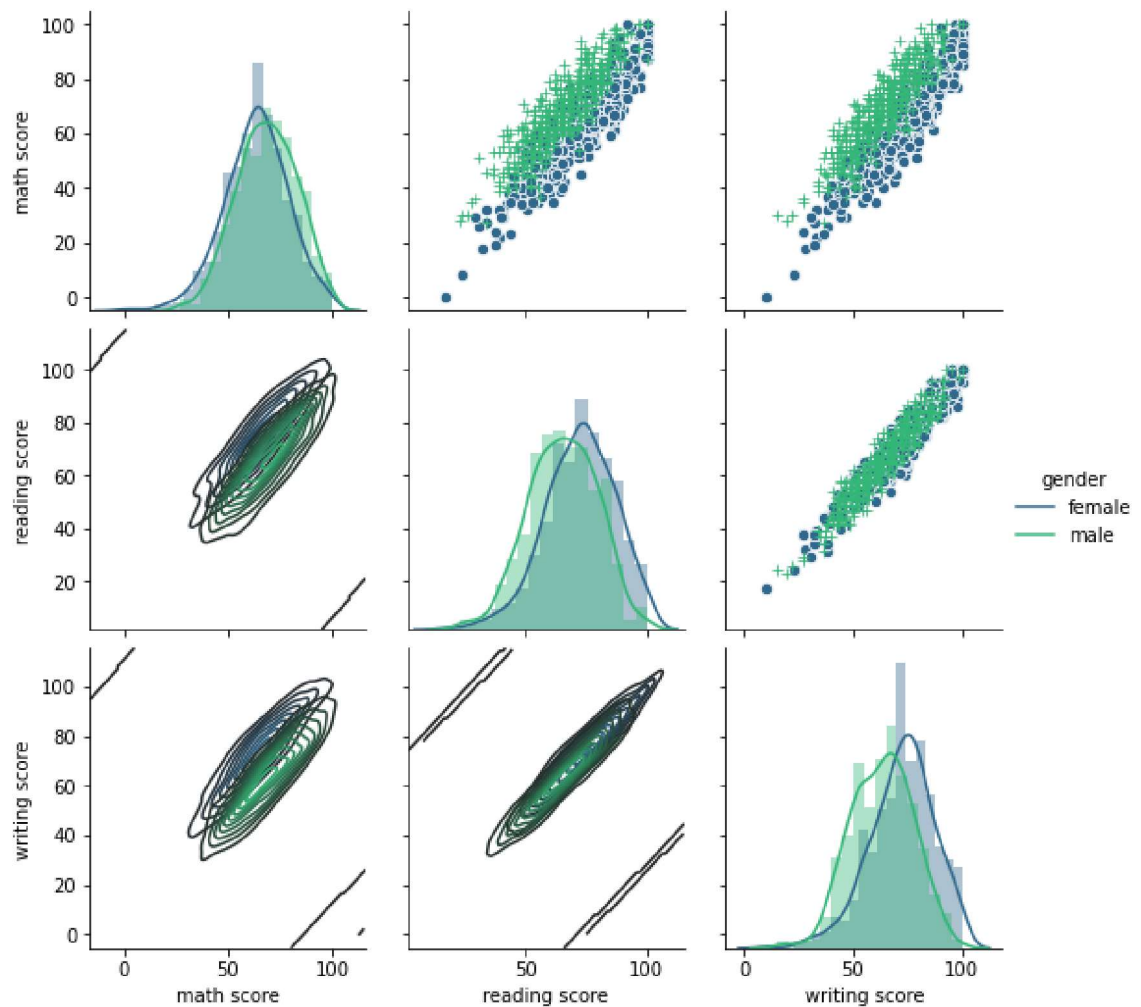


```
In [24]: g = sns.PairGrid(df, hue="gender", palette="viridis", hue_kws={"marker": ["o",
g = g.map_upper(sns.scatterplot, linewidths=1, edgecolor="w", s=40)
g = g.map_diag(sns.distplot)
g = g.map_lower(sns.kdeplot)
g = g.add_legend();
```

Safely ignore the warning, its telling you it didn't use the marker for k

c:\users\marcial\anaconda3\envs\ml_master\lib\site-packages\seaborn\distributions.py:434: UserWarning: The following kwargs were not used by contour: 'marker'

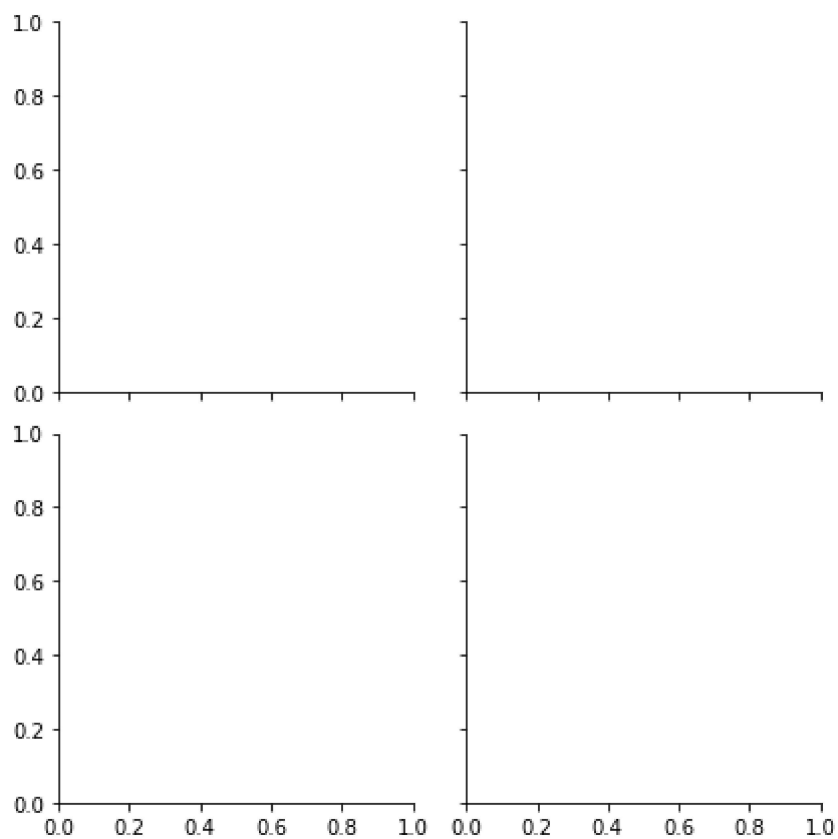
```
cset = contour_func(xx, yy, z, n_levels, **kwargs)
```



FacetGrid

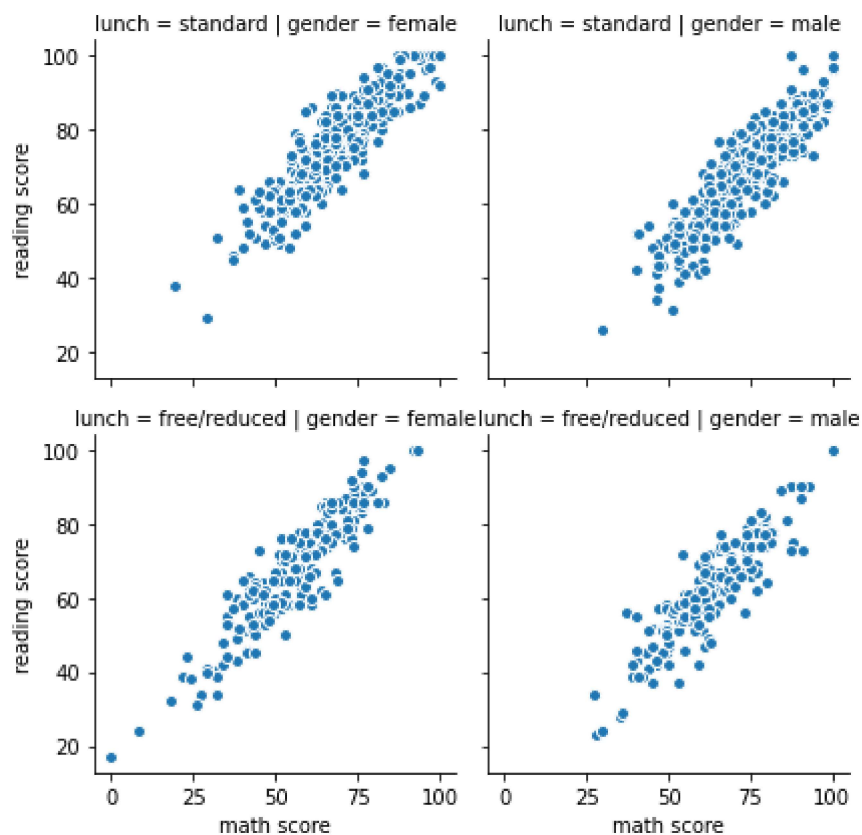
```
In [4]: sns.FacetGrid(data=df, col='gender', row='lunch')
```

```
Out[4]: <seaborn.axisgrid.FacetGrid at 0x1e24be00748>
```



```
In [25]: g = sns.FacetGrid(data=df, col='gender', row='lunch')
g = g.map(plt.scatter, "math score", "reading score", edgecolor="w")
g.add_legend()
```

Out[25]: <seaborn.axisgrid.FacetGrid at 0x1e24f4fcb08>



```
In [26]: # https://stackoverflow.com/questions/43669229/increase-space-between-rows-
```



```
In [29]: g = sns.FacetGrid(data=df, col='gender', row='lunch')
g = g.map(plt.scatter, "math score", "reading score", edgecolor="w")
g.add_legend()

plt.subplots_adjust(hspace=0.4, wspace=1)
```

