Seaborn basic commands

March 26, 2022

[1]:
```
path='C:/Users/ditsi/Desktop/python/Understanding and Visualising Data with␣
↪Python/Cartwheeldata.csv'
```

[2]:
```
import numpy as np
import pandas as pd
import seaborn as sns
import scipy.stats as stats
%matplotlib inline
import matplotlib.pyplot as plt
pd.set_option('display.max_columns', 100)
```

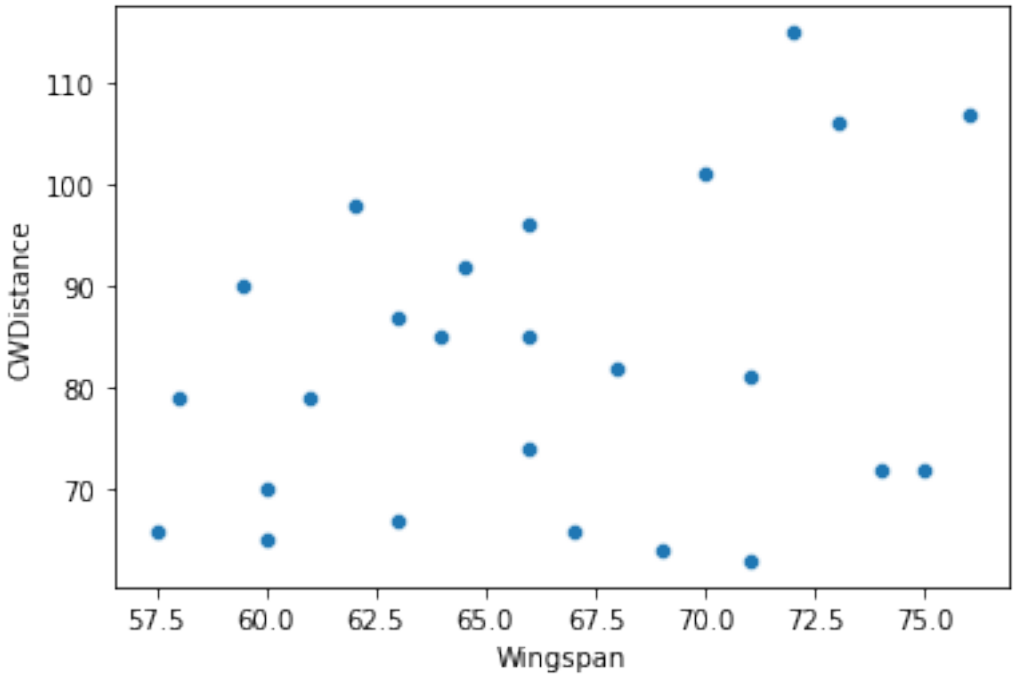
[3]:
```
df = pd.read_csv(path)
print(df.head())
```

```
   ID  Age Gender  GenderGroup Glasses  GlassesGroup  Height  Wingspan  \
0   1   56      F            1       Y             1    62.0      61.0
1   2   26      F            1       Y             1    62.0      60.0
2   3   33      F            1       Y             1    66.0      64.0
3   4   39      F            1       N             0    64.0      63.0
4   5   27      M            2       N             0    73.0      75.0

   CWDistance Complete  CompleteGroup  Score
0          79        Y              1      7
1          70        Y              1      8
2          85        Y              1      7
3          87        Y              1     10
4          72        N              0      4
```

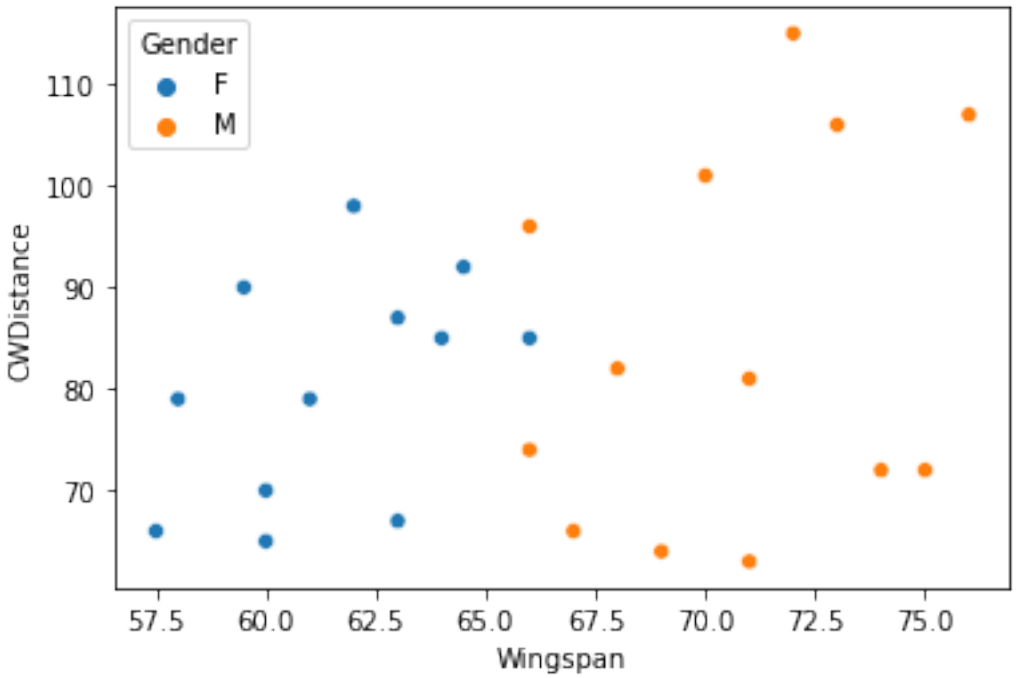
[4]:
```
sns.scatterplot( data=df,x="Wingspan", y="CWDistance")
# a simple scatterplot with sns.scatterplot
```

[4]:
```
<AxesSubplot:xlabel='Wingspan', ylabel='CWDistance'>
```



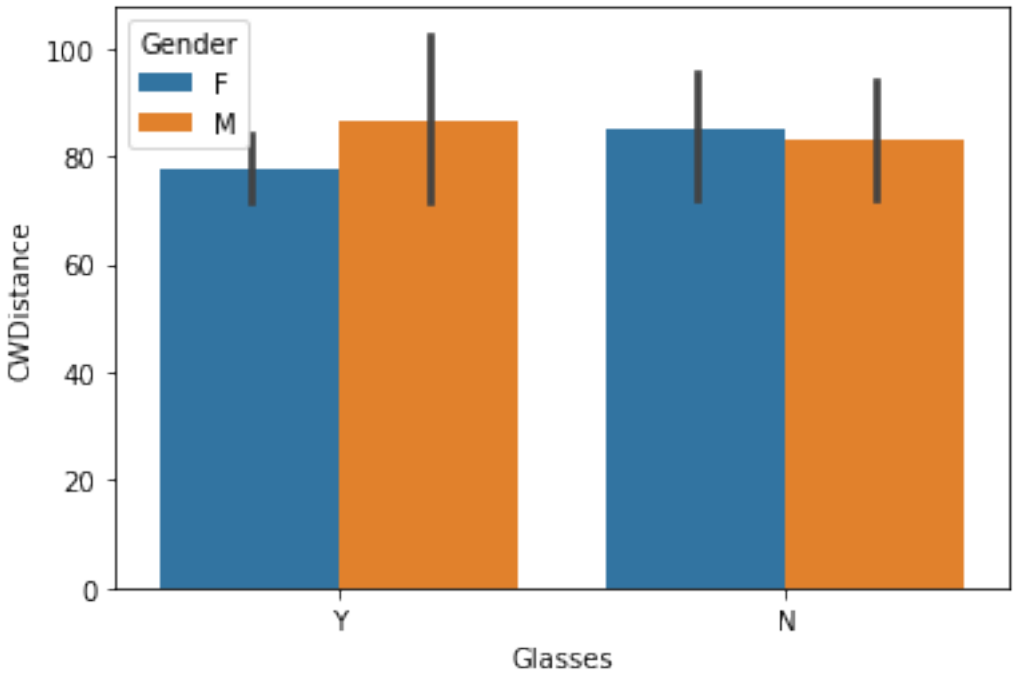
[5]:
```
sns.scatterplot( data=df,x="Wingspan", y="CWDistance", hue="Gender")
# Scatterplot like the previous where hue is grouping the data by Gender
```

[5]: <AxesSubplot:xlabel='Wingspan', ylabel='CWDistance'>



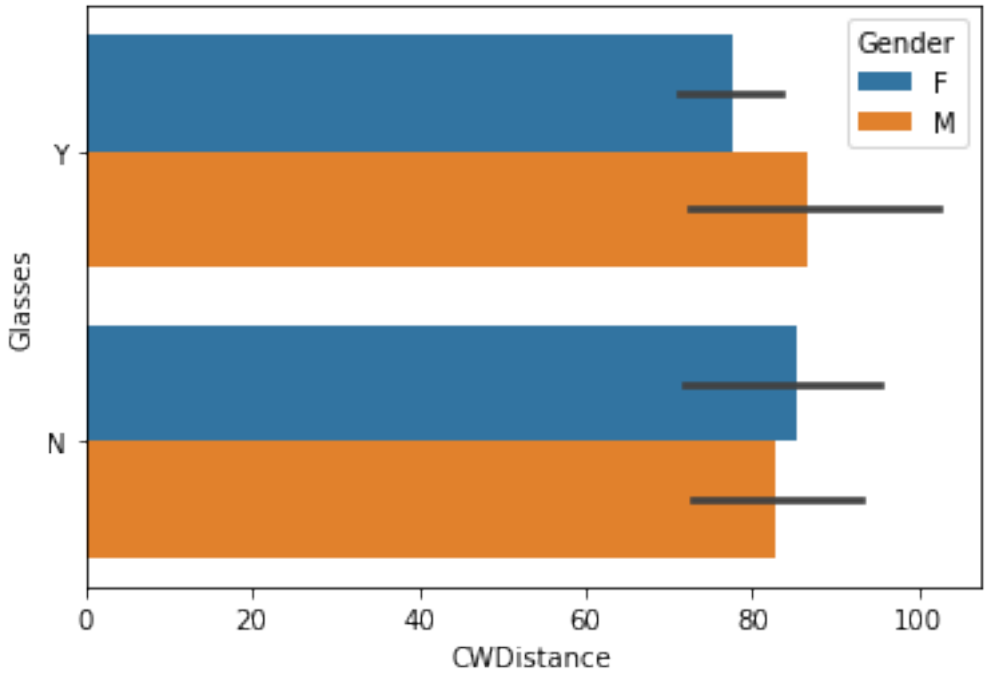
[6]:
```
sns.barplot( data=df,x="Glasses", y="CWDistance",hue='Gender')
# a barplot with sns.barplot
```

[6]: <AxesSubplot:xlabel='Glasses', ylabel='CWDistance'>



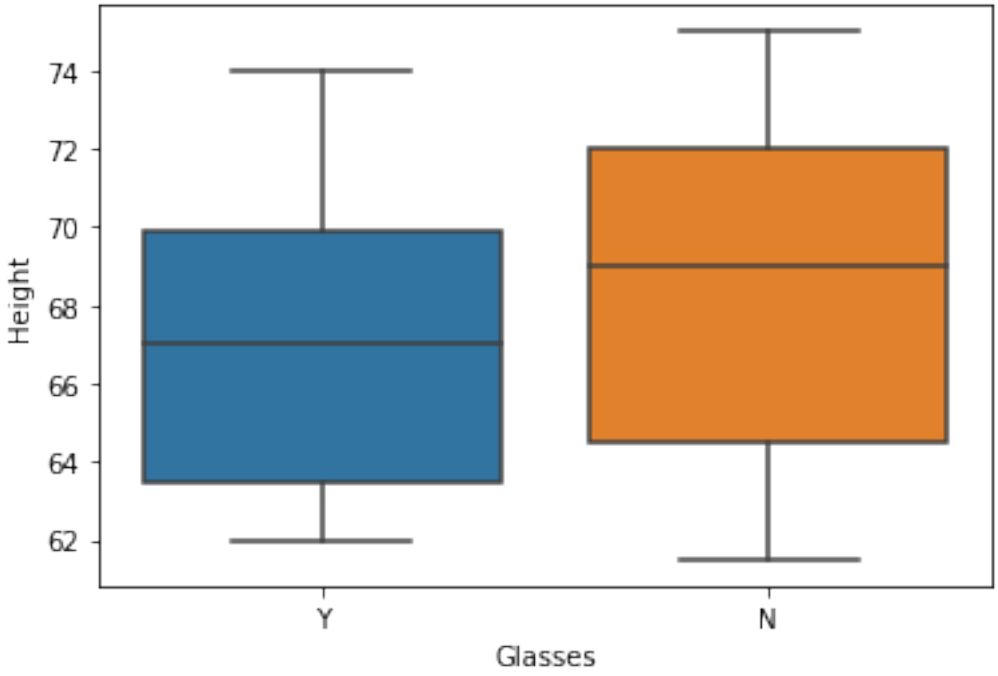
[7]:
```
sns.barplot(y=df["Glasses"], x=df["CWDistance"],hue=df['Gender'])
# instead of introducing orient='h' like in a next boxplot we change the x and␣
 ↪y of previous diagram
```

[7]: <AxesSubplot:xlabel='CWDistance', ylabel='Glasses'>



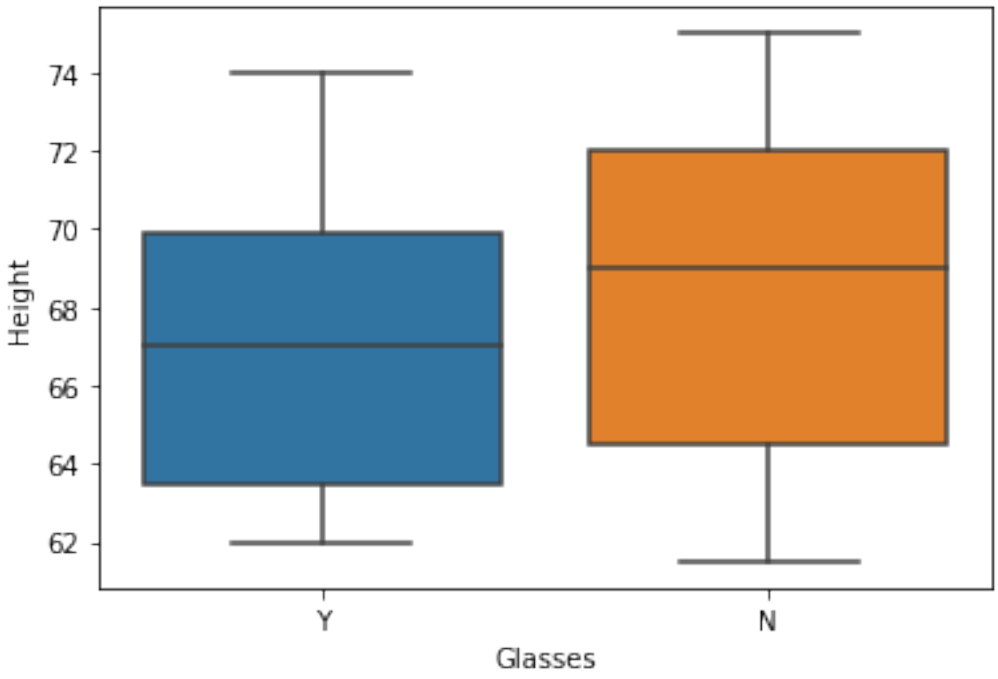
[8]:
```
sns.boxplot(x= df['Glasses'], y=df['Height'])
# a basic box/whisker  plot
```

[8]: <AxesSubplot:xlabel='Glasses', ylabel='Height'>



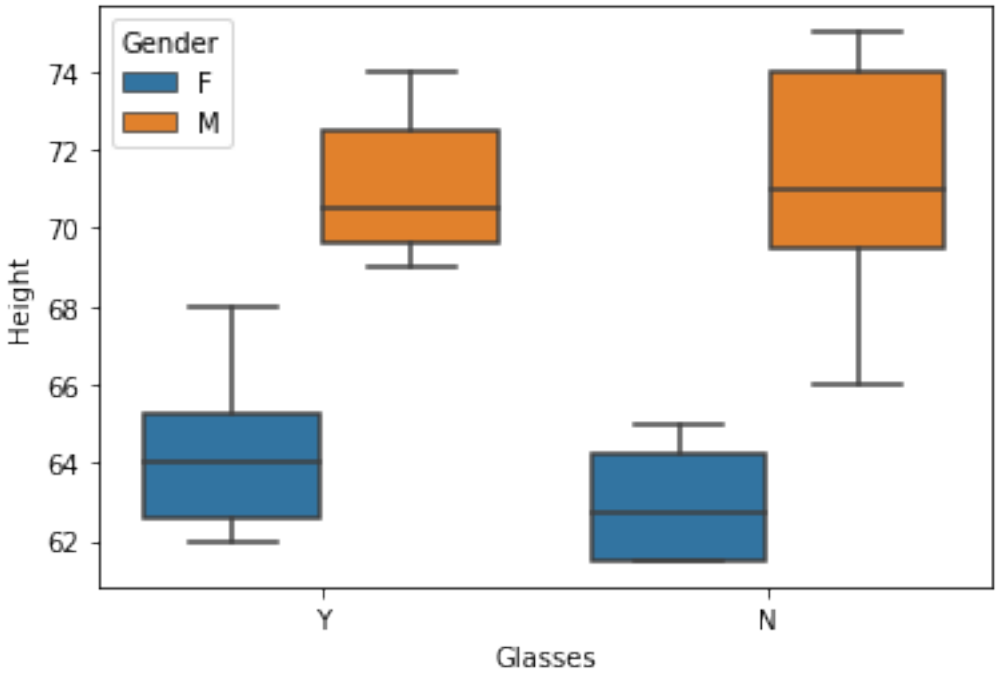
[9]:
```
sns.boxplot(x= 'Glasses', y='Height',data=df)
# this and the previous are actually the same. In the previous we see how to␣
 ↪not insert data= something pr\arameter.
```

[9]: <AxesSubplot:xlabel='Glasses', ylabel='Height'>



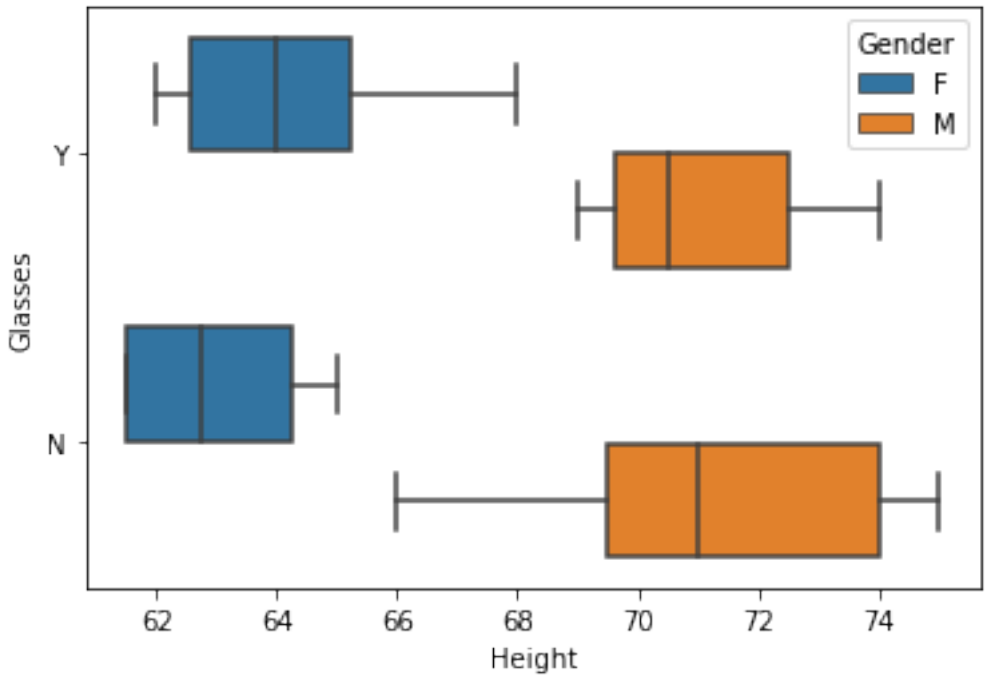
[10]:
```
sns.boxplot(x= 'Glasses', y='Height',data=df,hue='Gender')
# grouping the previous box plot by Gender
```

[10]: <AxesSubplot:xlabel='Glasses', ylabel='Height'>



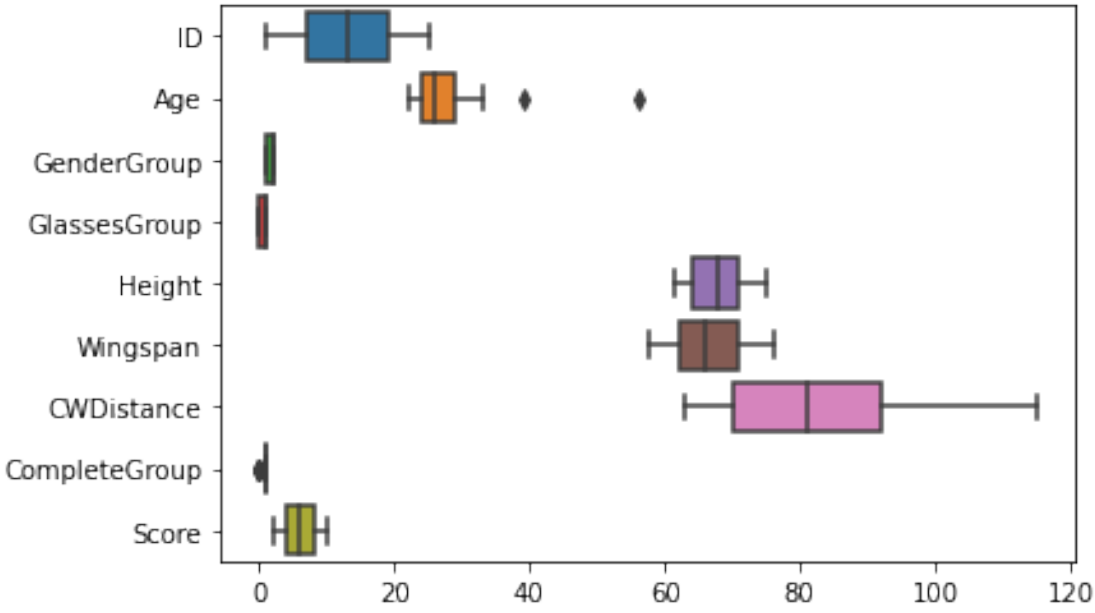
[11]:
```
sns.boxplot(y= 'Glasses', x='Height',data=df,hue='Gender')
# exchanging the axis to simply produce an horizontal box plot
```

[11]: <AxesSubplot:xlabel='Height', ylabel='Glasses'>



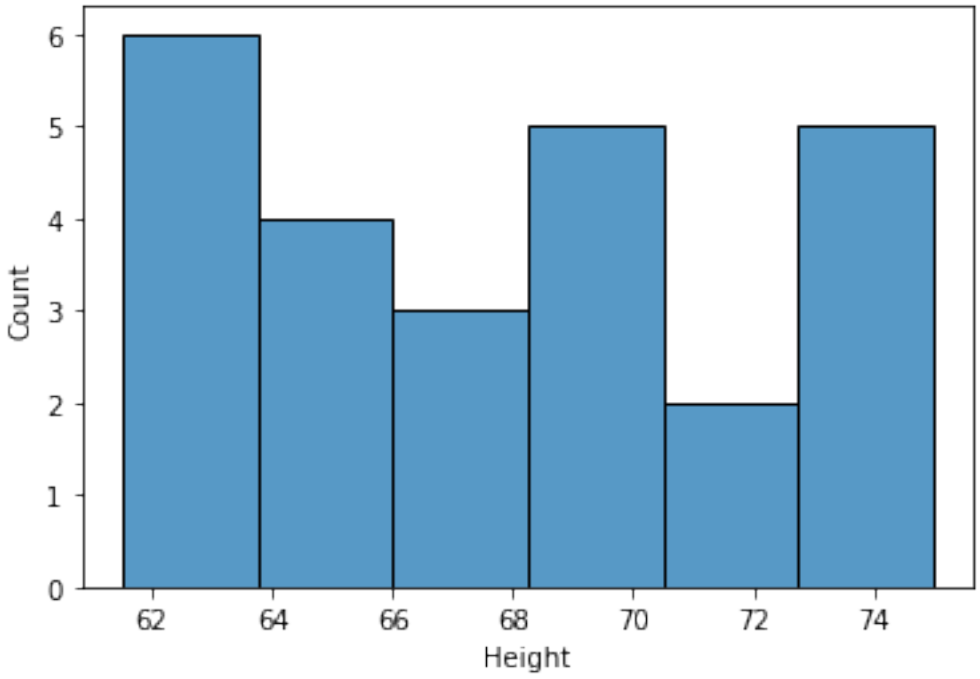
[12]:
```
sns.boxplot(data=df,orient='h')
```

[12]: <AxesSubplot:>



[13]:
```
sns.histplot(x=df["Height"])
# producing a simple histogram
# histogram is better for continuous variables in x-axis
```

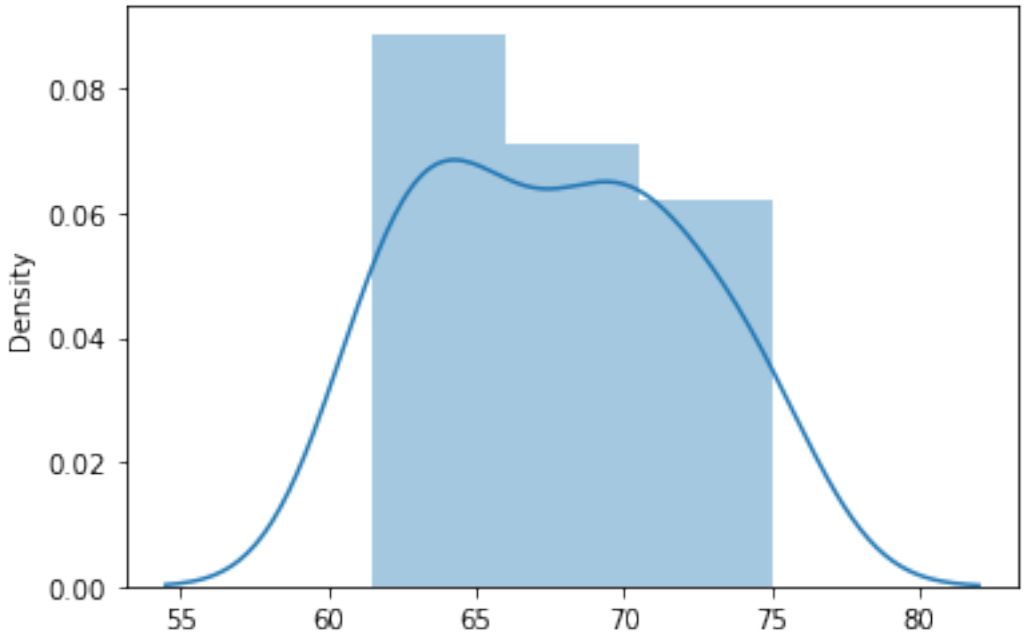
[13]: <AxesSubplot:xlabel='Height', ylabel='Count'>



[14]:
```
sns.distplot(x=df["Height"])
#not suggested as you see
```

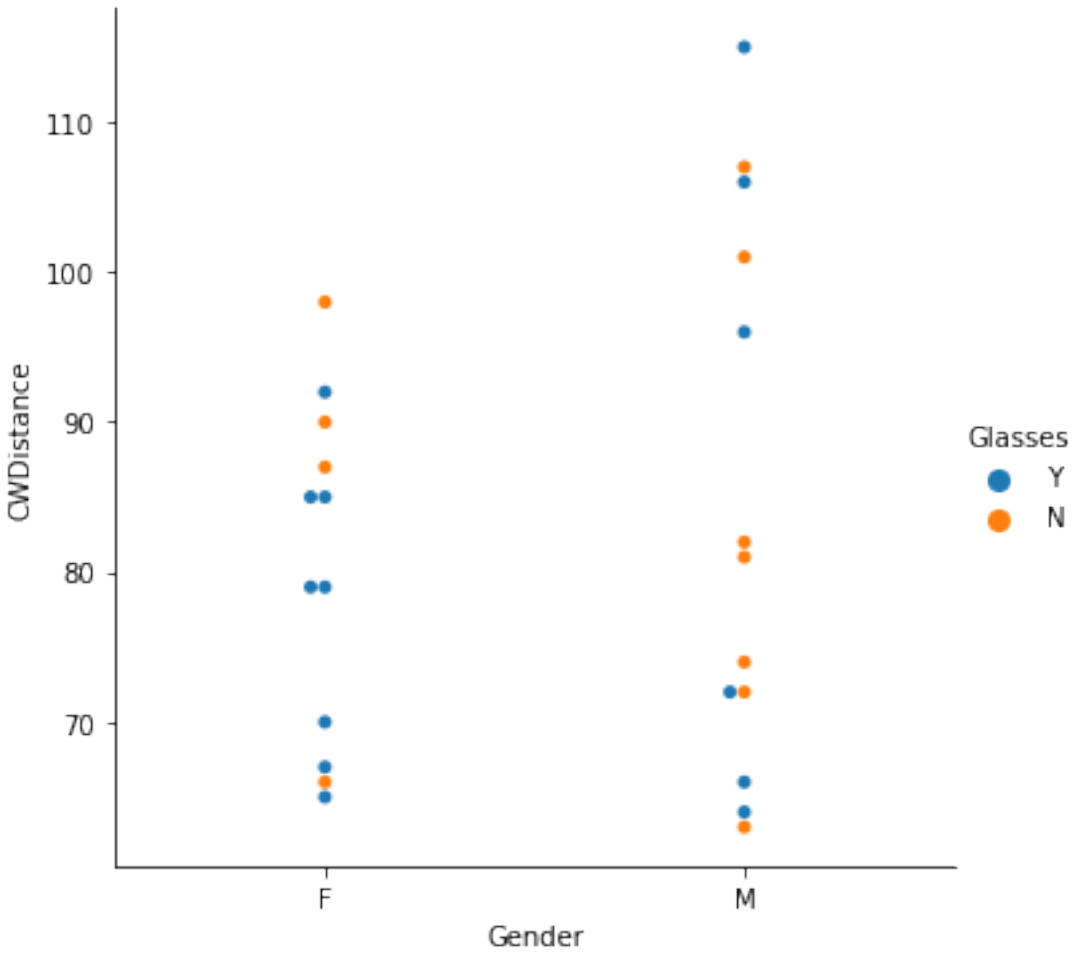
```
C:\Users\ditsi\anaconda3\lib\site-packages\seaborn\distributions.py:2551:
FutureWarning: `distplot` is a deprecated function and will be removed in a
future version. Please adapt your code to use either `displot` (a figure-level
function with similar flexibility) or `histplot` (an axes-level function for
histograms).
  warnings.warn(msg, FutureWarning)
```

[14]:
```
<AxesSubplot:ylabel='Density'>
```



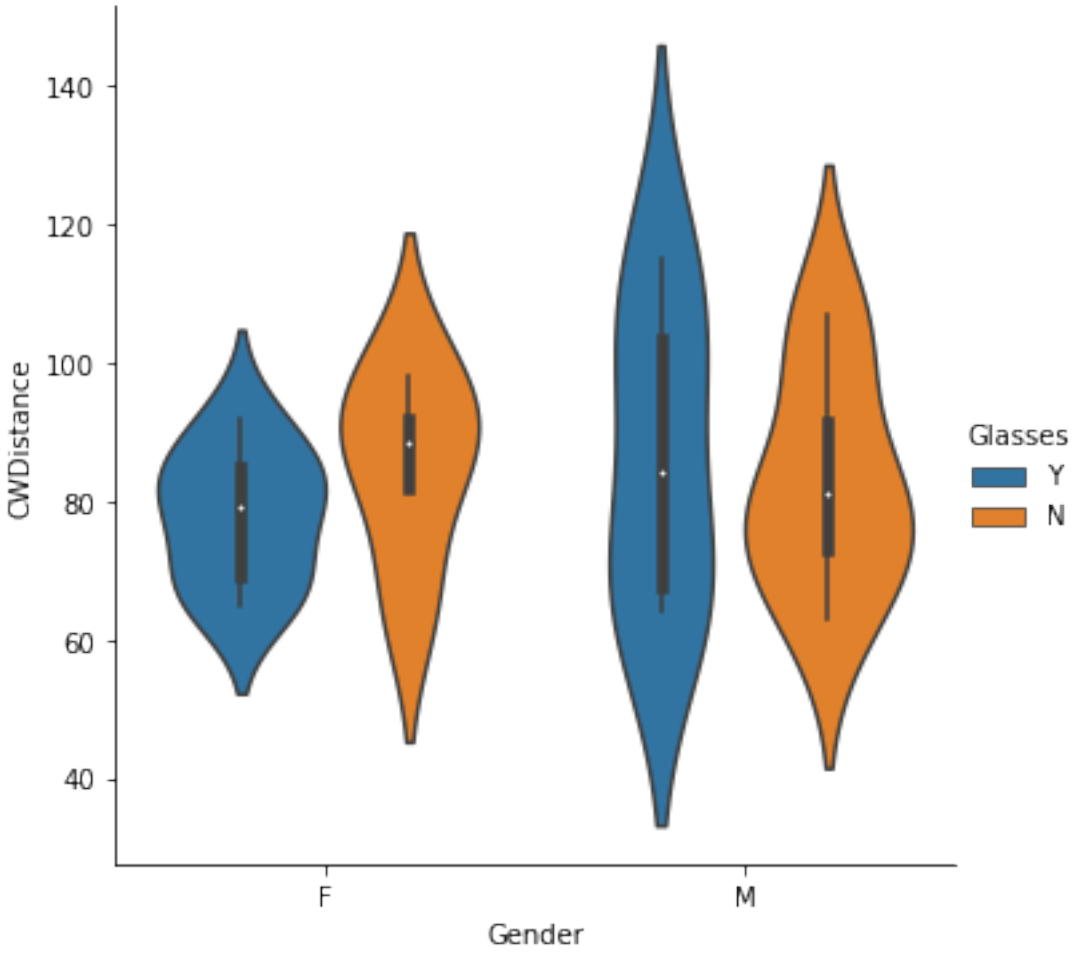
[15]:
```
sns.catplot(data=df, kind="swarm", x="Gender", y="CWDistance", hue="Glasses")
```

[15]: <seaborn.axisgrid.FacetGrid at 0x1b2d66620a0>



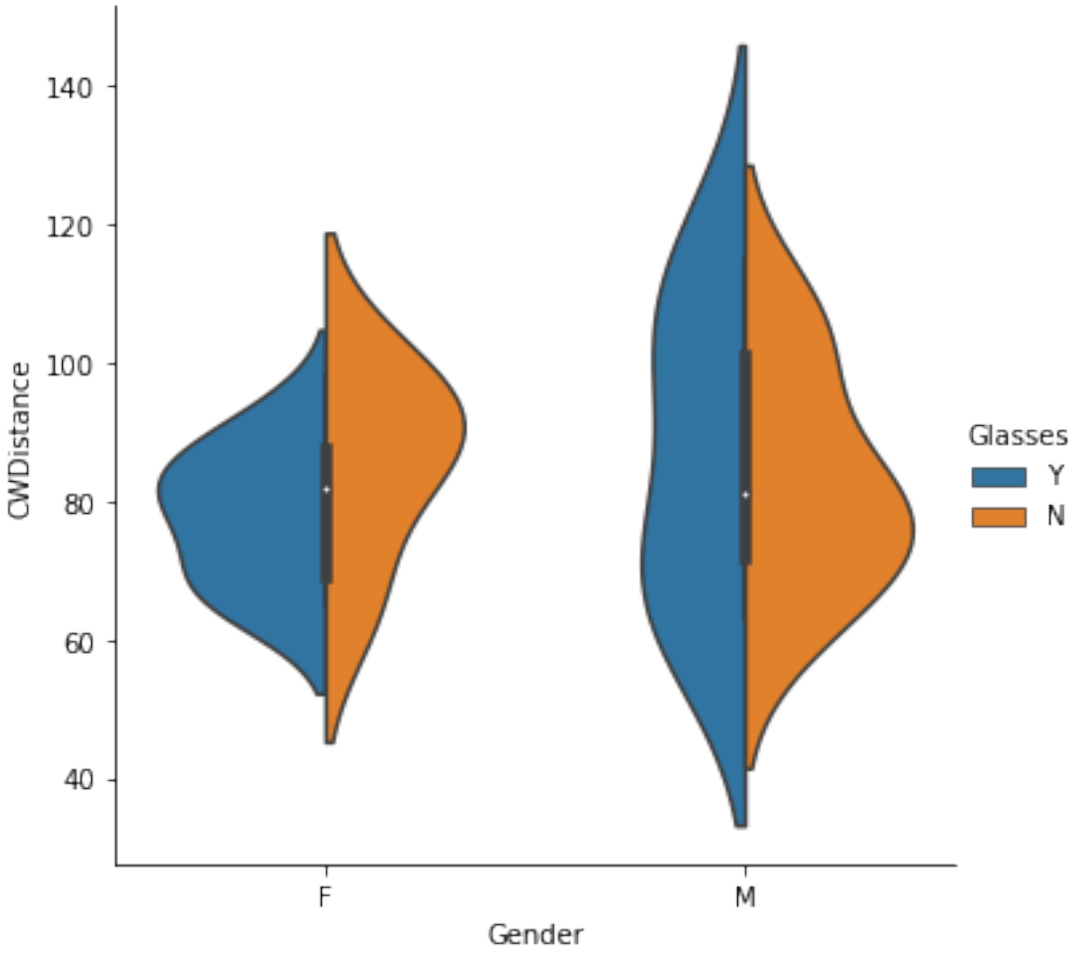
[16]:
```
sns.catplot(data=df, kind="violin", x="Gender", y="CWDistance", hue="Glasses")
```

[16]: <seaborn.axisgrid.FacetGrid at 0x1b2d6558fd0>



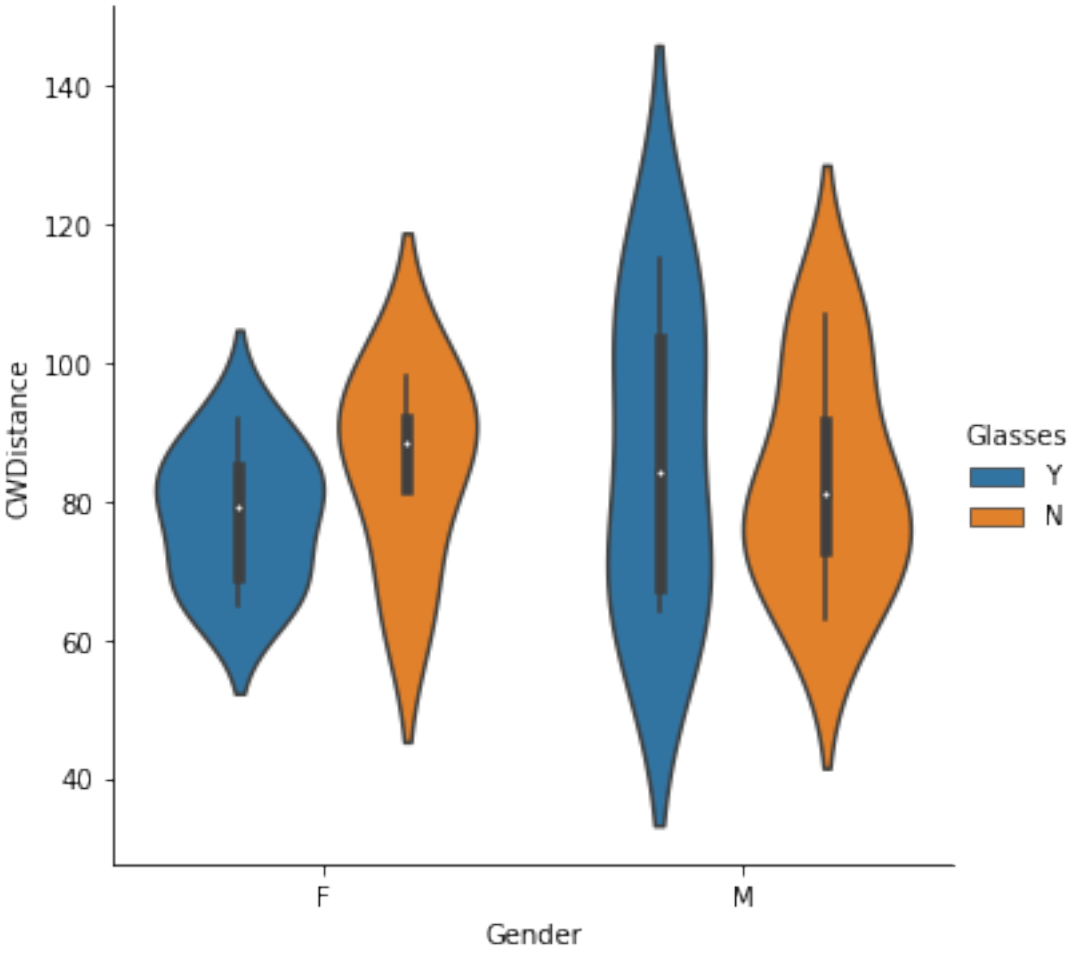
[17]:
```
sns.catplot(data=df, kind="violin", x="Gender", y="CWDistance",␣
↪hue="Glasses",split=True)
```

[17]: <seaborn.axisgrid.FacetGrid at 0x1b2d6729e80>



[18]:
```
sns.catplot(data=df, kind="violin", x="Gender", y="CWDistance",␣
↪hue="Glasses",split=False)
#same as the diagram without split
```

[18]: <seaborn.axisgrid.FacetGrid at 0x1b2d6806c70>


140
120
100
80
60
40
CWDistance
F
M
Gender
Glasses
Y
N

[ ]:

[ ]: