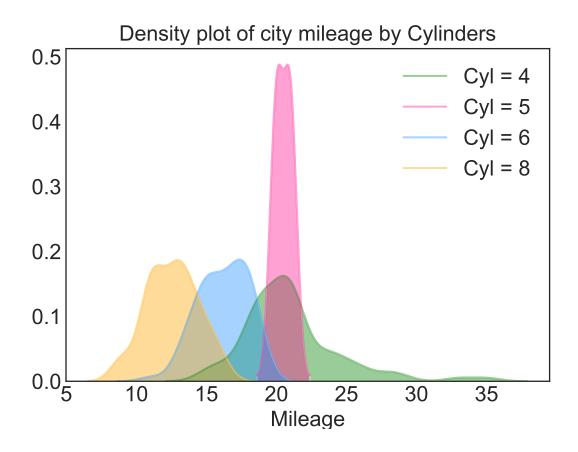
# DSO 545: Statistical Computing and Data Visualization

Abbass Al Sharif Fall 2019

Lab 9: Data Visualization Using Matplotlib (Part3)

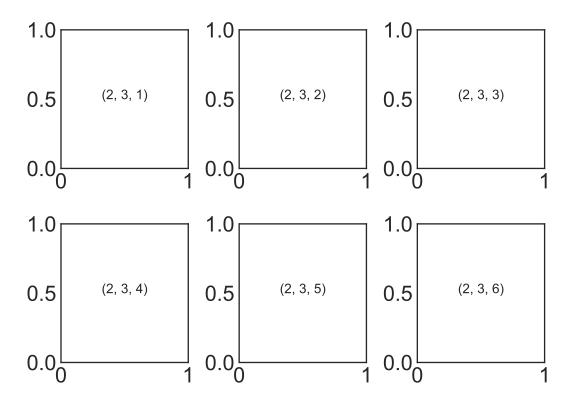
#### **Density Plots**

- 1. Create the following density plot to describe how the distribution of city mileage varies with respect the number of cylinders.
- ## <matplotlib.axes.\_subplots.AxesSubplot object at 0x1234a5890>
- ## <matplotlib.axes.\_subplots.AxesSubplot object at 0x1234a5890>
- ## <matplotlib.axes.\_subplots.AxesSubplot object at 0x1234a5890>

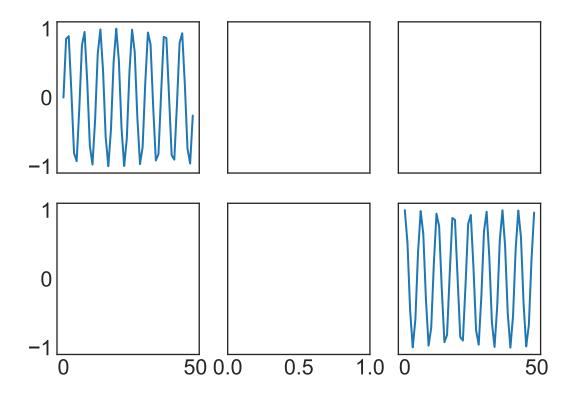


## Multiple Subplots

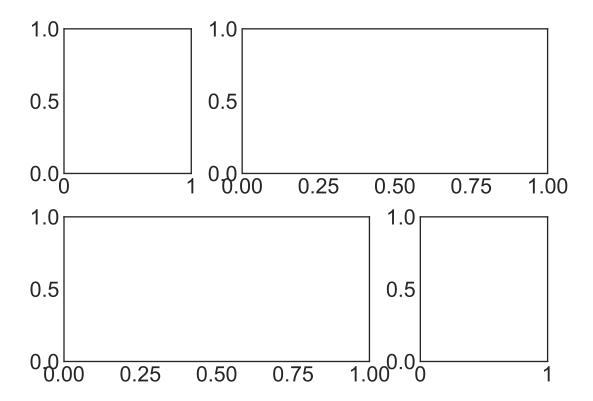
2. Create a 2x3 grid of plots as follows:



3. Create a 2x3 grid of plots as follows:

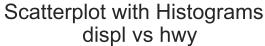


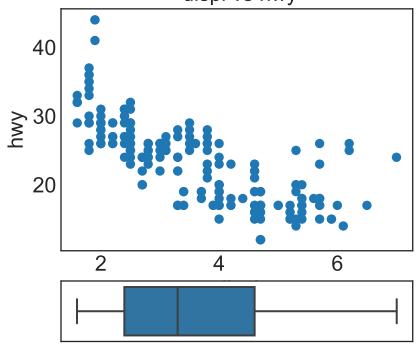
4. Create the following plot:

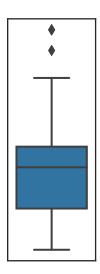


### **Marginal Boxplots**

- 5. Use the mpg.csv dataset to create the following plot that shows the relationship between the variables displ and hwy. In addition, it shows the distribution of both using boxplots.
- ## [[], []]
- ## [[], []]
- ## [Text(0, 0.5, 'hwy'), Text(0.5, 0, 'displ'), Text(0.5, 1.0, 'Scatterplot with Histograms \n displ vs







#### Plotting with different scales using secondary Y axis

6. Use the economics.csv dataset to create the following plot which shows the relationship between personal savings rate and # of unemployed from 1967 to 2012.

```
##
            date
                                            uempmed
                                                      unemploy
                     рсе
                             pop
                                   psavert
## 0
      1967-07-01
                   507.4
                          198712
                                      12.5
                                                 4.5
                                                          2944
## 1
      1967-08-01
                   510.5
                          198911
                                      12.5
                                                 4.7
                                                          2945
      1967-09-01
                   516.3
                          199113
                                      11.7
                                                 4.6
                                                          2958
## 3
     1967-10-01
                   512.9
                          199311
                                      12.5
                                                 4.9
                                                          3143
     1967-11-01 518.1
                          199498
                                      12.5
                                                 4.7
                                                          3066
```

## [<matplotlib.axis.XTick object at 0x12637ffd0>, <matplotlib.axis.XTick object at 0x12637f850>, <matp

## [Text(0, 0, '1967-07-01'), Text(0, 0, '1972-07-01'), Text(0, 0, '1977-07-01'), Text(0, 0, '1982-07-0

