

### TO START

```
import seaborn as sns
# If working on a notebook
%matplotlib inline
```

### DISTRIBUTION PLOTS

<b>sns.distplot(df['col'])</b>	distribution plot
- bin = x	number of bins
- kde = False	remove the line
<b>sns.jointplot(x,y,df)</b>	plot 2 variables
- kind = "	kind of plot*
<b>sns.pairplot(df)</b>	plot all vars combin
- hue='categ var'	distinguish per var
- palette="	set a color palette
<b>sns.rugplot(df['col'])</b>	idea of distribution
<b>sns.kdeplot(df['col'])</b>	kde plot
<b>"kind="</b> E.g.: hex, reg, kde.	

### CATEGORICAL PLOTS

<b>sns.barplot(x,y,df)</b>	bar plot
- estimator=""	bar values
<b>sns.countplot(x,df)</b>	bars = count
<b>sns.boxplot(x,y,df)</b>	box plot
- hue='categ var'	divide per var
- palette="	set palette
- orient='h'	horiz. plot
<b>sns.violinplot(x,y,df)</b>	violin plot*
- hue='categ var'	divide per var
- palette="	set palette
<b>sns.stripplot(x,y,df)</b>	bars = scatter
- jitter = True	add noise
- hue='categ var'	divide per var
- palette="	set palette
- split = True	split by hue

### CATEGORICAL PLOTS (cont)

<b>sns.swarmplot(x,y,df)</b>	swarm plot
- hue='categ var'	divide per var
- palette="	set palette
- split = True	split by hue

\*\* You can also combine more plots by calling them one after each other.

**sns.factorplot(x,y,df,kind)\***  
general categorical form of graph

**TIP:** when you call a plot function, press **"shift + tab"** to show the parameters needed.

**estimator=** can be, mean, std, or whatever function. It will display the bars or whatever you choose.

**General form, kind=:** e.g., point, bar, violin, etc.

### ON CATEGORICAL PLOTS...

#### What is a violin plot?

It has a similar role of a box and whisker plots. It shows the distribution of quantitative data across several levels of one (or more) categorical variables. The violin plot features a kernel density estimation of the underlying distribution.

#### What is a strip plot?

It will draw a scatterplot where one variable is categorical. It is also a good complement to a box or violin plot in cases where you want to show all observations along with some representation of the underlying distribution.

#### What is a swarm plot

It is similar to a stripplot(), but the points are adjusted (only along the categorical axis) so that they don't overlap. This gives a better representation of the distribution of values, although it does not scale as well to large numbers of observations.

### MATRIX PLOTS

<b>sns.heatmap(df.corr())*</b>	heat map plot
- annot = True	add actual values
- cmap="	set a color palette
- linecolor="	set borders
- linewidths=x	set border width
<b>sns.clustermap(matrix)</b>	hierarc. clustering
- cmap="	set a color palette
- standard_scale = 1	normalise data

**Heat map plot** needs a correlation matrix, or more generally, a matrix. You can use the **pivot\_table(index,columns,values)** function to convert a dataframe.

### GRIDS

<b>sns.pairplot(df)</b>	plot all vars combination
- hue='categ var'	divide per var
- palette="	set palette
<b>g = sns.PairGrid(df)</b>	set (empty) axis of pairplot
-g.map(plt.scatter)	populate axis with some plot
-g.map_diag(plt.hist)	set diag plots
-g.map_upper(plt.scatter)	set upper plots
-g.map_lower(sns.kdeplot)	set lower plots
<b>g = sns.FacetGrid(df,c,r)</b>	empty axis
-g = g.map(plt.hist, "c")	populate axis histograms
-g.map(sns.distplot, "c")	populate axis with distplots

### now some more complex stuff



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Page 1 of 2.

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### GRIDS (cont)

- hue='categ var'      divide per var  
-g = g.map(plt.scatter, "c", "c").add\_legend()  
**g = sns.JointGrid(x,y,df)**  
general form of jointplot()  
**g = g.plot(sns.regplot, sns.distplot)**  
join two plots

### REGRESSION PLOTS

**sns.lmplot(x,y,df)**      creat reg plot  
- hue='categ var'      divide per var  
- palette=""      set palette  
- markers="" \*      set mark shape  
- scatter\_kws='dict' \*      set marker size  
**sns.lmplot(x,y,df,col)**      create a grid plot  
**sns.lmplot(x,y,df,row,col)**      X\*X grid  
**sns.lmplot(x,y,df,row,col,hue)**      X\*X\*X grid  
- aspect = x      choose ratio  
- size = x      set size

**markers=""**: e.g., o,v,etc.

**scatter\_kws=""** e.g.: {'s':100}, it is a call to matplotlib. It will be hard to remember how to use these special cases, so no worries, you will have a look online.

### STYLE and COLOR

**sns.set\_style('darkgrid')**      apply darkgrid style  
**sns.set\_style('ticks')**      apply ticks style  
**sns.despine()**      remove borders  
**sns.despine(left=True)**      remove left border  
**plt.figure(figsize=(x,x))**      choose fig size  
**sns.set\_context('talk')**      set context  
\*  
**sns.set\_context(font\_scale)**      set font size  
**.set\_context("")**: e.g.: paper, poster, talk, notebook, etc.



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Page 2 of 2.

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