

Let's also take a look at some documentation

- Pandas, seaborn, and plotly documentation for making a barchart.
- Their tutorials presume that:
 - data is coming in as well formed tabular format
 - is composed of mostly numerical data
- Remember my data? XML, PDFs, sketchy spreadsheets.
- We are not making explicit that we expect data to be tabular.

```
import plotly.express as px
data_canada = px.data.gapminder().query("country == 'Canada'")
fig = px.bar(data_canada, x='year', y='pop')
fig.show()
```

```
>>> import seaborn as sns
>>> sns.set(style="whitegrid")
>>> tips = sns.load_dataset("tips")
>>> ax = sns.boxplot(x=tips["total_bill"])
```

```
In [13]: plt.figure()
In [14]: df.iloc[5].plot(kind='bar');
```

Arrow??

Perfectly formatted data table, already loaded (or loaded from canned data)

Perfectly clean and ready to go single column of data to plot