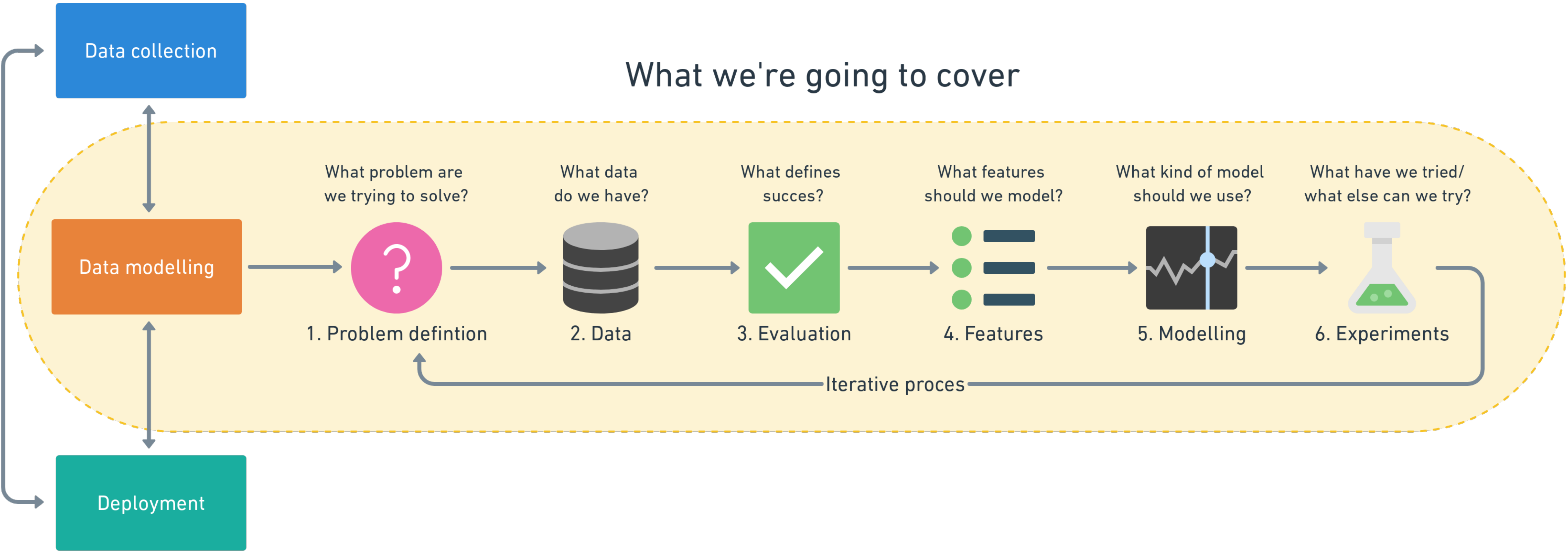


Steps in a full machine learning project



## 2.Data



**“What kind of data do we have?”**

# Different types of data

Rows

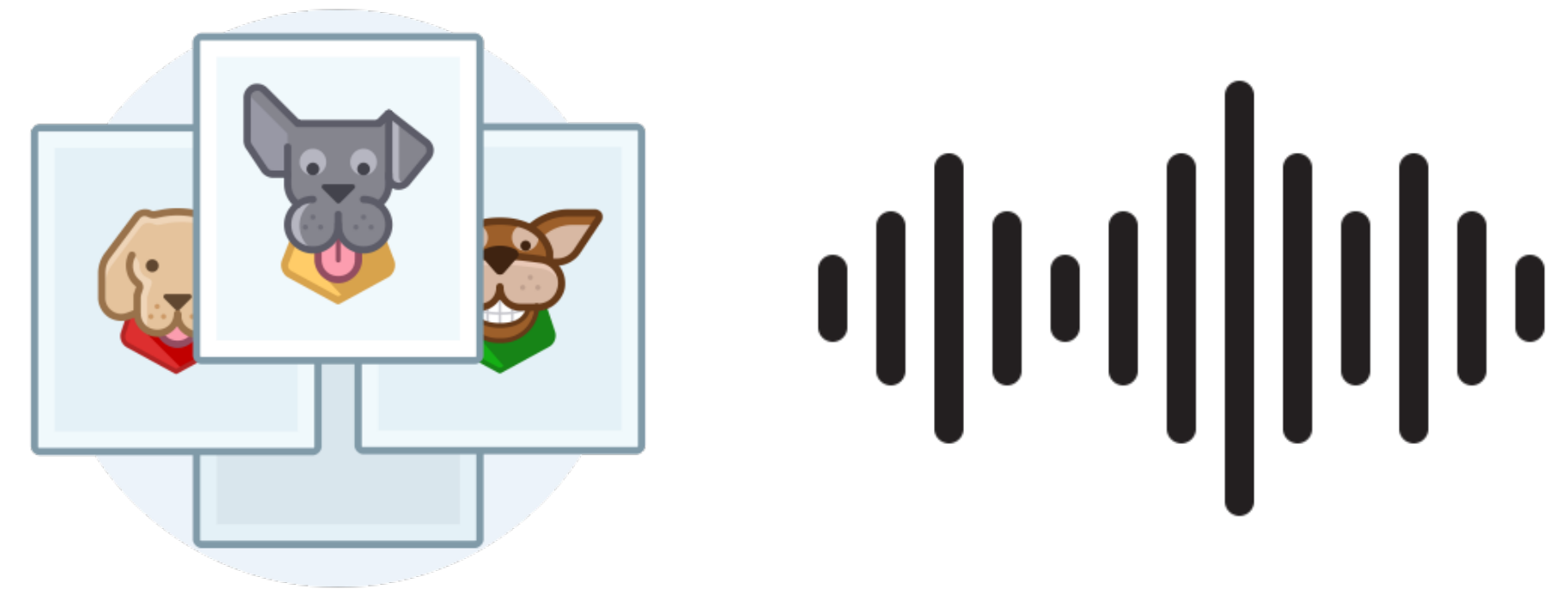
Columns

ID	Weight	Sex	Blood Pressure	Chest pain	Heart disease?
4326	110kg	M	120/80	4	Yes
5681	64kg	F	130/90	1	No
7911	81kg	M	130/80	0	No

Table 1.0: Patient records



**Structured**

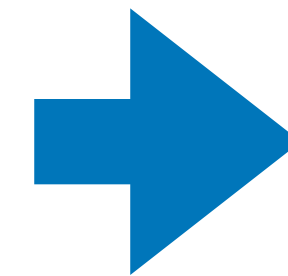
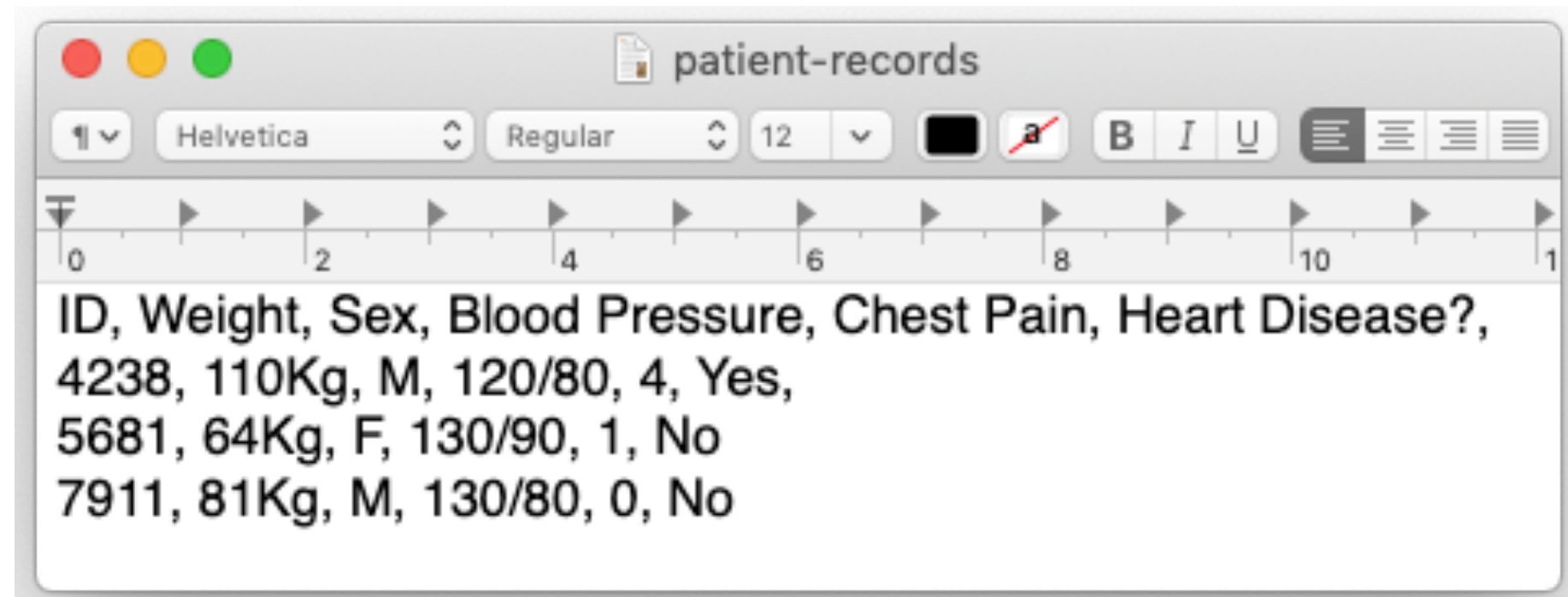


From: [daniel@mrdbourke.com](mailto:daniel@mrdbourke.com)  
Hey Daniel,

First of all, thank you for being so amazing.  
This machine learning course is incredible.  
Thank you for keeping it simple!

**Unstructured**

# Different types of data



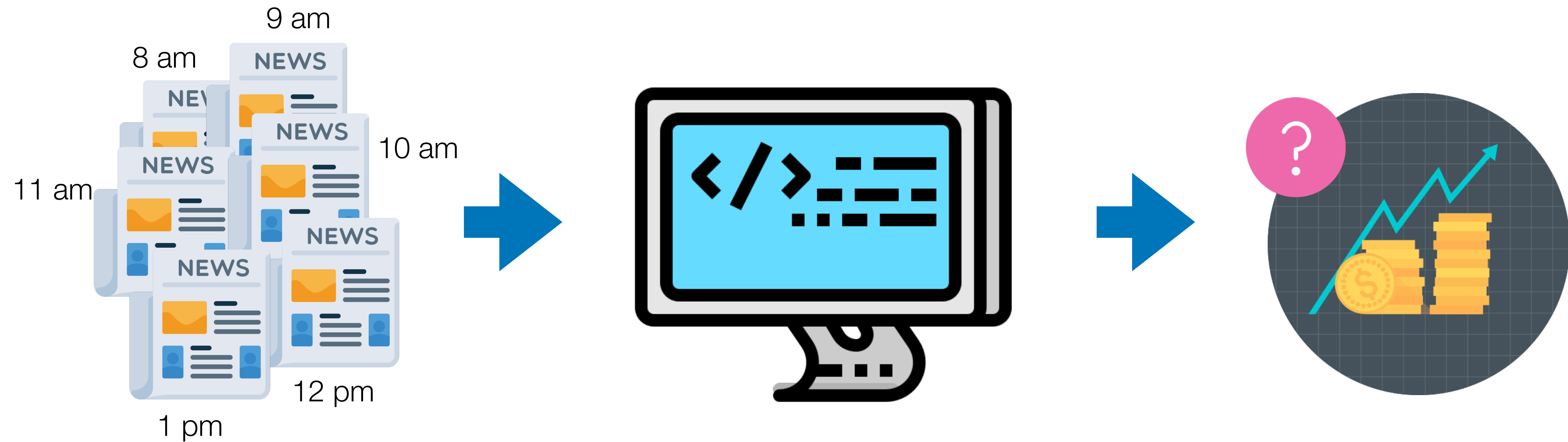
ID	Weight	Sex	Blood Pressure	Chest Pain	Heart disease?
4328	110Kg	M	120/80	4	Yes
5681	64Kg	F	130/90	1	No
7911	81Kg	M	130/80	0	No

Table 1.0: Patient records

Static

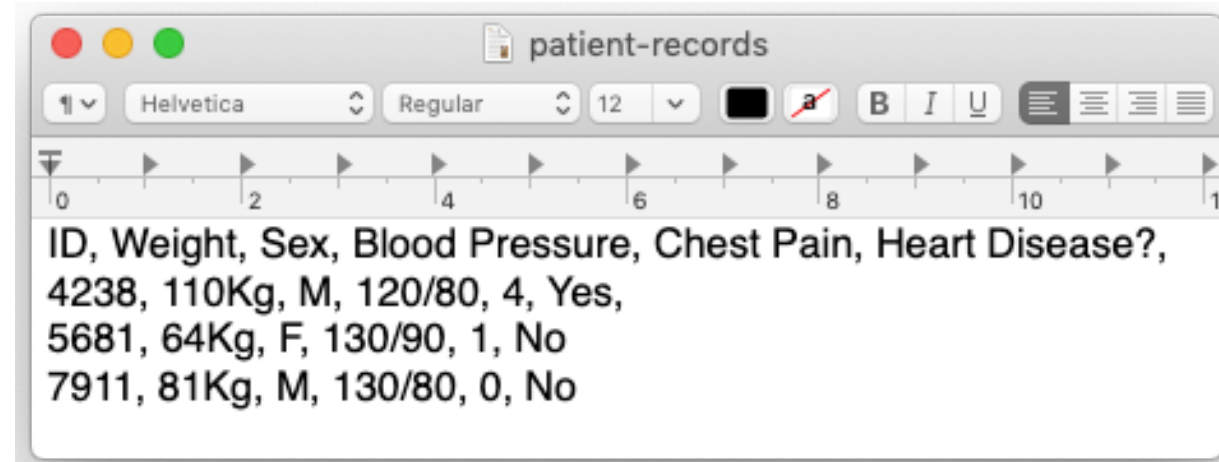
“The more data the better.”

# Different types of data



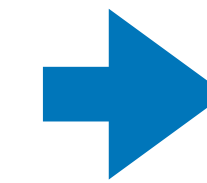
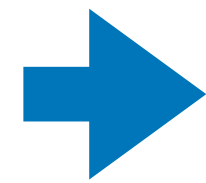
**Streaming**

# A data science workflow



ID	Weight	Sex	Blood Pressure	Chest Pain	Heart Disease?
4238	110Kg	M	120/80	4	Yes
5681	64Kg	F	130/90	1	No
7911	81Kg	M	130/80	0	No

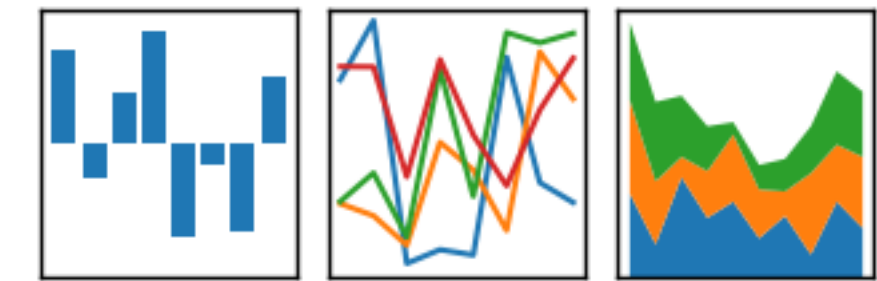
Static data



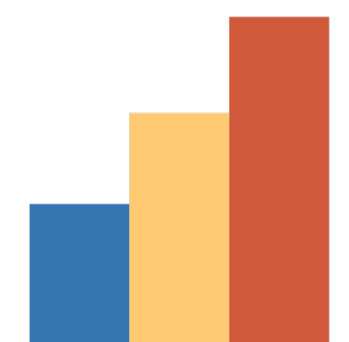
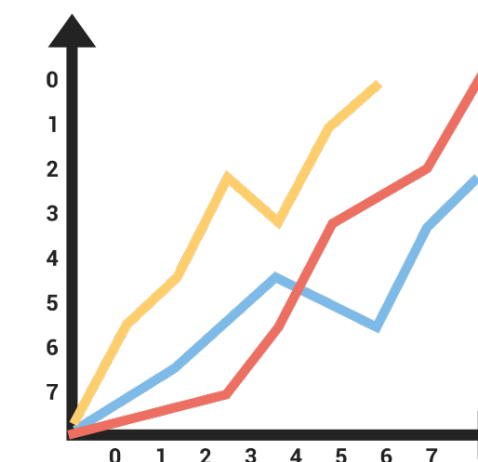
ID	Weight	Sex	Blood Pressure	Chest Pain	Heart disease?
4328	110kg	M	120/80	4	Yes
5681	64kg	F	130/90	1	No
7911	81kg	M	130/80	0	No

Table 1.0: Patient records

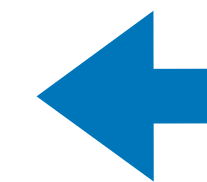
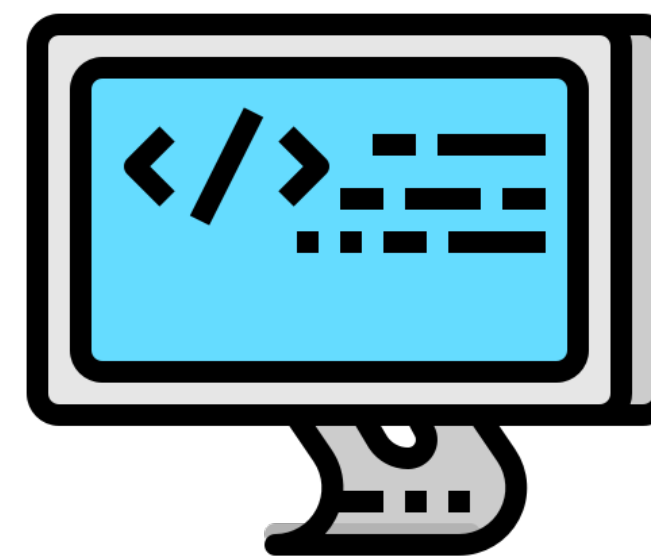
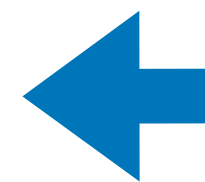
pandas  
 $y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$



↓ Data Analysis



matplotlib



Machine learning model

**What kind of data do you use?**