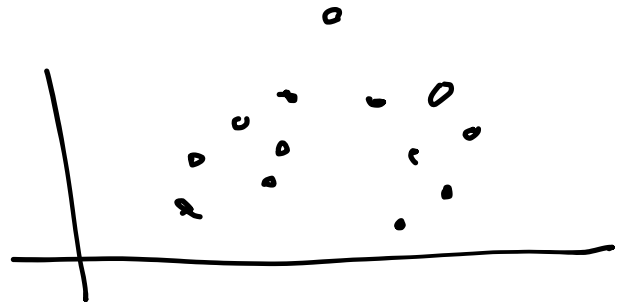Associate Rule: coffeeshop why there are several bottles of water right in front of the cashier / were places in the most obvious location in the store

Supervised learning:
Classification / categorization: labels are a set of values (eye colors: blue, green, brown, black.)
Regression: real number / numerical values: temperature in Las Vegas; the stock price

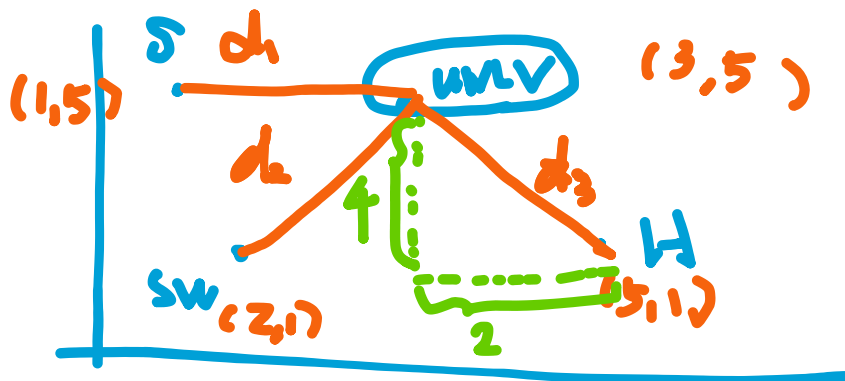Unsupervised learning
- clustering

2D $A=(x,y)$

$f,\to s$

3D $\angle+\!\!\Omega$ $5D$
(x,y,z) (x,y,z,m,n) $\longrightarrow$ kernel f

array (fix size + element is <u>in order</u> with the corresponding index)

index

0	1	2	3	4	5	6	7	8	9
1	2	4	5	2	3	5	2	4	1

value

Euclidean D

$m = 4 + 2$

$d_3 = \sqrt{2^2 + 4^2}$

$= \sqrt{20}$

$= 2\sqrt{5}$