Dane: $\{(x_i, y_i)\}_{i=1}^{N}$

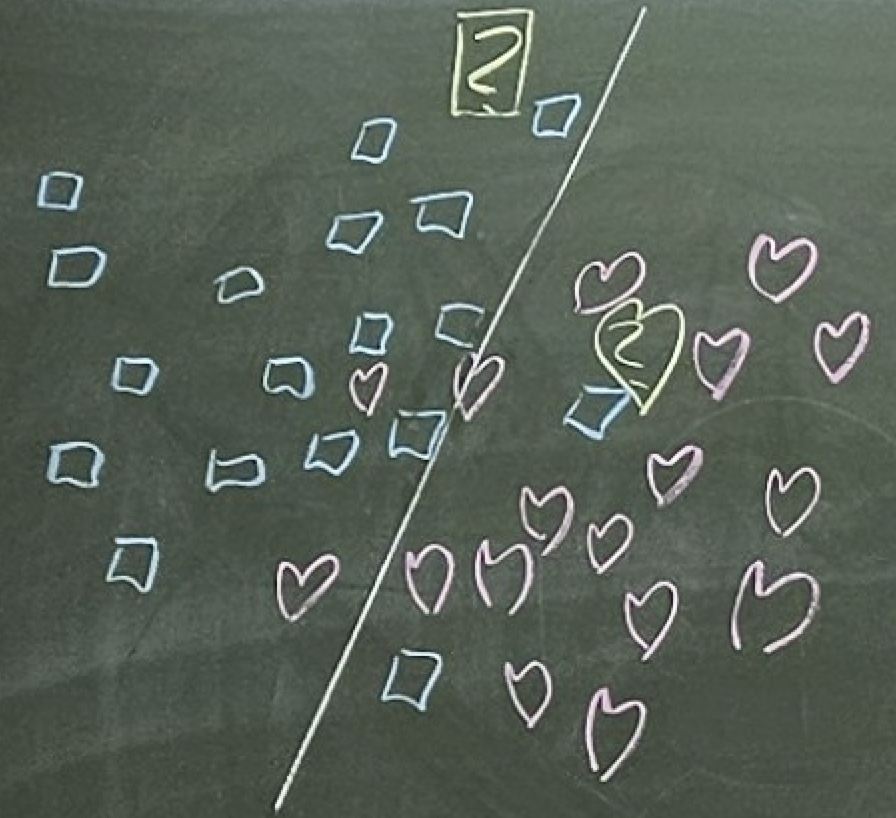
Szukane: $x = \begin{bmatrix} x^{(1)} \\ x^{(2)} \end{bmatrix}$

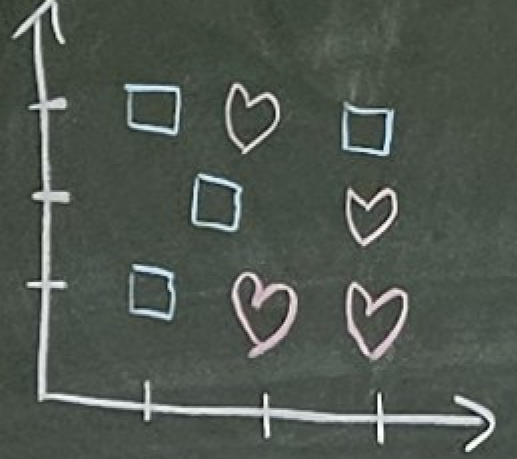
$y, \bar{y} \in \{\square, \heartsuit\}$

$\quad\quad\quad\; 0, \; 1$

. fit(x, y)

. predict(X)





Zm. dec: A, B, C

Funkcja celu: $\sum_{i=1}^{N} |y_i - \bar{y}_i|$

pred \ etyk.	$\square$	$\heartsuit$
$\square$	0	1
$\heartsuit$	100	0

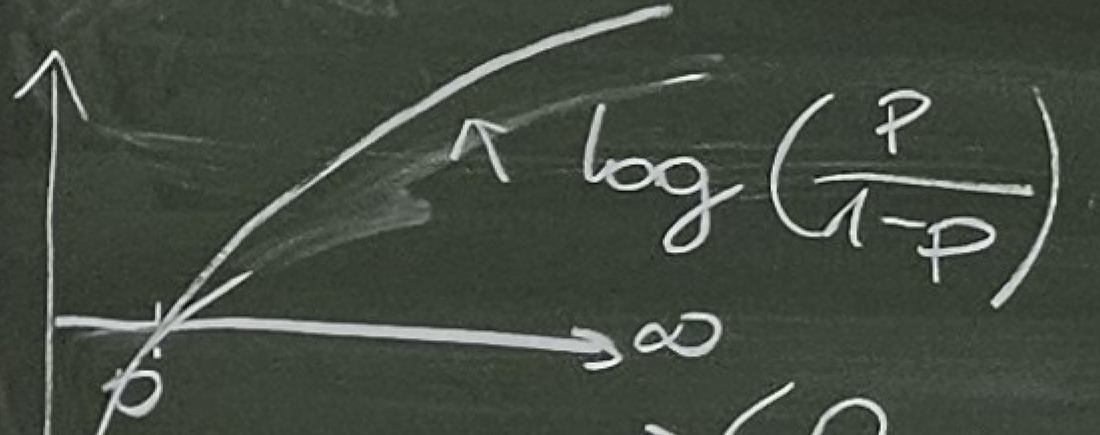
Model: $\bar{y} = \varphi(x, \Theta)$

$\cancel{\bar{y} = ax + b}$ $\quad \cancel{\Theta = \begin{bmatrix} a \\ b \end{bmatrix}}$

$\bar{y} = \begin{cases} \square & \text{dla} \\ \heartsuit & \text{w przec. przyp.} \end{cases}$

$Ax^{(1)} + Bx^{(2)} + C = 0$

$U \to (-\infty, +\infty)$

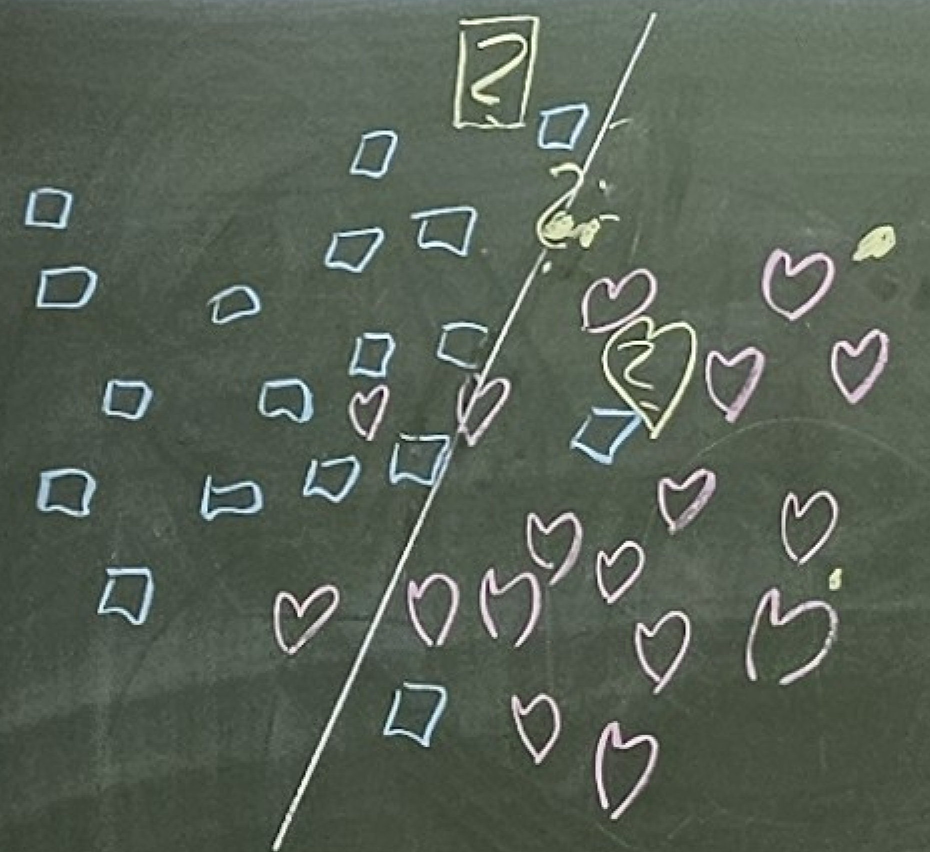


$\frac{p}{q} = \frac{p}{1-p} \to \langle 0, +\infty)$

$p = 0{,}8$

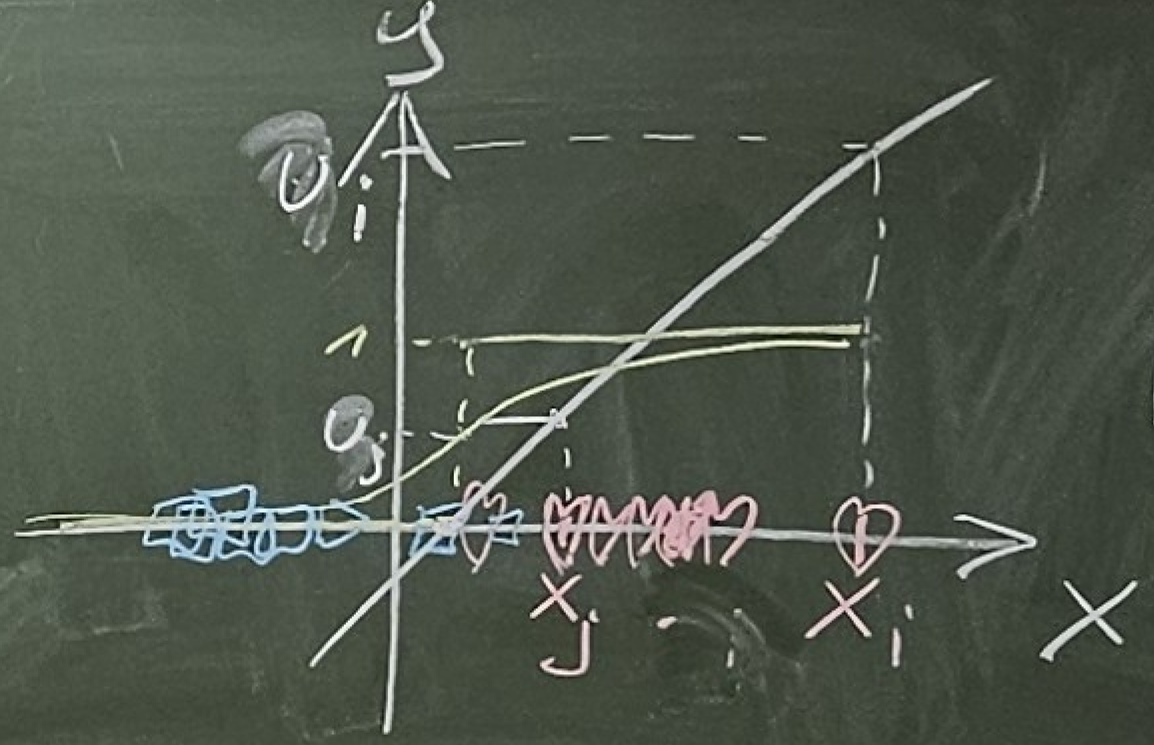
$\frac{p}{q} = \frac{4}{1}$

$p \in \langle 0, 1 \rangle$



$\log_B\left(\frac{p}{1-p}\right) = U$

$p = \frac{1}{1+B^{-U}}$ zwykle $p = \frac{1}{1+e^{-U}}$



$\bar{y}_i \; , \; U_i$

$\bar{y}_j \; , \; y_j$

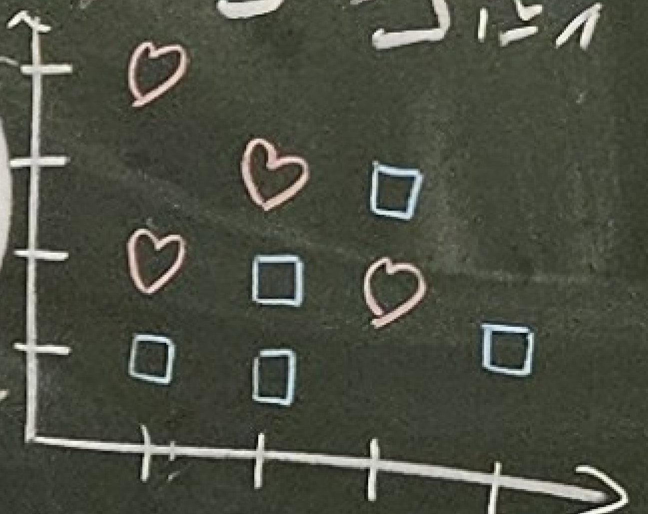
$U = \text{prosta}(x)$

$\bar{y} > 0 \nearrow$ ♥ 1, $\searrow$ □ 0

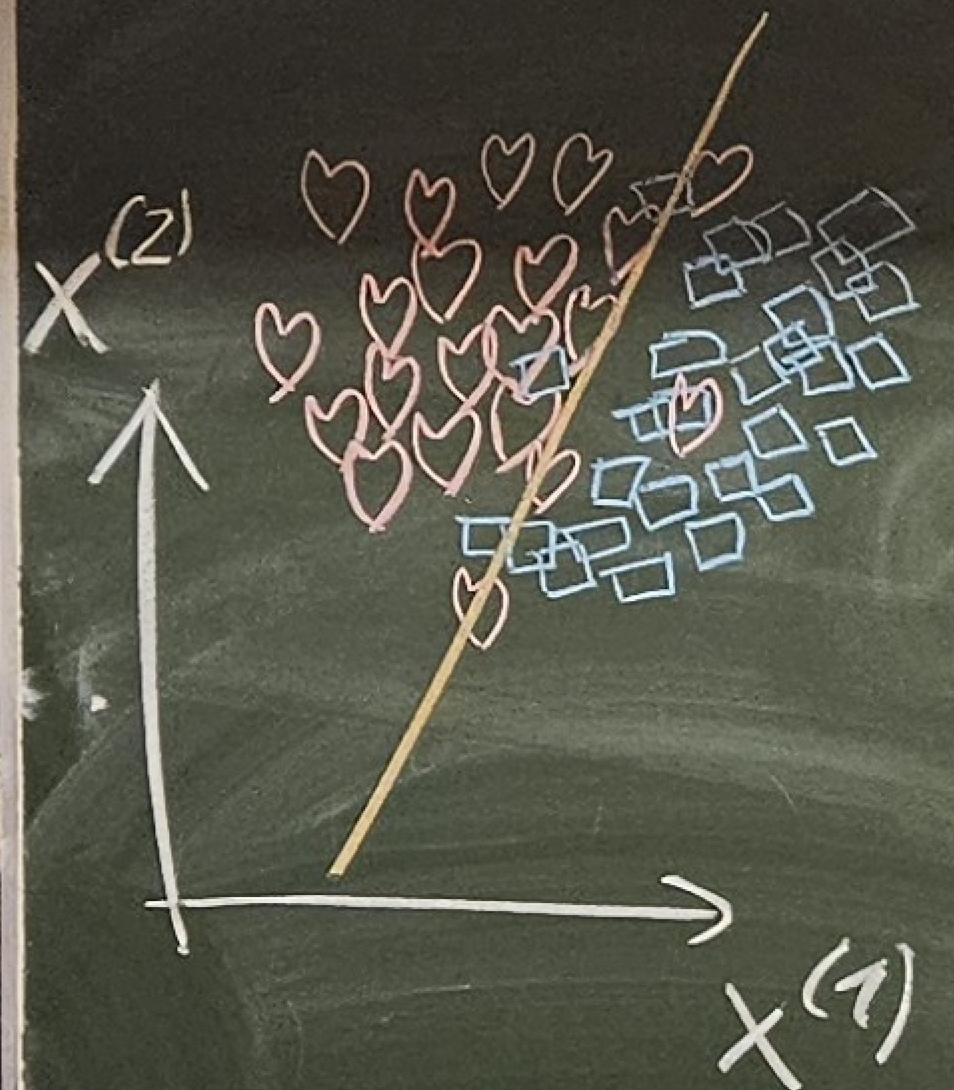
Dane: $\{(x_i, y_i)\}_{i=1}^{N}$

Szukane: $\{(x_i, \bar{y}_i)\}_{i=1}^{N}$

$\bar{y} = \varphi(x, \Theta)$



W domu:
- umieć samodz.
- napisać program.



Zm. dec. A, B, C $\Theta = \begin{bmatrix} A \\ B \\ C \end{bmatrix}$

Fun. celu: $F(A,B,C) = 1 - \frac{\sum_{i=1}^{N} |y_i - \bar{y}_i|}{N}$

$y_i \leftrightarrow \bar{y}_i$

$i = 1, \dots, N$

- desmos, wolfram alfa – obrazki płaszczyzn

$\bar{y} = \begin{cases} 1 & \text{dla } u \leq 0 \\ 0 & \text{dla } u > 0 \end{cases}$

3 : 1
4 : 2
8 : 3
0 : 0

$u = Ax^{(1)} + Bx^{(2)} + C$

$$\frac{p}{q} = \frac{p}{1-p}$$

$p = 0{,}6$

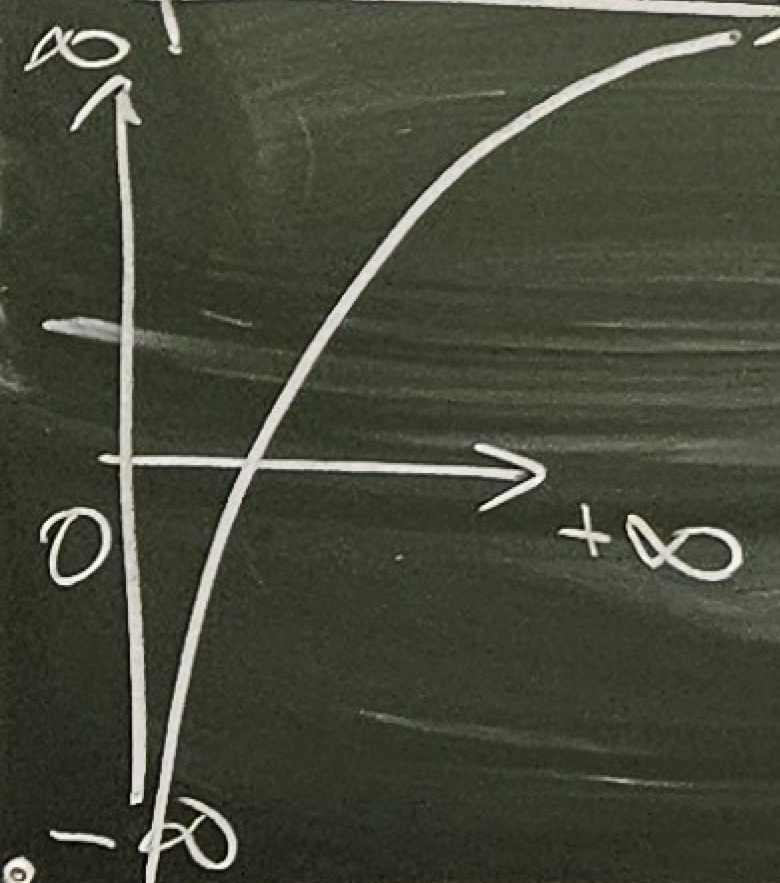
$$\frac{0{,}6}{0{,}4} = \frac{3}{2}$$

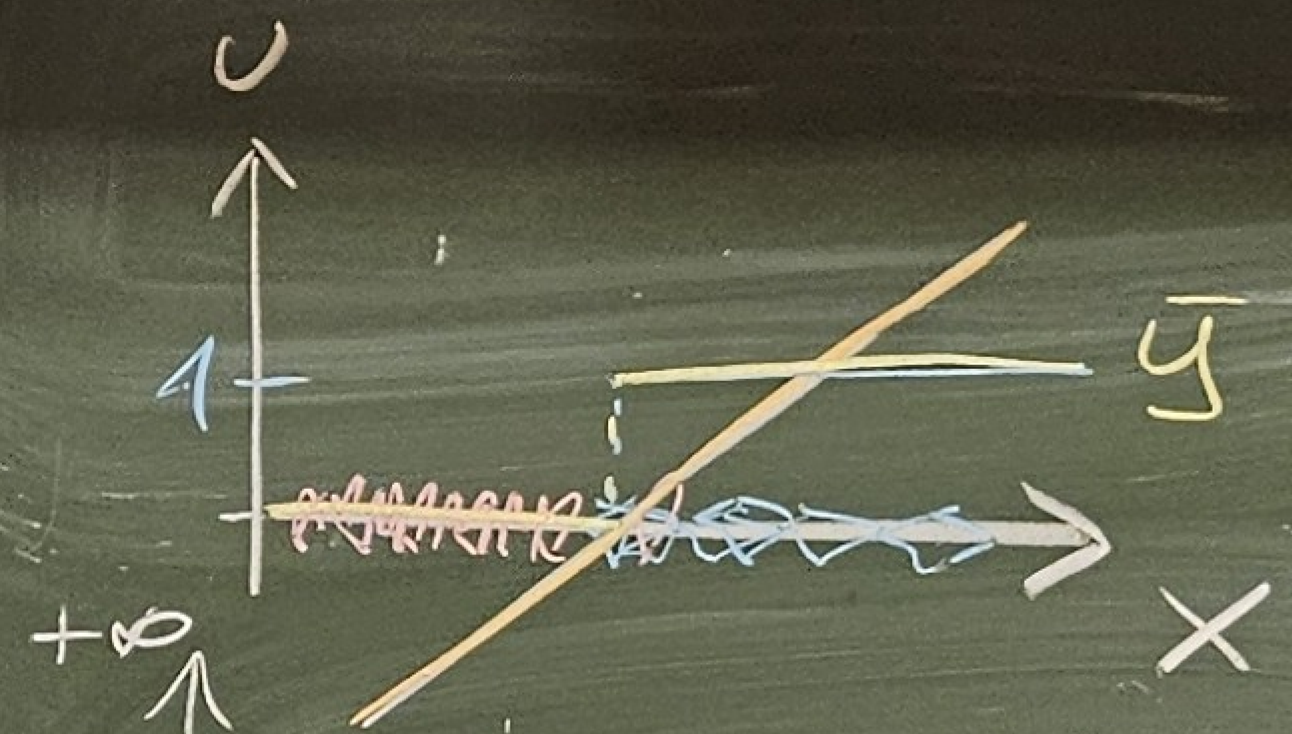
$p \quad \langle 0, 1 \rangle$

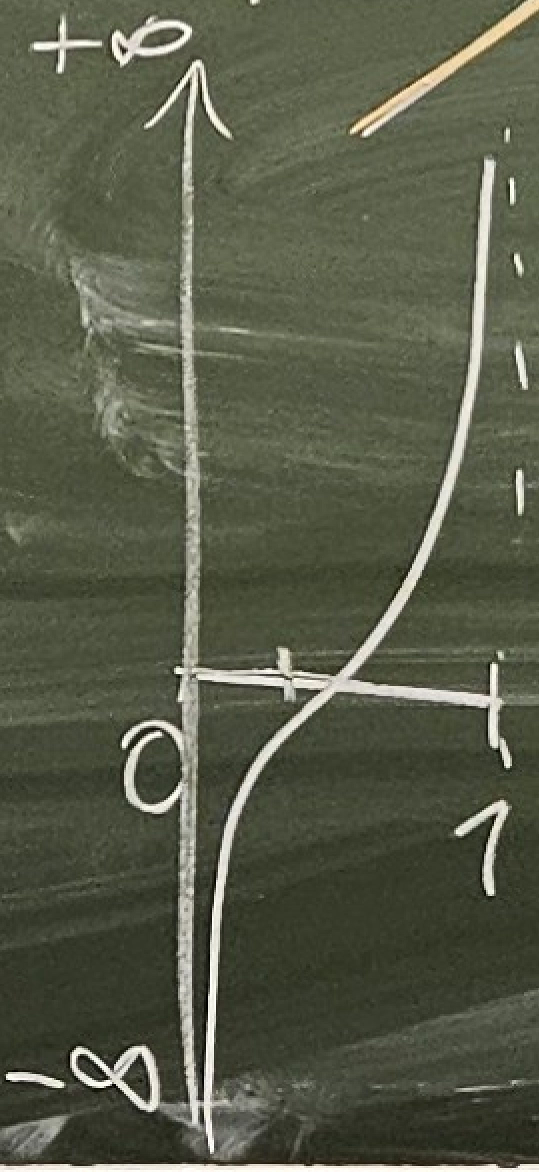
$\frac{p}{1-p} \quad \langle 0, +\infty)$

log

$U \quad (-\infty, +\infty)$







$|U|$

W domu

$p =$

$$\log_k\left(\frac{p}{1-p}\right) = U$$

$X \longrightarrow U \rightsquigarrow \hat{o}$

$U \rightsquigarrow p$

.fit(X, y)

$\bar{y}$ · predict(X)

.proba( )

$\det\left(\begin{bmatrix} \text{👻} & \text{⧗} \\ \heartsuit & \xi \end{bmatrix}\right) = \text{👻}\varepsilon - \heartsuit\,\text{⧗}$

17:25

Dla $A_{2\times 2}$ wyznacz wzory na wart. własne w zależności tylko od wielkości:

1) $\underline{\det A}$

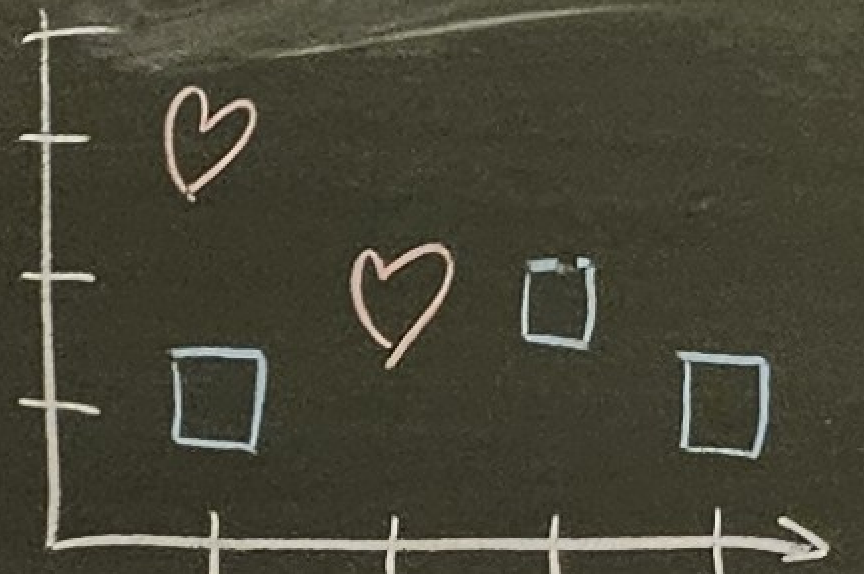
2) $\frac{\operatorname{tr} A}{2}$, gdzie $\operatorname{tr} A = \sum_i a_{ii}$.

Dane: $x_i = \begin{bmatrix} x_i^{(1)} \\ x_i^{(2)} \end{bmatrix}$

y_i

Szukane: $\{(x_i, y_i)\}_{i=1}^{N}$

$\bar{y}_i = \varphi$



Zm dec: $\Theta = \begin{bmatrix} \alpha \\ \beta \\ \gamma \end{bmatrix}$

F celu:

$X \longrightarrow \boxed{\varphi} \longrightarrow \bar{y}$

(x, Θ)

$\bar{y} =$

w domu: geogebra, pobaw się klasyfik. w Pythonie

$\bar{y} = \begin{cases} \square & \text{dla } \varphi(x,\Theta) \geq 0 \\ \heartsuit & \text{dla } \varphi(x,\Theta) < 0 \end{cases}$

$\varphi(x, \Theta) = v = \alpha x^{(1)} + \beta x^{(2)} + \gamma$

log