Preparing Data and Simple Classifier

Pr		
x1	x2	target
10	10	'P'
5	100	'P'
6	20	'P'
7	30	'P'

Shift(Pr,x1,20)

Nr		
x1	x2	target
30	10	'N'
25	100	'N'
26	20	'N'
27	30	'N'

$$P = R\ Pr$$

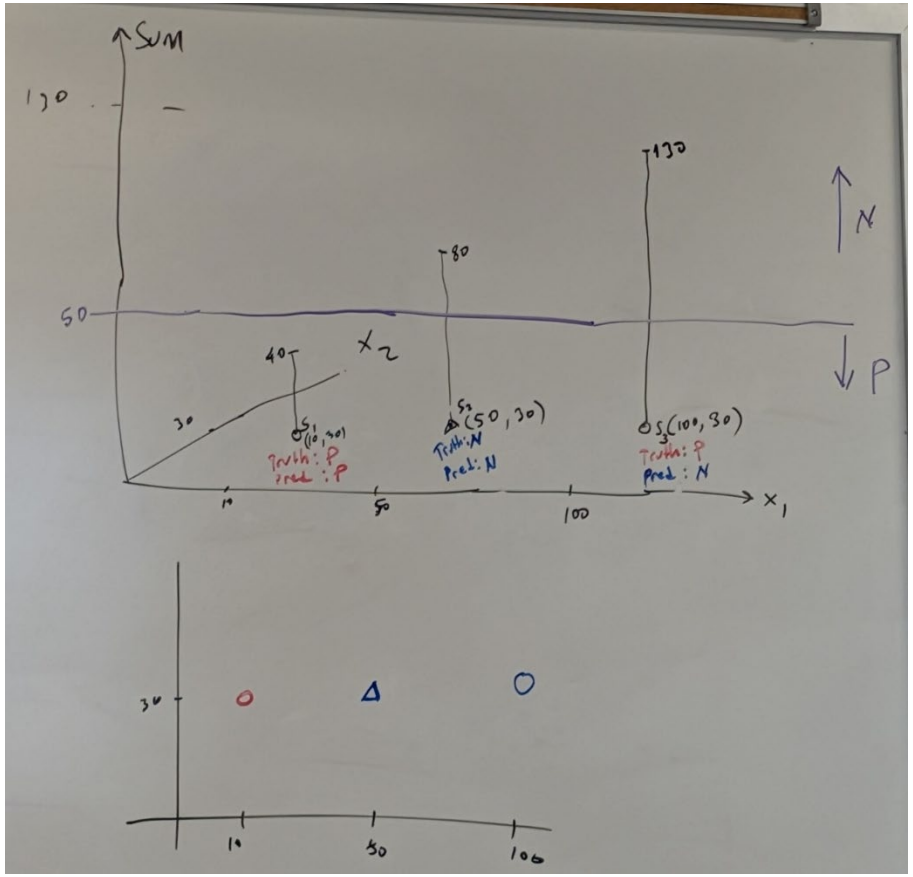
$$N = R\ Nr$$

P		
x1	x2	target
20	50	'P'
25	200	'P'
30	50	'P'
10	30	'P'

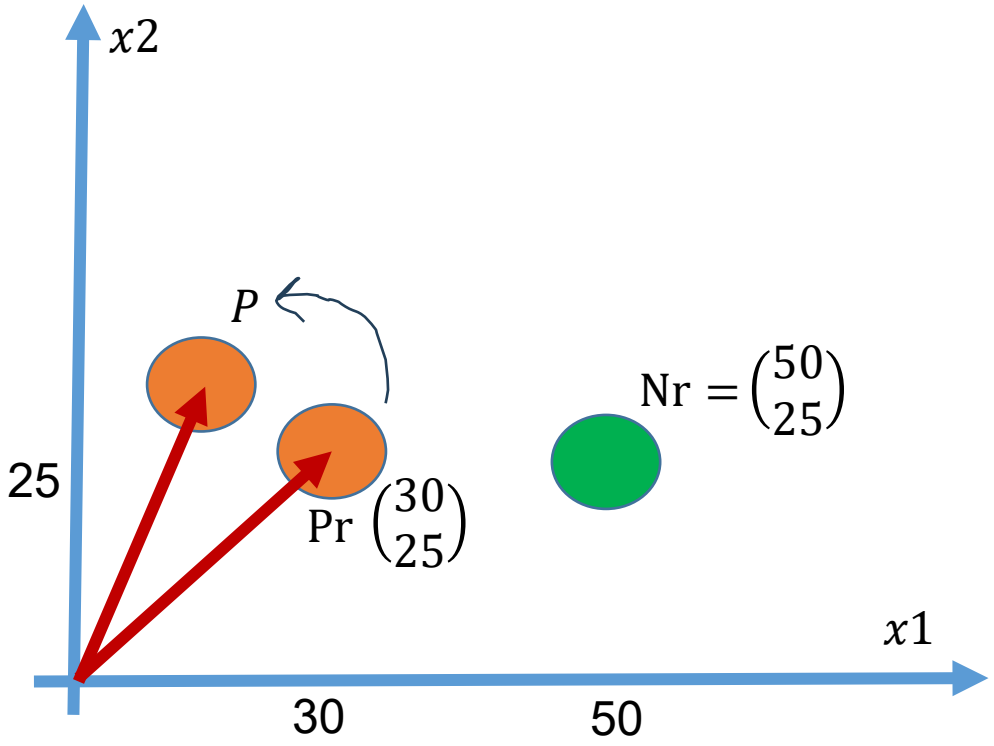
N		
x1	x2	target
20	80	'N'
50	200	'N'
60	50	'N'
70	60	'N'

PN			105	
x1	x2	target	sum	prediction
20	50	'P'	70	P
25	200	'P'	225	P
30	50	'P'	80	N
10	30	'P'	40	P
20	80	'N'	100	N
50	200	'N'	250	N
60	50	'N'	110	N
70	60	'N'	130	P

Y			
x1	x2	target	prediction
20	50	'P'	P
25	200	'P'	P
30	50	'P'	N
10	30	'P'	P
20	80	'N'	N
50	200	'N'	N
60	50	'N'	N
70	60	'N'	P



Preparing Data



$$R = \begin{bmatrix} c & -s \\ s & c \end{bmatrix}$$

$$\mathrm{Pr} = \begin{pmatrix} x1 \\ x2 \end{pmatrix}$$

$$P = R\,Pr = \begin{bmatrix} c & -s \\ s & c \end{bmatrix} \begin{pmatrix} x1 \\ x2 \end{pmatrix} = \begin{pmatrix} c * x1 - s * x2 \\ s * x1 + c * x2 \end{pmatrix}$$

DON'T USE THIS ONE:

$$\begin{pmatrix} x1 \\ x2 \end{pmatrix} \begin{bmatrix} c & -s \\ s & c \end{bmatrix}$$

Nr = Shift(Pr,x1,20)

$$\mathrm{Nr} = \begin{pmatrix} x1 \\ x2 \end{pmatrix} + \begin{pmatrix} 20 \\ 0 \end{pmatrix}$$

$$N = R\,Nr = \begin{bmatrix} c & -s \\ s & c \end{bmatrix} \begin{pmatrix} x1 + 20 \\ x2 \end{pmatrix}$$