

Using Output Codes

[with Allwein & Singer][Dietterich & Bakiri]

- alternative: choose “codeword” for each label

	π_1	π_2	π_3	π_4
a	−	+	−	+
b	−	+	+	−
c	+	−	−	+
d	+	−	+	+
e	−	−	−	−

- each training example mapped to one example per column

$$x, c \rightarrow \begin{cases} (x, \pi_1) & , +1 \\ (x, \pi_2) & , -1 \\ (x, \pi_3) & , -1 \\ (x, \pi_4) & , +1 \end{cases}$$

- to classify new example x :
 - evaluate classifier on $(x, \pi_1), \dots, (x, \pi_4)$
 - choose label “most consistent” with results