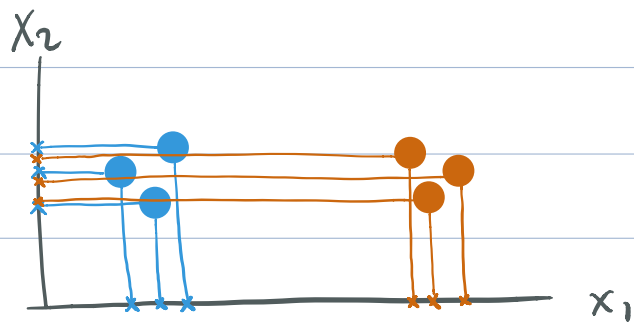
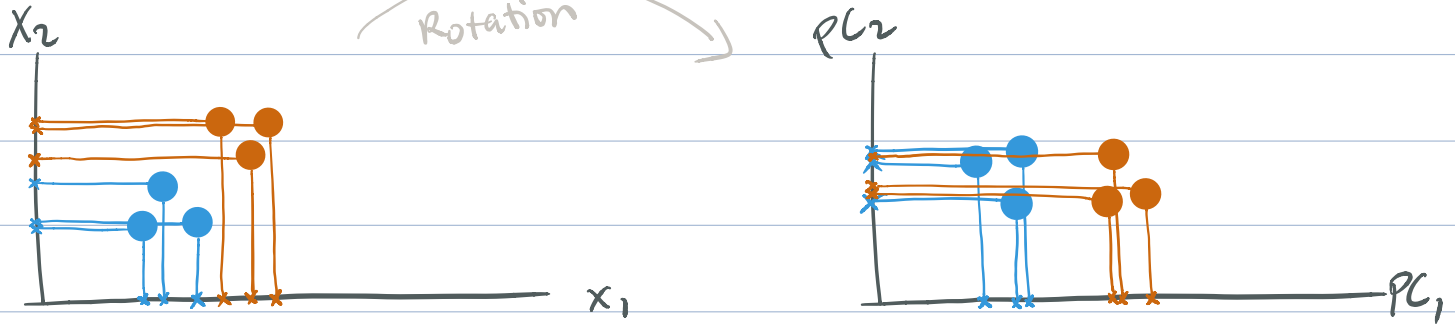


Which coordinate
is better for clustering?

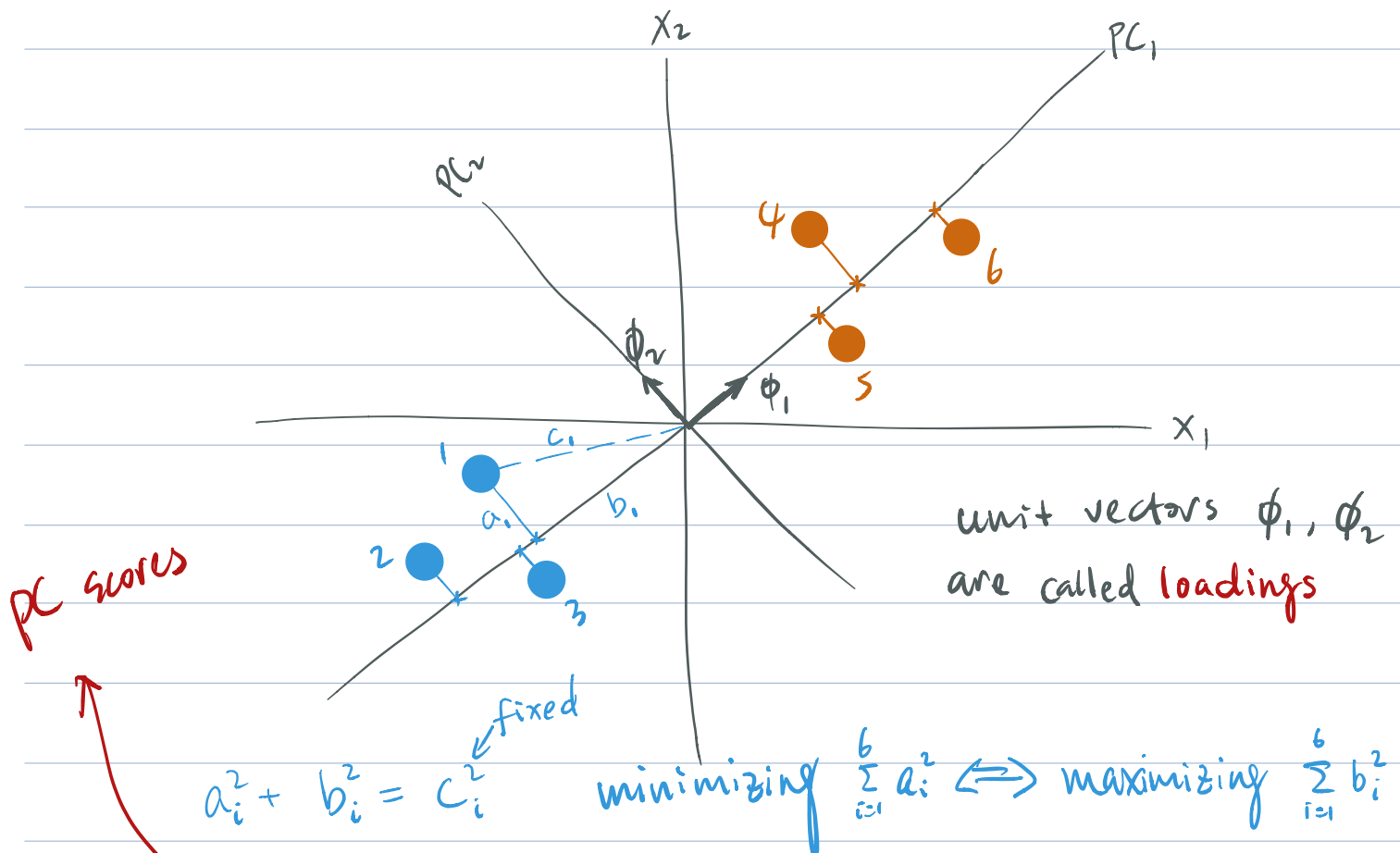


Clockwise

Rotation



PC_1 : line "closest" to all data points



The projection onto PC_1 has the largest variance.

PC_2 is similar to PC_1 but with an additional constraint: $PC_2 \perp PC_1$

$PC_k \perp PC_{k+1}, \dots, PC_1 \quad k=1, \dots, p$

