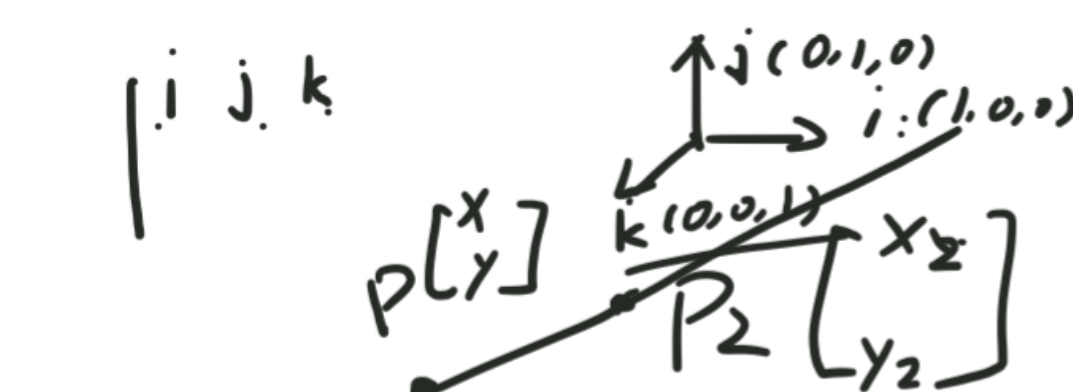


CS174A Discussion 1C

Week 1 Notes

Steven Zeng

$i \ j \ k$



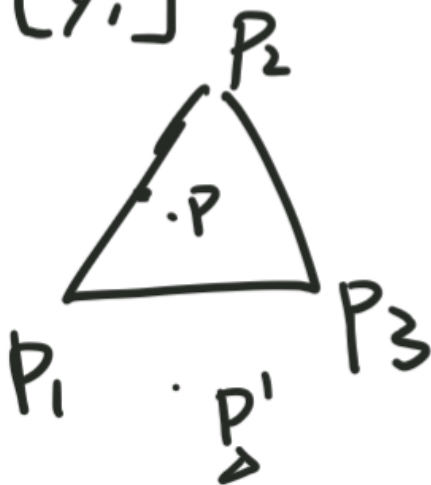
$$\begin{cases} x = a_1 x_1 + a_2 x_2 \\ y = a_1 y_1 + a_2 y_2 \end{cases}$$

$$\underline{a_1 + a_2 = 1}$$

scalar

Affine comb.

$$\begin{aligned} P &= P_1 + a(P_2 - P_1) \\ &= \underbrace{(1-a)}_{a_1} P_1 + \underbrace{a}_{a_2} P_2 \end{aligned}$$



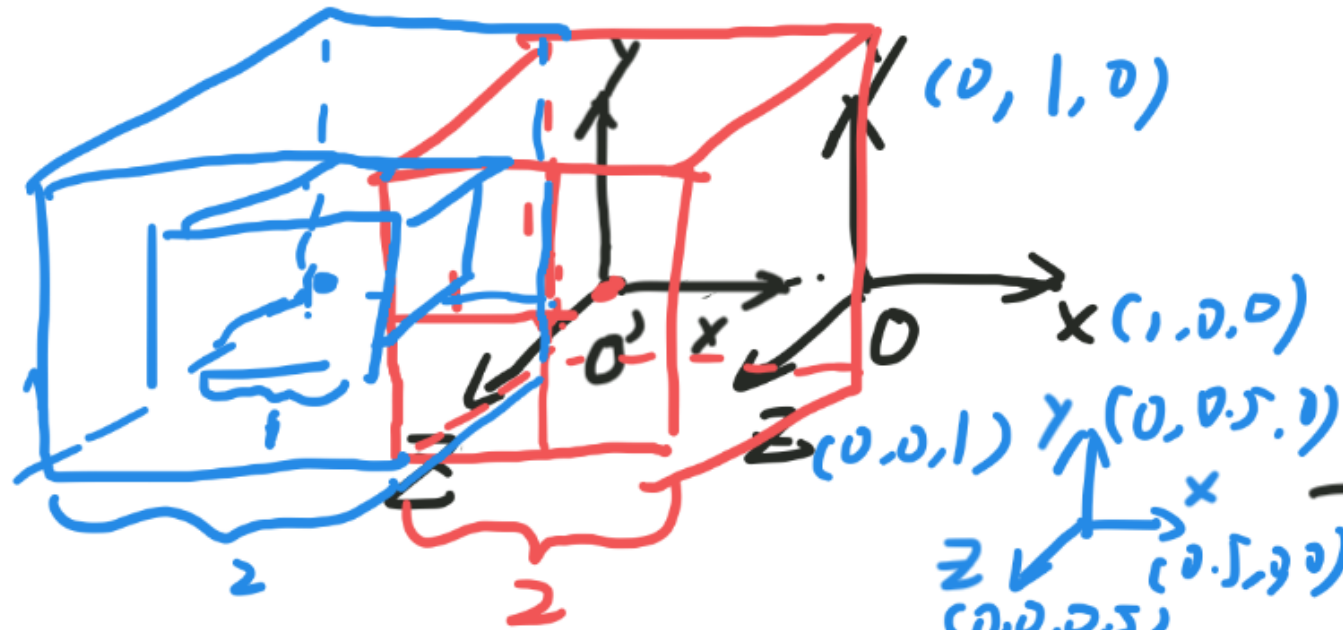
$$\underline{P' = a_1 P_1 + a_2 P_2}$$

Convex
comb.

$$\begin{cases} a_1 x_1 + \dots + a_n x_n \\ \sum_{i=1}^n a_i = 1 \\ a_i \geq 0 \end{cases}$$

(x, y, z) ? $\textcircled{1}$ (x, y, z)
 $(-2, 0, 0)$ — trans.
 $(0.5, 0.5, 0.5)$ — scale

← draw



rotate along
z-axis

$\textcircled{2}$. scale: $(0.5, 0.5, 0.5)$
 translation: $(-4, 0, 0)$

