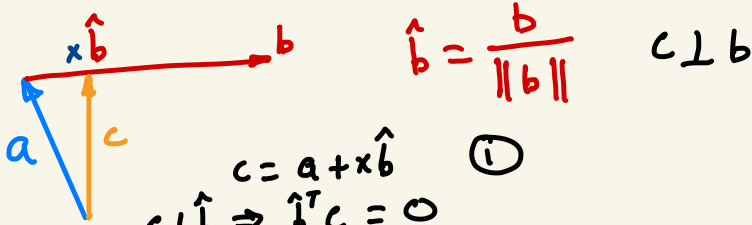
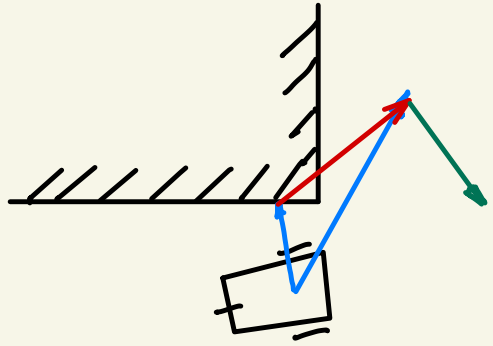
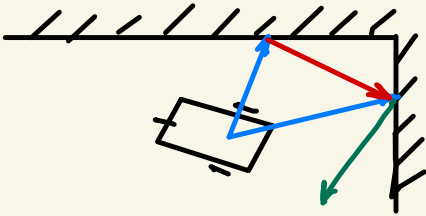
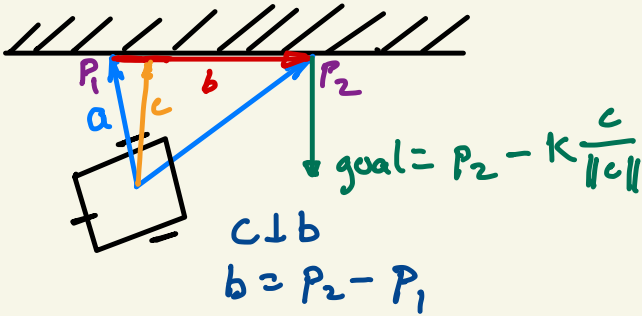


Wall Following Vectors



$c \perp b$

$c = a + x\hat{b}$ (1)

$c \perp \hat{b} \Rightarrow \hat{b}^T c = 0$

$\hat{b}^T (a + x\hat{b}) = 0$ (2)

$\hat{b}^T a + \hat{b}^T x\hat{b} = 0$

$x \underbrace{\hat{b}^T \hat{b}}_1$

$\hat{b}^T a + x = 0, x = -\hat{b}^T a$

$c = a - \hat{b}^T a \hat{b} = a - a^T \hat{b} \hat{b}$