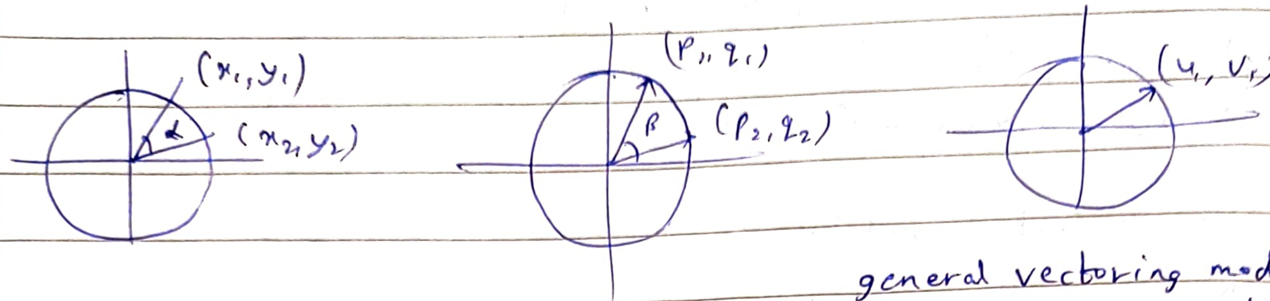
DIC ~~Ø~~ Class Test

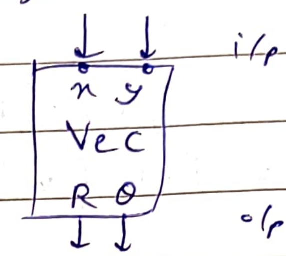
Date ___/___/_____

Sanket Ranade, EE19BTECH11012

Q.1)



general vectoring mode block diagram



~~Let~~ Compute

$\alpha_1 = Vec_\theta(x_1, y_1)$

$\alpha_2 = Vec_\theta(x_2, y_2)$

$\alpha = \alpha_1 - \alpha_2$

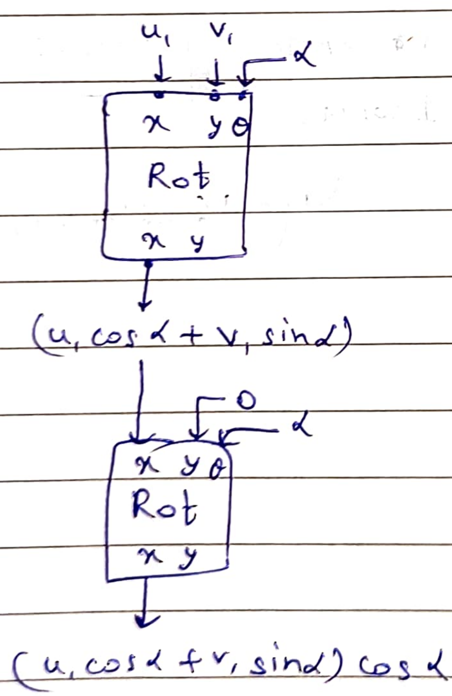
$\beta_1 = Vec_\theta(p_1, q_1)$

$\beta_2 = Vec_\theta(p_2, q_2)$

$\beta = \beta_1 - \beta_2$

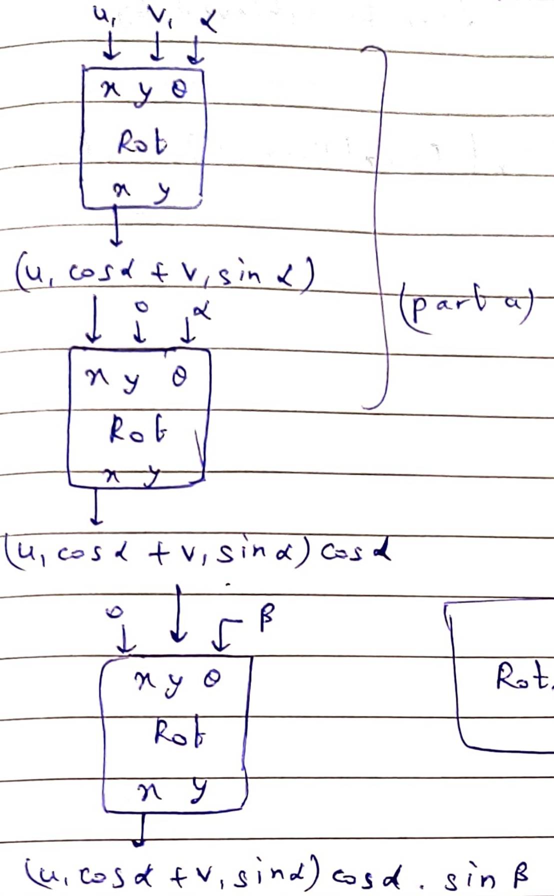
→ we will precompute this to realise following expressions

a) $(u_1 \cos\alpha + v_1 \sin\alpha)\cos\alpha$ → Can be achieved by



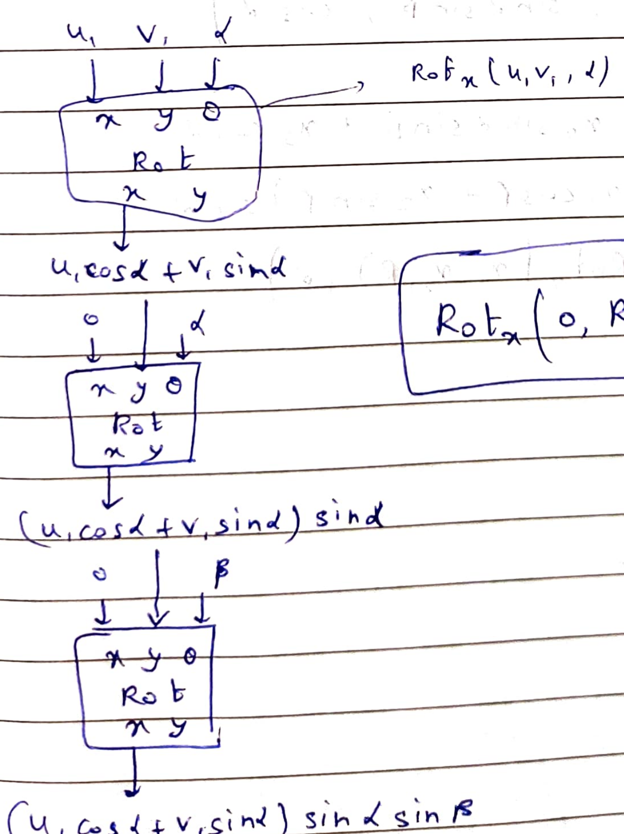
$$\boxed{Rot_x(Rot_x(u_1, v_1, \alpha), 0, \alpha)}$$

b) $(u_1 \cos\alpha + v_1 \sin\alpha) \cos\alpha \sin\beta$ — can be achieved



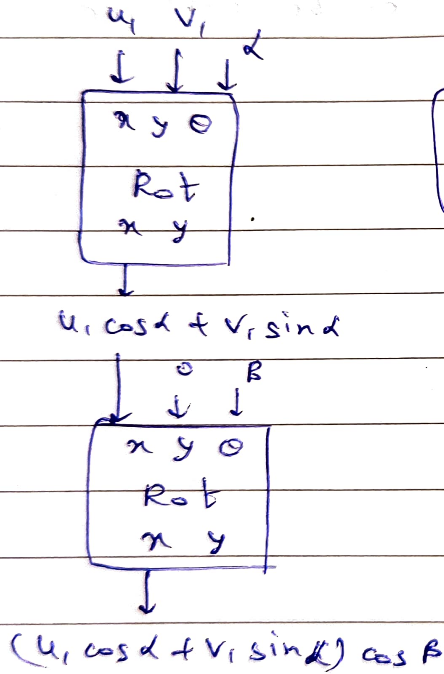
$$\boxed{Rot_x\left(0, Rot_x\left(Rot_x(u_1, v_1, \alpha), 0, \alpha\right), \beta\right)}$$

c) ~~[illegible]~~ $(u_1 \cos\alpha + v_1 \sin\alpha) \sin\alpha \sin\beta$



$$\boxed{Rot_x\left(0, Rot_x\left(0, Rot_x(u_1, v_1, \alpha), \alpha\right), \beta\right)}$$

d) $(u_1 \cos\alpha + v_1 \sin\alpha) \cos\beta$ can be achieved by



$$\boxed{Rot_x(Rot_x(u_1, v_1, \alpha), 0, \beta)}$$