

Lab 2.2 Inverse Kinematics/Control Workshop

- 1) The forward kinematic relationship for a differential wheel platform from the book is implemented on lines 42-44 of our code.
- 2)
 - a) Euclidean distance RHO equation: $\sqrt{\sum_{i=1}^n (q_i - p_i)^2}$
 - b) Equation to calculate the Alpha that the goal is oriented at: $\alpha = \theta_r - \tan^{-1} \frac{(y_r - y_g)}{(x_r - x_g)}$
 - c) calculate a forward speed x_r that is proportional to RHO: $x_r = p_1 \rho$ *last icon is ROW but google docs makes it look wrong*
 - d) Equation to calculate the calculate a rotational speed θ_r that is proportional to ALPHA and THETA: $\theta_r = p_2 \alpha + p_3 \alpha$