

Recommended Assessment

Inverse Kinematics

1. In comparison to controlling the QBot with body speeds (Differential/Arcade drive), what benefits and limitations does controlling individual wheel speeds (Tank drive) have?
2. What challenges did you face commanding line following using only downward facing camera feed? What strategies did you use to overcome them?
3. Provide the expressions for the left and right wheel speeds (ω_L & ω_R) in terms of forward speed (v_C) and turn speed (ω)?
4. Verify that your observations from what wheel speeds lead to forward and turn speeds for the body are consistent with the equations from question 3.