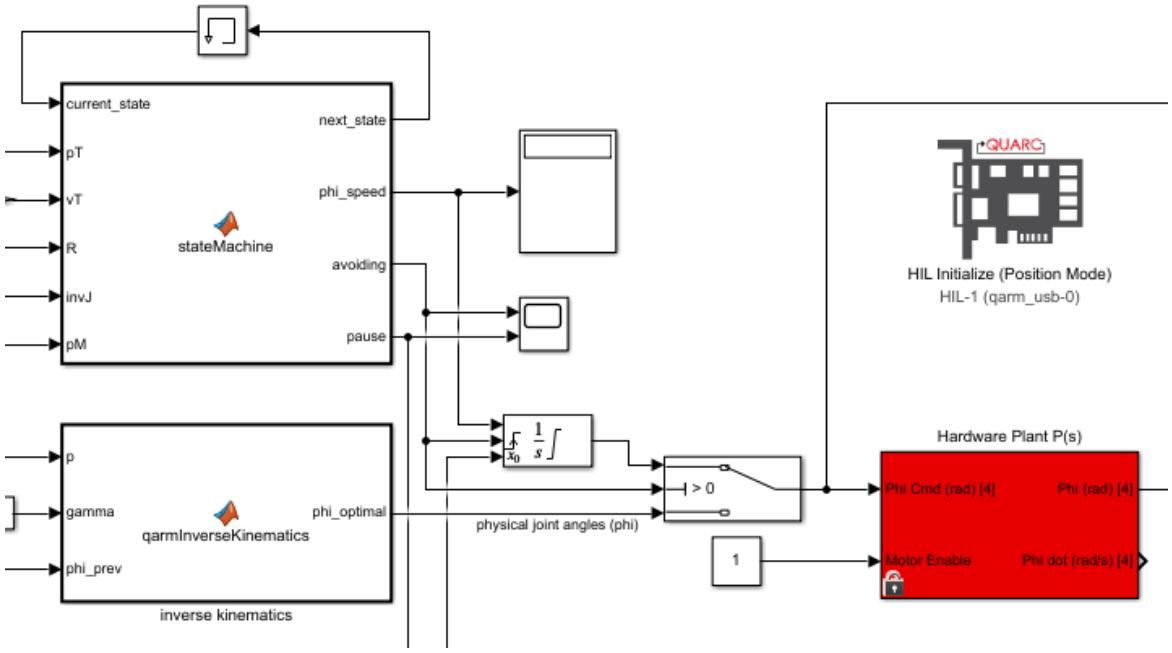
QArm Recommended Assessment

Singularity Avoidance

1. In the trajectory navigation section, why did tracking performance degrade when you reduced the X value from 0.1 m to 0.05 m?

2. In the trajectory navigation section, when you set the X values of the endpoints to 0 why did the commanded a trajectory pass through a singularity? Describe and explain the behavior of the end effector as it attempted to navigate through the singularity.

3. Describe the purpose of the Switch and Integrator with Saturation Limits blocks shown below.



4. Describe the purpose of lines 29 through 38 in the MATLAB function that implements your state machine. What are some of the main variables that this piece of the code calculates?