3R motion with Scilab

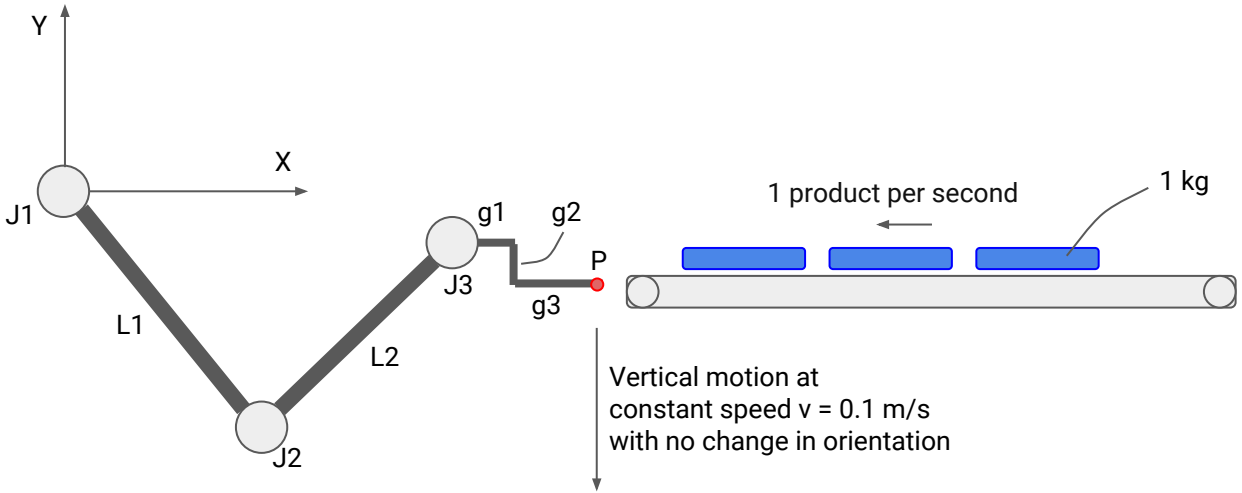
See the TriVex SL/SLi vertical pack loader using two 3R arm robots: https://youtu.be/58p0063SkLE

Using the functions developed at class, finish the Scilab code to generate the vertical motion of one of the robots. The code should generate the following results:

1 - Plot of the 3R motion
2 - Plot of joint speeds versus time. For this, you can use the following sequence at each step of the motion:
- Compute the pose of the end-effector
- Solve the inverse position analysis to obtain the configuration of the robot and, in particular, the position of each joint
- Compute the jacobian at this configuration
- Obtain joint speeds by multiplying the jacobian with the required end-effector twist (joint speeds = J·T)

Optionally (as bonus) you can generate the following results:

3 - Plot the torque that J1 must sustain versus time (you can consider the weight of L1 and L2 at the middle of the link, and the weight of the end-effector at the middle of g3)
4 - In the function that solves the inverse position analysis of the robot, add a check to guarantee that the inputs are inside the workspace of the robot



L1 = 0.62 m
L2 = 0.57 m
g1 = 0.1 m
g2 = 0.2 m
g3 = 0.3 m

Start: P = (0.9, -0.2) m
Goal: P = (0.9, -0.7) m

Mass of L1: 4 kg
Mass of L2: 3 kg
Mass of empty end-effector: 2kg