METR4202 -- Robotics
Tutorial 3 – Week 4: Forward Kinematics

Forward Kinematics Tutorial

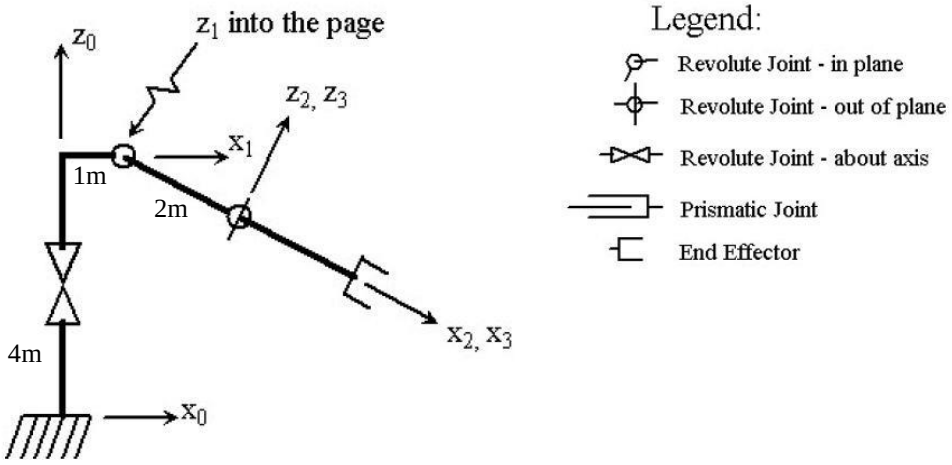
The objective of this tutorial is to explore homogenous transformations. The MATLAB robotics toolbox developed by Peter Corke might be a useful aid[1].

Reading
Please read/review Please read/review chapter 7 of Robotics, Vision and Control.

Review
Useful commands:
`Transl,trotx, troty, trotz, rotx, roty, rotz, tr2eul, DHFactor`

Familiarise yourself with the link class

Questions
1. For the robot shown in the following figure, find the table of DH parameters according to "Standard" DH conventions.
   (**note**: you are allowed to move the initial frame to fit convention(s))



[1] http://petercorke.com/Robotics_Toolbox.html

2.

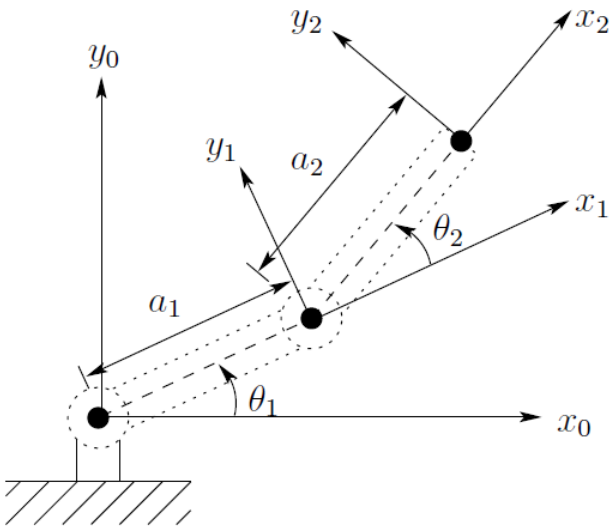


Figure 1: Two-link Planar Robot

a.) Determine the joint angles of the two-link planar arm.

b.) If a1 = 2 and a2 = 3 what are the joint angles corresponding to an end effector position of $(x,y)=(1, 1)$.