



# Introduction to Robotics

Manipulation and Programming

## Unit 2: Kinematics

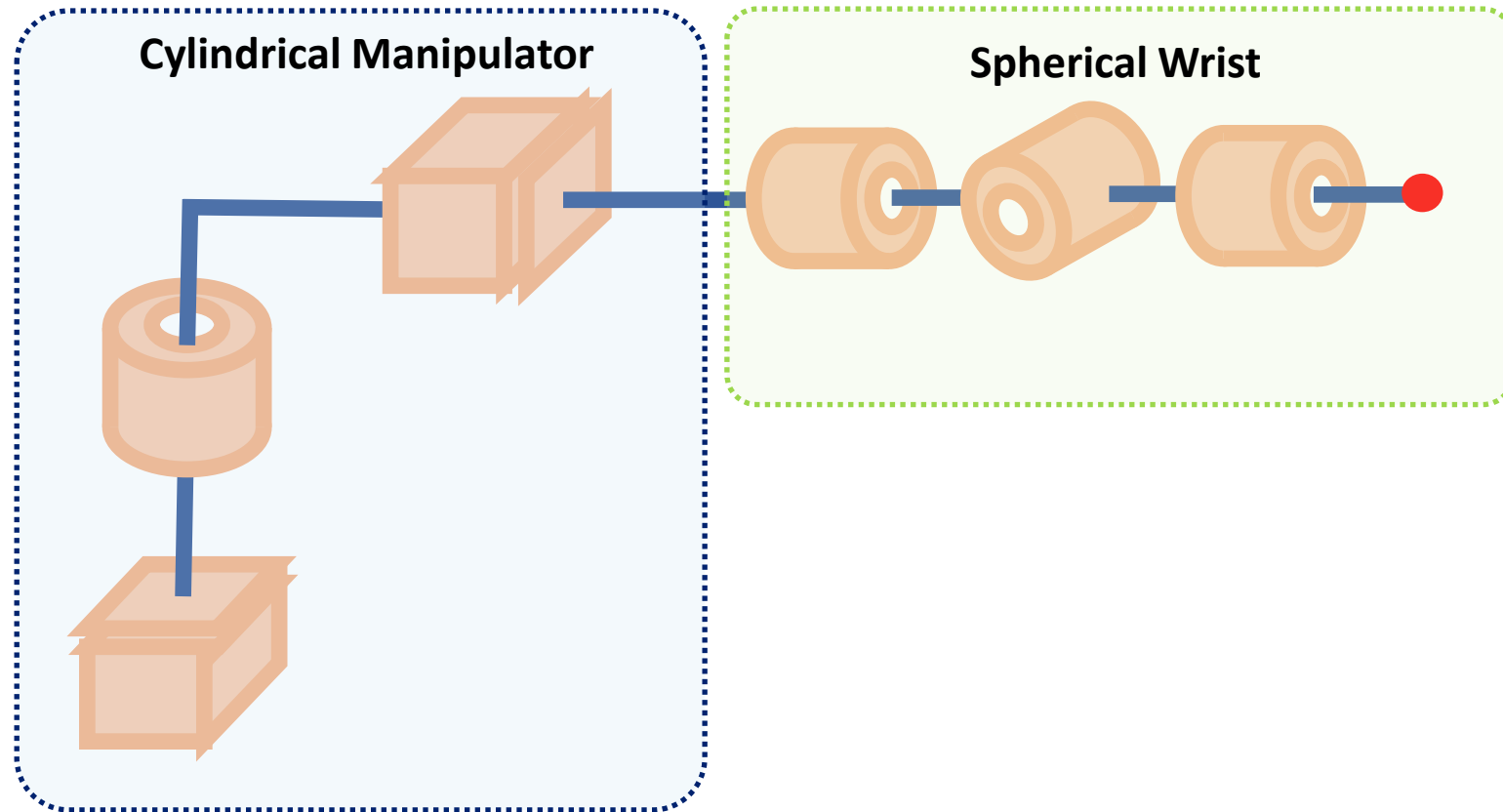
PYTHON LAB PROJECT: CYLINDRICAL ARM AND SPHERICAL WRIST

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# All Prismatic Manipulator





# Problem:

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- 1) This is a re-write assignment, we have discussed this robot with cylindrical arm and spherical wrist. Please following the 7 steps to generate the following thing:
  - Kinematic Diagram for both arm and wrist.
  - The Denavit-Hartenberg table for both arm and wrist
  - Create the DH-HTM matrix and the corresponding Rotational matrix  $R_3^0$  and  $R_6^0$
  - Following the 7 steps to calculate the inverse Jacobian matrix and the corresponding path planning equations.

write them down on paper and submit it by image file or word .docx, or .pdf files.
- 2) submit .py or .zip file