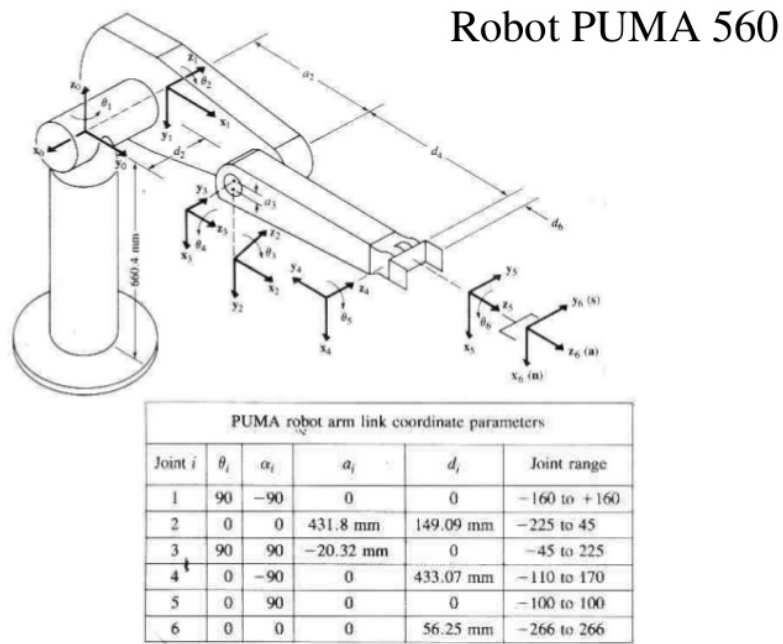Consider the PUMA 560 arm, shown in Figure 1

Figure 1 PUMA 560 robot arm (w./ kinematic parameters)

in its zeroth position shown in Figure 2
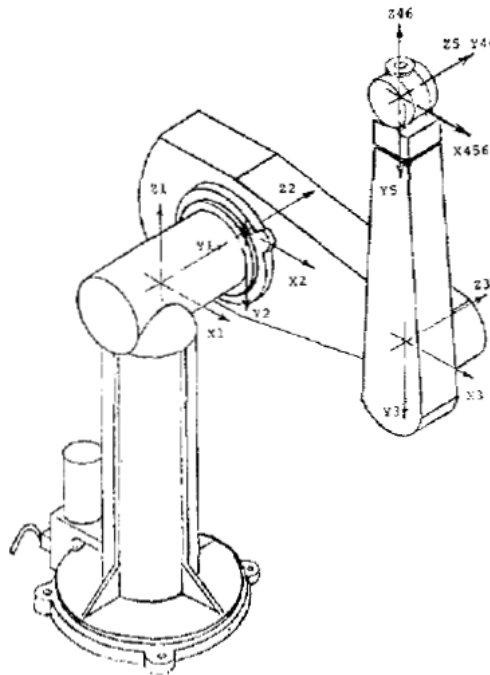

Figure 2 PUMA 560 at 0th-configuration

1. Compute in symbolic form the matrix $A_0^6(\theta_1, \ldots \theta_6)$

2. Given the bounds of θ_1 thru θ_3 compute points of the working space in 3D from $\bar{p}_{3\times1}(\theta_1, \theta_2, \theta_3)$, where

$$A_0^3 = \left[\begin{array}{c|c} R_{3\times3} & \bar{p}_{3\times1} \\ \hline 0_{3\times1} & 1 \end{array}\right]$$