

### 3 Homework Position Analysis with MATLAB

#### Problem 3.1: R-RRR mechanism

The dimensions for the mechanism shown in Fig. 1 are given in the Table 1. Find the positions of the joints and the angles of the links with the horizontal axis.

Write a MATLAB program for the positions of the mechanism.

Table 1: Mechanism 1

$AB$	$AD$	$BC$	$CD$	$\phi$
[m]	[m]	[m]	[m]	[°]
0.08	0.19	0.21	0.12	60°

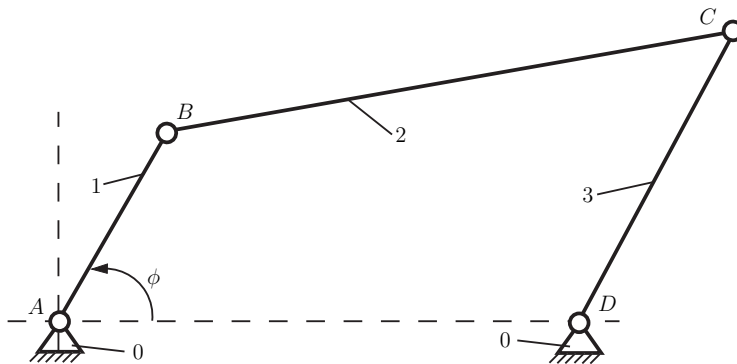


Figure 1: Mechanism 1

#### Results

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phi = 60.000 (degrees)
rC = [ 0.247, 0.106, 0] (m)
rB = [ 0.040, 0.069, 0] (m)
rD = [ 0.190, 0.000, 0] (m)
phi2 = 9.986 (degrees)
phi3 = 61.739 (degrees)

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