Example
In Figure 1 is shown a mechanism. It consists of three arms. Arm 1 is connected to the ground by means of a revolute joint RJ1 with joint axis along the global y-axis. Arm2 is connected to Arm 2 with a spherical joint SJ1. Arm 2 is connected to Arm 3 with another spherical joint SJ2. Finally, Arm 3 is connected to the ground with another revolute joint RJ2 with joint axis along the global z-axis. All the measurements are indicated in Figure 1.

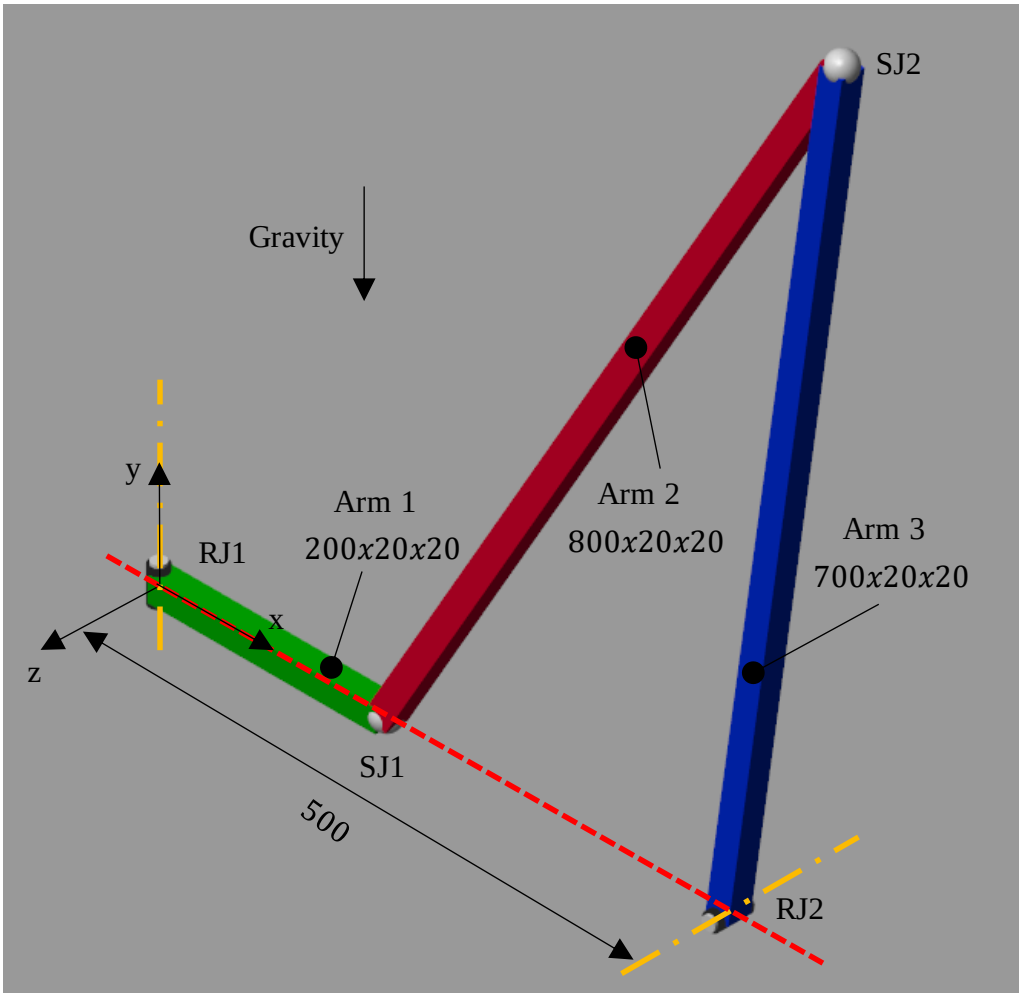

Figure 1. Mechanism with three movable links, Arm1, Arm2, and Arm 3. All measurements are in [mm] and the body measurements are: length x height x width. The rotational axes of RJ1 and RJ2 are indicated.

All the components are made of steel with density $\rho = 7800\ \frac{kg}{m^3}$.

The rotation of Arm 1 around the global y-axis (RJ1) is prescribed as a function of time:

$$\theta = 2 \cdot \pi \cdot \left\{1 + sin\left[\frac{\pi}{5} \cdot (t - 2.5)\right]\right\}$$

With θ in [rad] and t in [sec]. In Figure 6 the mechanism is shown in the initial position, $\theta = 0$.
Simulate the system for 10 seconds and plot the size of the angular speed vector of Arm 3 and the size of the reactive force vector in SJ2.