

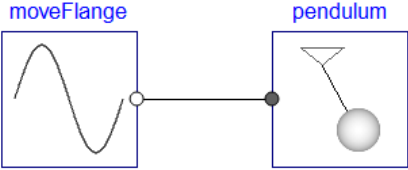
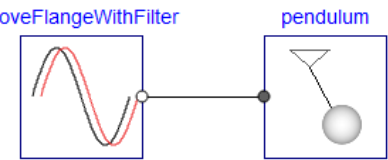
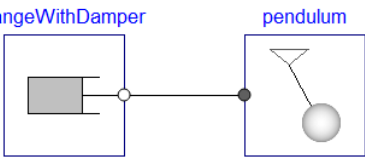
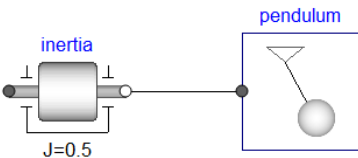
## Modelica Examples to demonstrate Connection Variants

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The goal is

- to model a "pendulum" in Modia3 and this pendulum has an axis flange,
- to model various equation based systems that drive axis flanges in Modia (= actuator models),
- to connect the actuator models with identical connect statements, independently of the used actuators: `connect(actuator.flange, pendulum.axis)`,
- and automatically generate the Julia code for the actuator using the Modia symbolic engine and connect it appropriately with the Modia3D pendulum model. Hereby, the actual input/output signals to be exchanged must be determined (this characteristic depends both on the Modia and on the Modia3D model and therefore both models must be analyzed together).

Examples in Modelica package Modia3D\examples\sinus\ModelicaModels\ActuatorExamples.mo

Model	pendulum.axis	
	outputs	inputs
<b>Penulum driven kinematically by a sine function</b> (cannot be defined in Modelica)	--	phi
<b>Pendulum driven dynamically by a sine function</b> (PendulumWithMoveBlock) 	--	phi $w = \text{der}(\text{phi})$ $a = \text{der}(w)$
<b>Pendulum driven by a filtered sine function</b> (PendulumWithMoveBlockAndFilter) 	phi, $w = \text{der}(\text{phi})$	$a = \text{der}(w)$
<b>Pendulum with damper</b> (PendulumWithDamper) 	phi, $w = \text{der}(\text{phi})$	tau
<b>Pendulum with inertia</b> (PendulumWithInertia) 	phi, $w = \text{der}(\text{phi})$ $a = \text{der}(w)$	tau