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# Quadruped with spine

## Project description

I will make a Quadruped, a four legged robot with a spine. The robot will be able to walk using a pre-programmed pattern in phase one and will tech itself how to walk in phase two.

## Engineering problem

The foremost problem lays with using ordinary servos. With normal servos no feedback is available and so one never knows the actual location of the leg/arm, making building a walking robot/running robot hard. I will therefore use special servos which can transmit [angle, angle speed, temp and more] back to the controller. These special servos communicate using CAN-bus and are connected in series.

## Research question

Phase One: How will a gait with the use of a spine compare with not using a spine?
Phase Two: How does a pre-programmed gait/walk compare to a self learned gait/walk?

## Components

For phase one I will need, depending on the structural design a lot of special servos around 12-14 and one CAN-bus shield for arduino. I will also need many structural connectors to attach the servos to one and other.
For phase Two I will need som sort of balancing sensor.