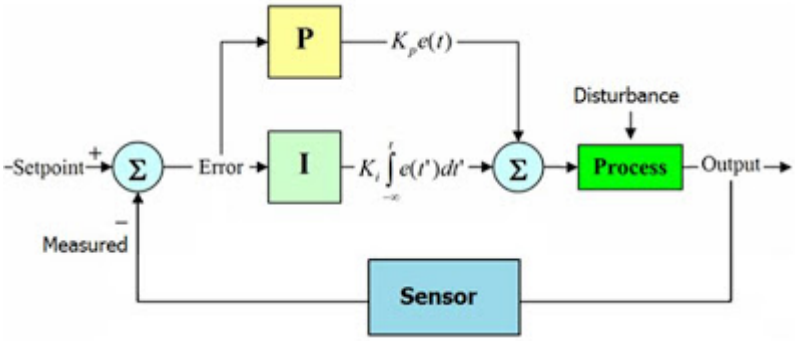
Summarized...

The previous guides explain the basics of each component in our control system, the ping pong tower.
Now it is up to you to bring all these blocks together and come to a working system.

Below we give an overview of what is possible, but we leave the final implementation(s) completely up to your creativity!



Fan control

As we have already seen, it can be controlled with a digital signal or an analog voltage. However, how you obtain these signals is still completely free to choose; some examples:

- Digital signal from microcontroller
- Digital signal from 555 timer chip
- Analog voltage of power opamp
- Linear power supply analog voltage
- Analog voltage of switching power supply
- ...

Altimeter readout

Depending on the selected control for the fan, a suitable output of the height sensor will have to be used. Experiment with the different signals!

Building a controller

The controller can again be implemented analog or digital, but this can also be done in different ways:

- Make your own PCB with your analog circuit
- Assemble a pre-made PCB for an analog controller
- Set up digital controller via Matlab
- Set up digital controller via Java
- ...

Input

The input to our control system can also be given in countless ways:

- Setpoint digital programming
- Setpoint forwarding via a remote control
- Determining setpoint by temperature
- Setpoint is the score of game pong
- Setpoint is determined by the color
- Set setpoint with a pressure sensor
- ...
-

Conclusion

Indicate the height of the ball with the LED strip, play music if the ball gets too high, ..., everything is possible! Let your creativity run wild and make something beautiful out of it.

The following modules (toolboxes) help you on your way and give a glimpse of what is possible in the different branches of electronics: digital, analog, photonics, image processing, ...

Good luck!