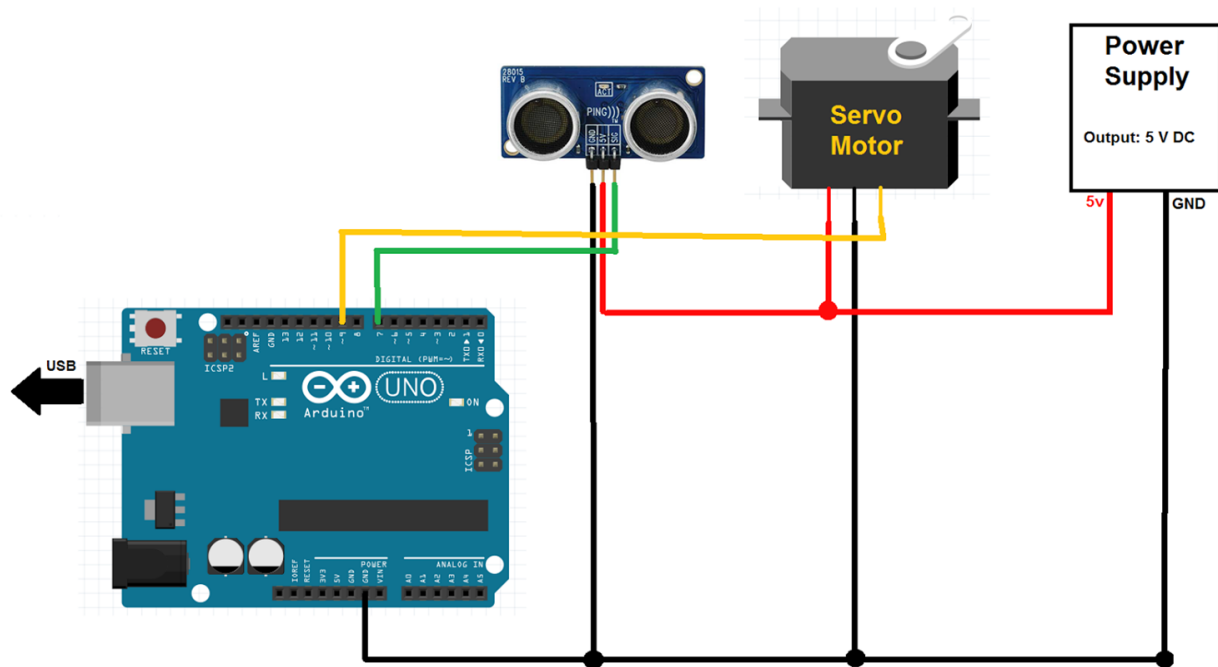


Embedded Project



The system would look something similar as in the video.

https://www.youtube.com/watch?v=y5Hmr-rR-yk&feature=emb_logo

Step 1: The microcontroller is controlling an ultrasonic sensor and a servo motor. Write a code to move the motor at a speed directly proportional to the distance an object is from the ultrasonic sensor. This is an open loop controller. Write Python code to read and plot the position of the object, and the speed of the motor on your computer.

Step 2: Write code to balance the ball using a closed loop PID controller.

(Bonus, build the setup) Send 3-D printed parts to raajc@sfu.ca if you don't have a 3D printer and I'll try to get them printed for you.

After finishing the project, upload it on canvas.