CODING CHALLENGES

CHANGE THE DISTANCE AT WHICH YOUR ROBOT REACTS: Try changing the distance at which your robot stops and turns away from an obstacle.

CHANGE THE BEHAVIOR OF THE ROBOT WHEN IT SENSES AN OBSTACLE: Try changing the code so that your robot does something different when it senses an obstacle.

TROUBLESHOOTING

The robot drives backward and/or turns in the wrong direction	Check the wiring of your motors and the way that they are mounted to the baseplate. If one of your motors is flipped around, reposition it, or switch its black and red wires on the breadboard (this will reverse the direction that it turns).
The robot runs into obstacles	You can try gently bending the pins of the distance sensor so that it points straight ahead. The robot will get stuck if one wheel hits an object that it is driving past (the distance sensor won't see the obstacle unless it's in front of the robot).
The robot drives slow or not at all, though the RedBoard is powered	Try installing fresh batteries. These slow or sporadic behaviors are symptoms that your robot may be running out of power. Please note that the 4 AA batteries output about 6 or 7V, which is just below the recommended input voltage for the RedBoard. You can also use 9V batteries with a proper adapter, though their battery life won't last as long.
Still not working?	Jumper wires unfortunately can go "bad" from getting bent too much. The copper wire inside can break, leaving an open connection in your circuit. If you are certain that your circuit is wired correctly and that your code is error-free and uploaded but you are still encountering issues, try replacing one or more of the jumper wires for the component that is not working.