

Homework 2

Overview: Last class, we worked with the new android system in order to make our robot move. This is a good start, but all we really did was modify the code that already existed, we didn't really make any code from scratch. For this assignment, you should write all the code from scratch. We will be deploying your code next class so be sure to do your best! Try to at least complete the first 2 problems.

Assignment Brief

In the last class, we made the robot move in such a way that one joystick controlled the throttle and the other joystick controlled the direction. For your homework you need to make each side of the robot dependent on the joystick. For example, if I push the right joystick forward, then the right drive side should move forward. If I push the left joystick forward, then the left drive side should move forward.

Today the turning was controlled by the joystick. For homework you need to make the turn based on a button. If I push the "X" button, then the robot should turn in place in the left direction. You can accomplish this type of turn by having the left motors moving backward and having the right motors move forward.

Another turn you will need to implement is an arc-turn. If I push the "Y" button, then the robot will arc-turn to the right. This means that the right motors will not move at all and the left motors will move forward.

Finally, if I press "A" at any point in time, everything should stop.

So in short:

1. Left joystick controls left motors and right joystick control right motor
2. Pressing "X" makes a pivot turn to the left.
3. Pressing "Y" makes an arc-turn to the right.
4. Pressing "A" causes the robot to stop.

Note: Please make sure that your motor power is not at 1. When turning, make sure that your motor values are no greater than .5 and no less than -.5.

Good luck and have fun!