

HW3 - Joystick Control of Vehicle

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How to Run Node:

- Package Name: ex_joystick
- Executable: map_joy_to_ack

Mapping to Get From Subscribed Joy Topic to Published Ackermann Topic:

- First we echoed the joy topic and figured out the indices and the axis message that we wanted to use for throttle and steering
- Then we found the limits for steering angle and speed from the motor carrier driver code in github
- Then we created a blank ackermann drive stamp message and used static values to experiment to see if the message was correctly formatted
- We then mapped velocity by using a linear mapping equation to map the speed limits of 70-110 to velocity
 - This was a helpful resource that we used:
 - <https://stackoverflow.com/questions/345187/math-mapping-numbers>
- We then mapped the steering angle by using the same formula to map the angles (-45 to 45) from degrees to radians ($-\pi/4$ to $\pi/4$) since the message needed to be sent in radians
- Then we tested the vehicle