Info for 09-29-2020

rotopic pub formats:
http://wiki.ros.org/ROS/Tutorials/UnderstandingTopics

start a turtlesim node:

1. Open a terminal window, run:
   roscore

2. Open a second terminal window, run:
   rosrun turtlesim turtlesim_node

3. Open a third terminal window, run (Figure 1):
   rostopic list

4. In the third terminal window, run (Figure 2):
   rostopic info /turtle1/cmd_vel

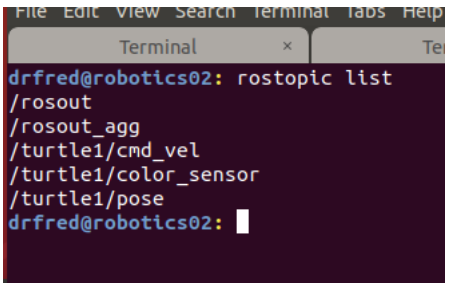

Figure 1: Result of *rostopic list* command.

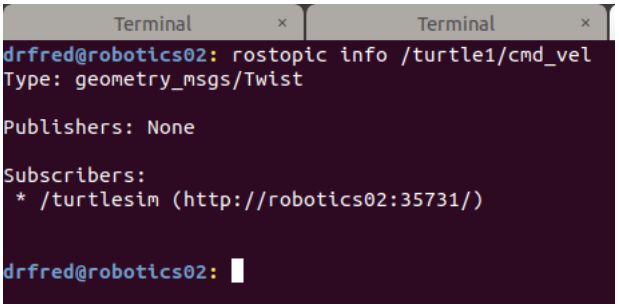

Figure 2: Result of *rostopic info /turtle1/cmd_vel* command.

5. In the third terminal window, run:
   rostopic pub /turtle1/cmd_vel geometry_msgs/Twist '[1.0,0.0,0.0]' '[0.0,0.0,0.75]' -r 1

   (a) *rostopic pud* will publish the topic that follows

   (b) */turtle1/cmd_vel* is the topic to be published

   (c) *geometry_msgs/Twist* is the format for the topic, this information will be filled in for you if you hit a tab after typing in the topic.

   (d) *'[1.0,0.0,0.0]' '[0.0,0.0,0.75]'* This is the data for the topic, the first is the (x,y,z) values of the linear speed (note that the x direction for the turtlesim is the forward direction), the second is the angular valocity with the third value controlling the rate of turn of the turtle.

   (e) *-r 1* Publishes the topic at the rate given in Hz. Without this term the topic is only published once.

6. Open a fourth terminal window, run (Figure 3):
   rostopic info /turtle1/cmd_vel

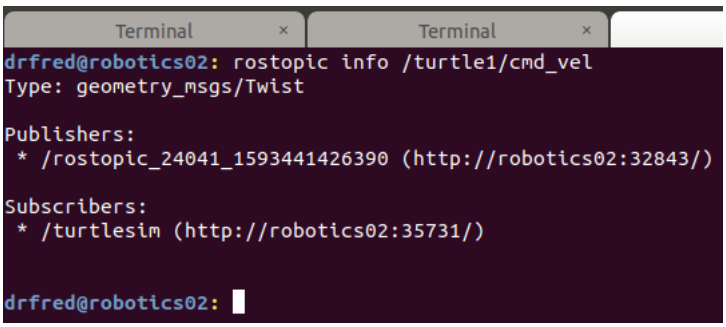

Figure 3: Result of *rostopic info /turtle1/cmd_vel* command after starting to publish the topic. Note that there is a "Publisher" and a "Subscriber"

7. In the fourth terminal window, run (Figure 4):
   rostopic echo /turtle1/cmd_vel
   You will see the values of the linear and angular velocities of the turtle. This particular node only uses the linear.x and anngular.z values. You should try entering other values and see what happens. Note that it

echos a new publication every 1 second. Recall that the topic is being published at a rate of 1 Hz.

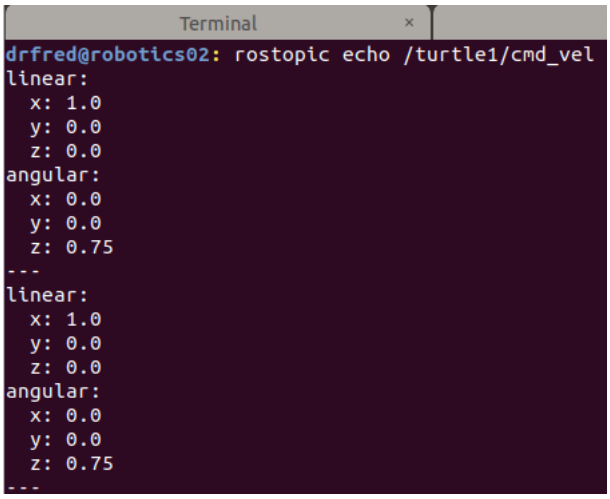

Figure 4: Result of *rostopic echo /turtle1/cmd_vel* command after starting to publish the topic.