tekomoro

ROS2 7

(*Robot Operating System*)

tekomoro

Task 1:

You are required to play the recorded bag file “Task1_bag”, and subscribe to the topic “my_topic”. In the callback event of the subscriber you should print “<your name> heard : <msg> , <counter> times” where the <msg> is the received msg, and <counter> is a counter for the number of received messages.

Task 2:

You are required to play the recorded bag file “Task2_bag”, and subscribe to the topic “/turtle1/custom_pose”. In the callback event of the subscriber you should print “<x> , <y>” where the <x> is the x position of the turtle, and <y> is the y position of the turtle. When running the node you should save the output of the node in a csv file. Then you should plot a scatter plot between the x values and the y values to visualize the trajectory of the recorded turtle.

Hint: Normal command to run node -------> ros2 run my_pkg node1

Command to save terminal output to file -> ros2 run my_pkg node1 > pose_data.csv

Task 3:

You are required to modify the given cpp package <ITI_LSV_ROS2/Lec3/cpp> so that it would contains 2 nodes:

A publisher that publishes a string msg containing your name and a subscriber that prints this name to terminal. Change the qos profiles in the 2 nodes to the sponsor data profile.

Task 4: Bonus Task.

You are required to create a client node that resets the turtlesim node if it goes further than some required bounds. The required bounds are: 2<x<8 and 2<y<8.

Instructors repo Link:

1- https://github.com/ahmedgharieb1
2- https://github.com/M-abdeen

Material repo :
https://github.com/ahmedgharieb1/ITI_LSV_ROS2