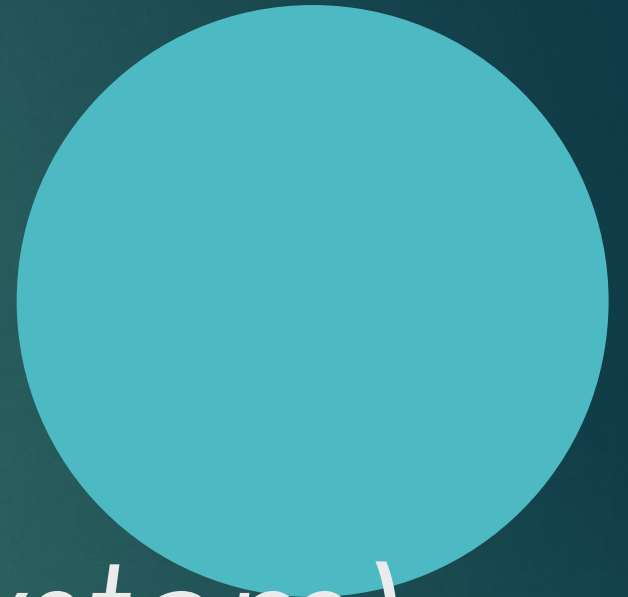


# ROS2 7

*(Robot Operating System)*



## 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.

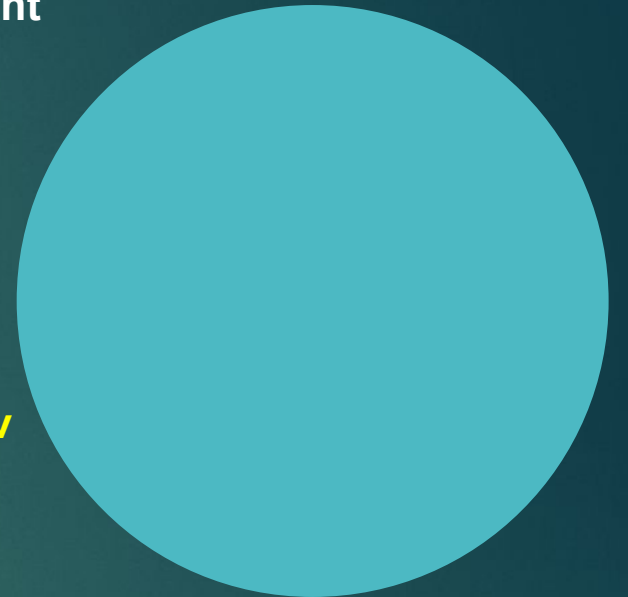


## Task 2:

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](https://github.com/ahmedgharieb1/ITI_LSV_ROS2)

