

This is the Part 1 of ROS task. In this task we have to measure the values of the Joystick module on both the axis and then publish these values of X and Y on 2 different topics through roserial. And then map the values from -255 to 255.

To do this task I have created the following:

1. Arduino code: First of all the analog values of Joystick position are read by the Arduino and then mapped from 0-1023 to -255 to 255 by using a `map()` function. Then the values are published to the topics `chatter_x` and `chatter_y`. The values are of data type `std_msgs/Int16`.
 2. Subscriber Node: The program `subscriber_node.py` subscribes to the above topics through `roserial_python` and appends the value in a list and finally prints the list in terminal.
- ❖ Command for terminal: First of all the `subscriber_node.py` program should be saved in the catkin file then run the following code:
- `roscore`
 - `source/devel/setup.bash`
 - `roslaunch roserial_python serial_node.py /dev/ttyACM0`
 - `source/devel/setup.bash`
 - `roslaunch joy_subs subscriber_node.py`

I have uploaded the following:

- I. Arduino code: `Joystick_ros.ino`
- II. ROS Node: `subscriber_node.py`
- III. Video demonstration
- IV. Node Graph: `rqt_graph.png`