Lab 3 task:

I) **Create a rosnode that will "listen" for std_msgs/Float64 type data and "publish" this data to the joint of the planar robot** [1]**. The node should send the command to move if the any new incoming value is higher than the previous one.**

II) **Get the step response (see example fig.1) of (you can create a node that will send a square-wave function):**

1. **the joint at the base of the robot**
2. **the joint at the end-effector of the robot**

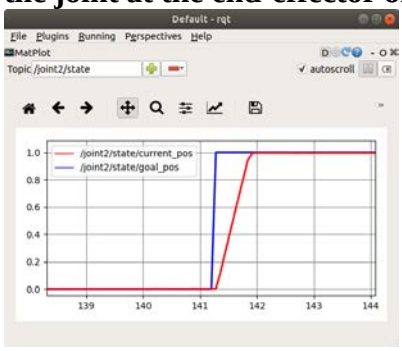
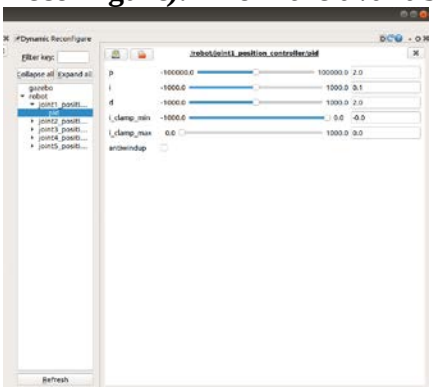


Fig.1 – example of the step response plot: blue- desired (command value), read the processing value (real value).

III) **Get the sine-wave response of (you can create a node that will send a sine-wave function):**

3. **the joint at the base of the robot**
4. **the joint at the end-effector of the robot**

IV) **Decrease the Proportional gain of PID in the joints and repeat II and III.**
Use rqt (type *rqt* in terminator, open tab Plugins → Configuration → Dynamic Reconfigure*)*. From the available configs find robot→jointNUMBER→PID→P



Lab 3 assessment:

I) **link to the repository of your code on github (or bitbucket or gitlab or etc)**
II) **figures with names to every task (jpg or png format)**
III) **short video of your coding process**

[1] A. Mazhitov, A. Adilkhanov, Y. Massalim, Z. Kappassov and H. A. Varol, "Deformable Object Recognition Using Proprioceptive and Exteroceptive Tactile Sensing," *2019 IEEE/SICE International Symposium on System Integration (SII)*, Paris, France, 2019, pp. 734-739, doi: 10.1109/SII.2019.8700392.