Lab assignment: week 1

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1 General Information

- Language used:

    1. C++

- Launch file:

    1. week1.launch - *runs all the three nodes*

- Libraries used:

    1. roscpp
    2. catkin
    3. std_msgs

2 Nodes information

2.1 Publishers

Sr. No.	Node name	Message type	Topic name	Frequency (Hz)
1	name_talker	std_msgs::String	/names	10
2	roll_talker	std_msgs::String	/roll_nos	10

Table 1: Publishers

2.2 Subscribers

Both publishers [table:1] use std_msgs::String as ROS message type instead of string of C++ for seamless communication between publisher and subscriber. 10 hz seems to be enough frequency for publishing, which can be changed as wished.

Sr. No.	Node name	Subscription topics
1	listener	/names, /roll_nos

Table 2: Subscribers

Subscriber [table:2] takes both std_msgs::String ROS messages with different callback function for each topic. An extra function is used for printing the required output. Two bool variables, *(has_name & has_roll)* are used for synchronizing both the callbacks with global variables for transfer of information between callback functions and print function. Alternatively, a class could've used for better structured code.
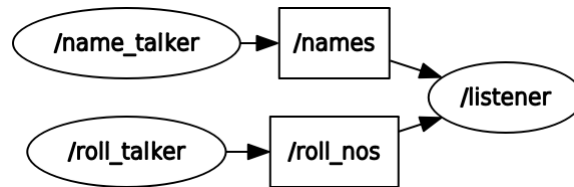
3 RosGraph

Figure 1: Rosgraph

4 Demo

Figure 2: Demo