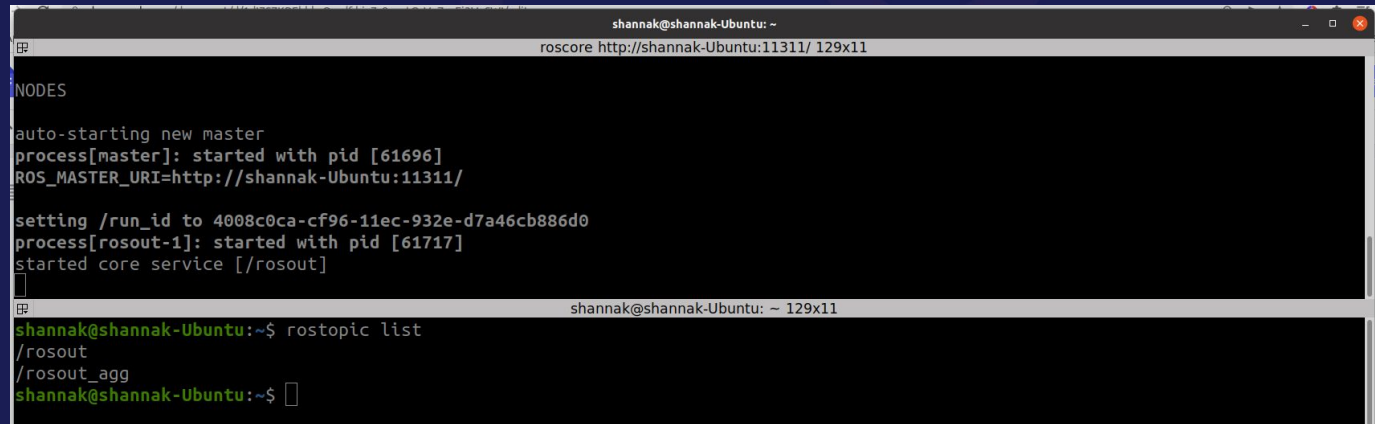


# Assignment 1

- 1) What is ROS? Why would we use it?
- 2) Mention one useful package in ROS.
- 3) What is turtlesim package ? explain it in your words
- 4) What is the difference between rostopics and rosnodes?
- 5) If the response for rostopic list was only /rosout and /rosout\_agg  
(See screenshot 1) How many nodes are running ? which node is running ?



```
shannak@shannak-Ubuntu: ~  
roscore http://shannak-Ubuntu:11311/ 129x11  
  
NODES  
  
auto-starting new master  
process[master]: started with pid [61696]  
ROS_MASTER_URI=http://shannak-Ubuntu:11311/  
  
setting /run_id to 4008c0ca-cf96-11ec-932e-d7a46cb886d0  
process[rosout-1]: started with pid [61717]  
started core service [/rosout]  
  
shannak@shannak-Ubuntu: ~ 129x11  
shannak@shannak-Ubuntu:~$ rostopic list  
/rosout  
/rosout_agg  
shannak@shannak-Ubuntu:~$
```

Screenshot 1

# Assignment 1

6) After writing `rostopic` in the terminal and pressing Tab twice I got this response (screenshot 2)

Pick three commands and explain their usage.

7) Mention at least two informations you could get from the command `rostopic info`

8) Do the following :

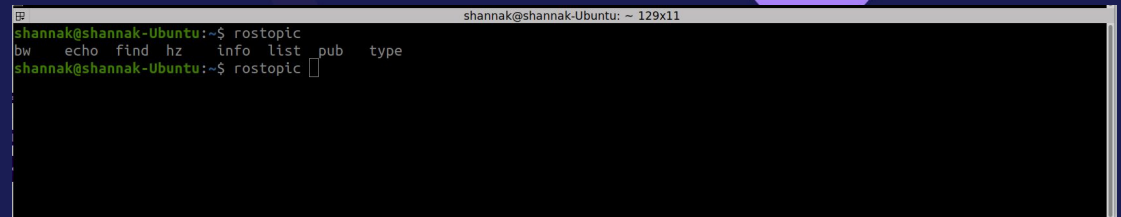
In the first terminal : Run → `roscore`

In the second terminal Run the turtle sim node → `roslaunch turtlesim turtlesim_node`

Question:

What shall you write in a third terminal to make the turtle draw a circle

Hint rewatch Session1-Part3 from min 18:40 to min 23:00



```
shannak@shannak-Ubuntu: ~ 129x11
shannak@shannak-Ubuntu:~$ rostopic
bw echo find hz info list pub type
shannak@shannak-Ubuntu:~$ rostopic
```

Screenshot 2

# Assignment 1

Bouns:

A friend of you heard that you are good in ROS. So he asked you to monitor his drone which works with ROS. After getting access to the hardware of the drone (raspberry pi) .You wrote rostopic list and the response was :

```
/rosout
```

```
/rosout_agg
```

```
/motor1/cmd_vel
```

```
/motor2/cmd_vel
```

You want to control the first motor but you do not know what to write to get the message type.

- 1) Write down the right command.


Hint: search for ros cheat sheet.

After running the right command you found that the message type is (screenshot 3)

So you googled it and you found this link

[http://docs.ros.org/en/noetic/api/geometry\\_msgs/html/msg/Twist.html](http://docs.ros.org/en/noetic/api/geometry_msgs/html/msg/Twist.html)

- 2) What do you understand from it? Explain in your own words



```
rostopic type /motor1/cmd_vel
Type: geometry_msgs/Twist
```

Publisher: None

Screenshot 3