Lab 2: Publisher and Subscriber Nodes
Lab 2 due before the start of your lab section next week
Housekeeping Reminders

- If you aren’t feeling well, don’t come to lab
- Be respectful to everyone
- No food/drink in the lab
- Keep your stations clean and wipe before use
- Don’t work in the lab alone

Press **Ctrl + C** EVERY process before you log out

Use `pkill -u $(whoami)` to log out
## Upcoming Lab Schedule

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Tasks</th>
</tr>
</thead>
</table>
| Today        | Lab 1 Due  
Work on Lab 2                                                      |
| 1 Week       | Lab 2 Due  
Work on Labs 3/4                                                   |
| 2 Weeks      | Buffer Week for Labs 3 & 4                                          |
| 3 Weeks      | Labs 3 **AND** 4 Due  
Work on Labs 5/6                                                      |
Lab 2
Writing publisher and subscriber nodes
(Driving 2 turtles!!!
Recap of ROS Workspaces

Workspace (lab1)

Package (foo)

Node
Node

Package (bar)

Node
Node
# ROS Communication Concepts

**Data Streams**
- Topics, Message Types
- Many-to-Many Nodes (Pub/Sub)

**Request/Response**
- Services, Request and Response Types
- One-to-Many Nodes

**Communication Types**
- Unidirectional Communication
- Bidirectional Communication
Topics don’t have to only be point-to-point communication; it can be one-to-many, many-to-one, or many-to-many.
There can be many service clients using the same service. But there can only be one service server for a service.
Checkpoints

1. Talk to yourself
   Write your own publisher and subscriber nodes

2. Drive that 2nd turtle!
   Write a node to interface with existing ROS code

3. Turtle army!!!
   Use ROS services to teleport your turtles and drive them in circles
Questions?
Don’t Forget...

If you run into an error:

- `catkin_make`
- `source devel/setup.bash`
- `chmod +x *.py`

Use `pkill -u $(whoami)` to log out