

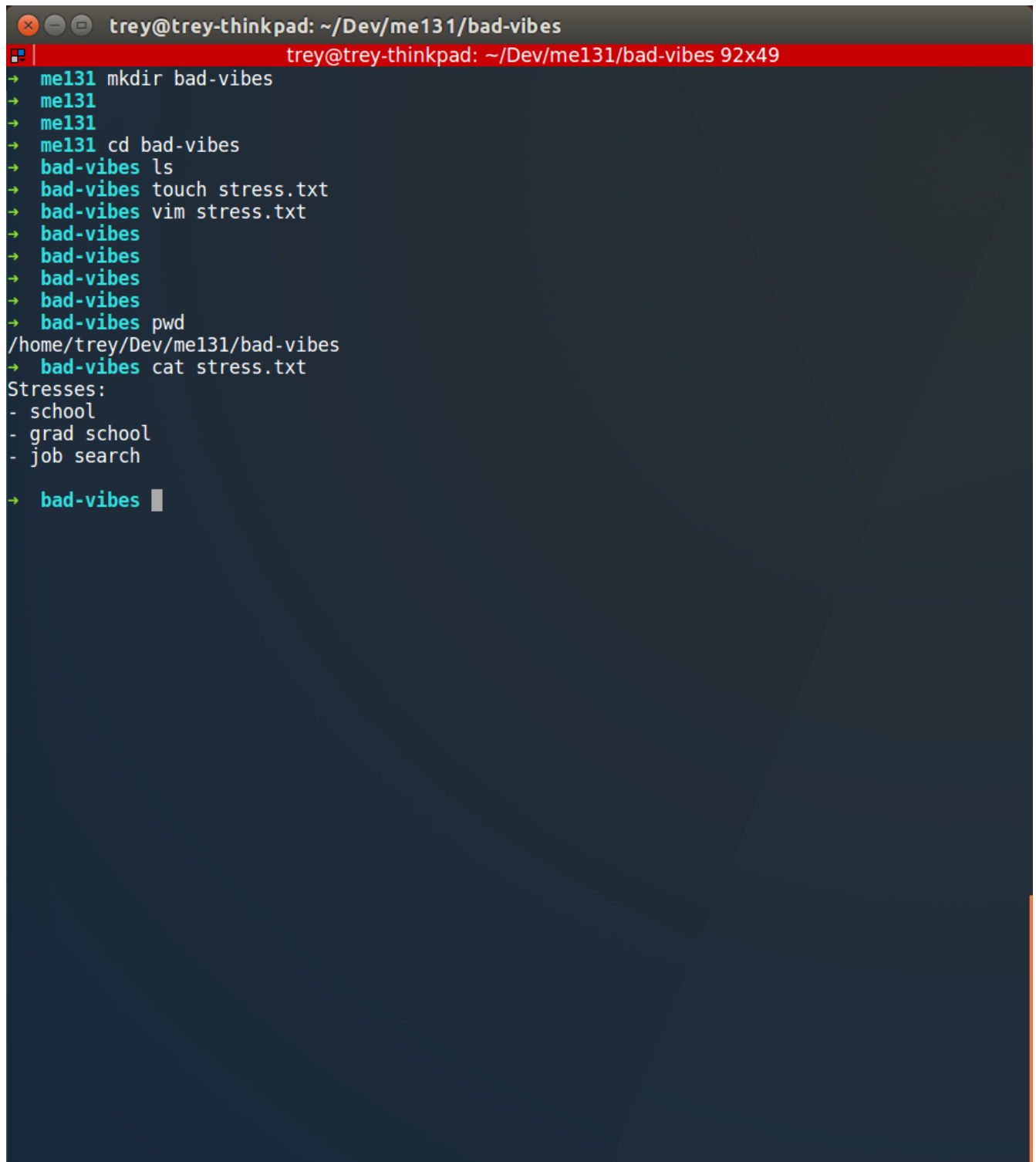
# ME131 Lab 1 Deliverables

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## Navigating the CLI

1. Bad vibes directory and stresses.txt

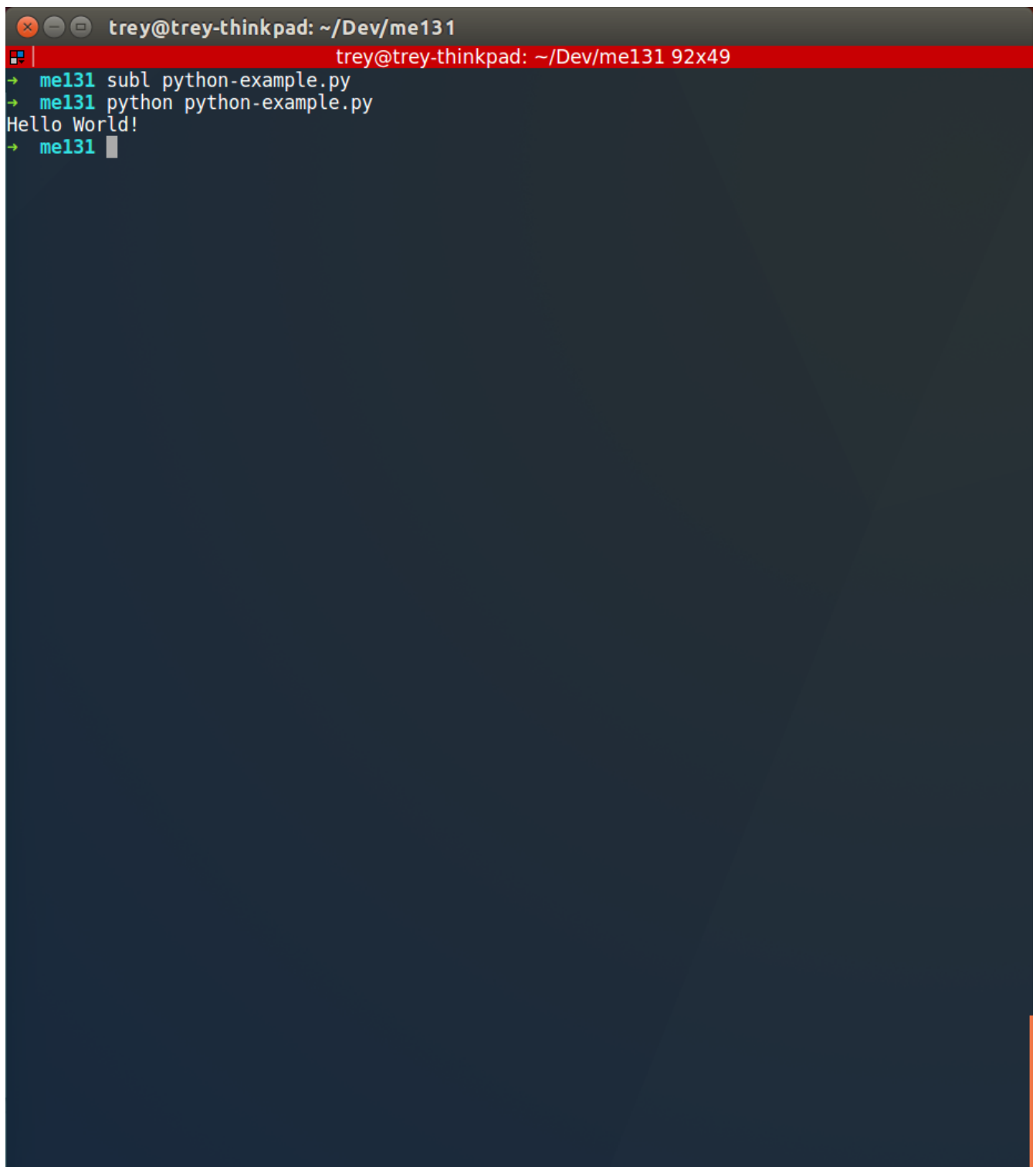


```
trey@trey-thinkpad: ~/Dev/me131/bad-vibes
trey@trey-thinkpad: ~/Dev/me131/bad-vibes 92x49
→ me131 mkdir bad-vibes
→ me131
→ me131
→ me131 cd bad-vibes
→ bad-vibes ls
→ bad-vibes touch stress.txt
→ bad-vibes vim stress.txt
→ bad-vibes
→ bad-vibes
→ bad-vibes
→ bad-vibes
→ bad-vibes pwd
/home/trey/Dev/me131/bad-vibes
→ bad-vibes cat stress.txt
Stresses:
- school
- grad school
- job search
→ bad-vibes
```

## Using the Sublime Text Editor

### 2. Python Hello World output

Python code at <https://github.com/treyfortmuller/me131>



```
trey@trey-thinkpad: ~/Dev/me131
trey@trey-thinkpad: ~/Dev/me131 92x49
→ me131 subl python-example.py
→ me131 python python-example.py
Hello World!
→ me131
```

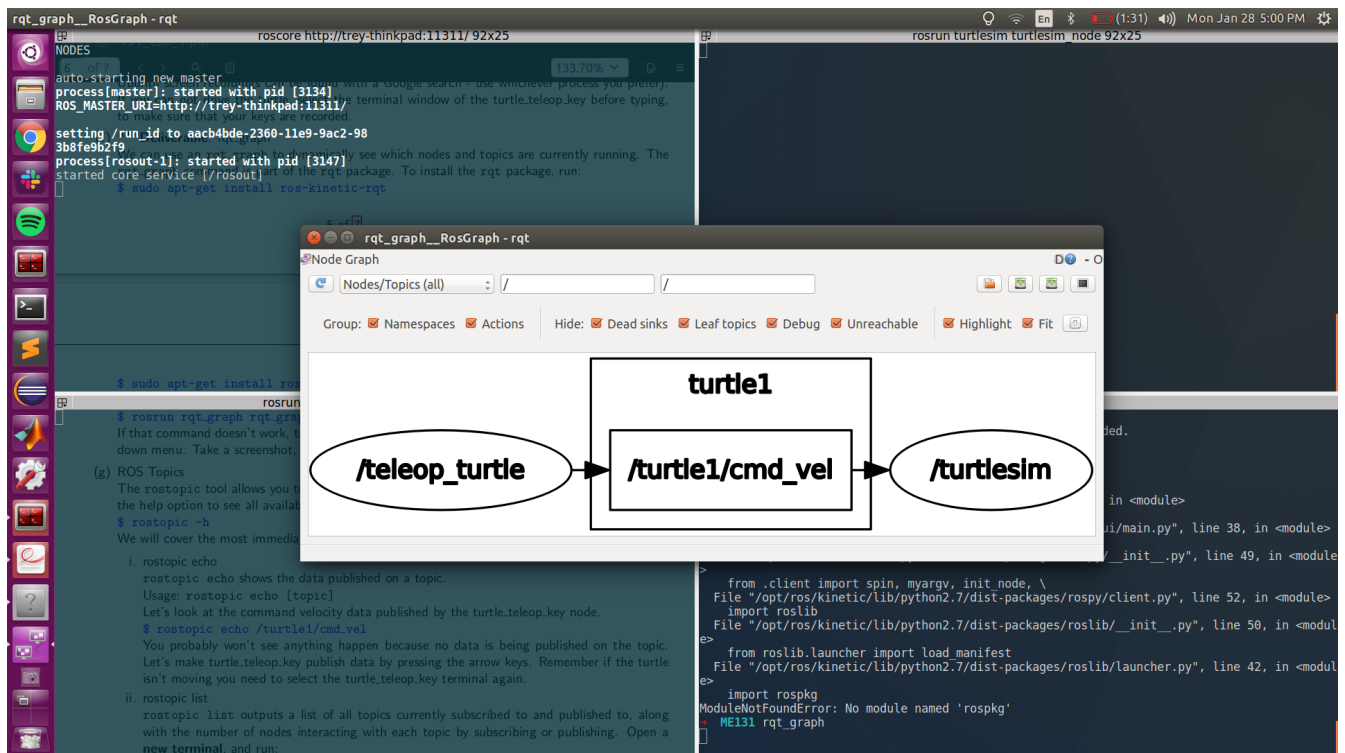
## Turtlesim

### 3. Turtle keyboard teleoperation

Link to video:

<https://drive.google.com/open?id=1Z2C-CCBdfcOmCmpeeHc1dNffXDeRylG7>

#### 4. rqt\_graph



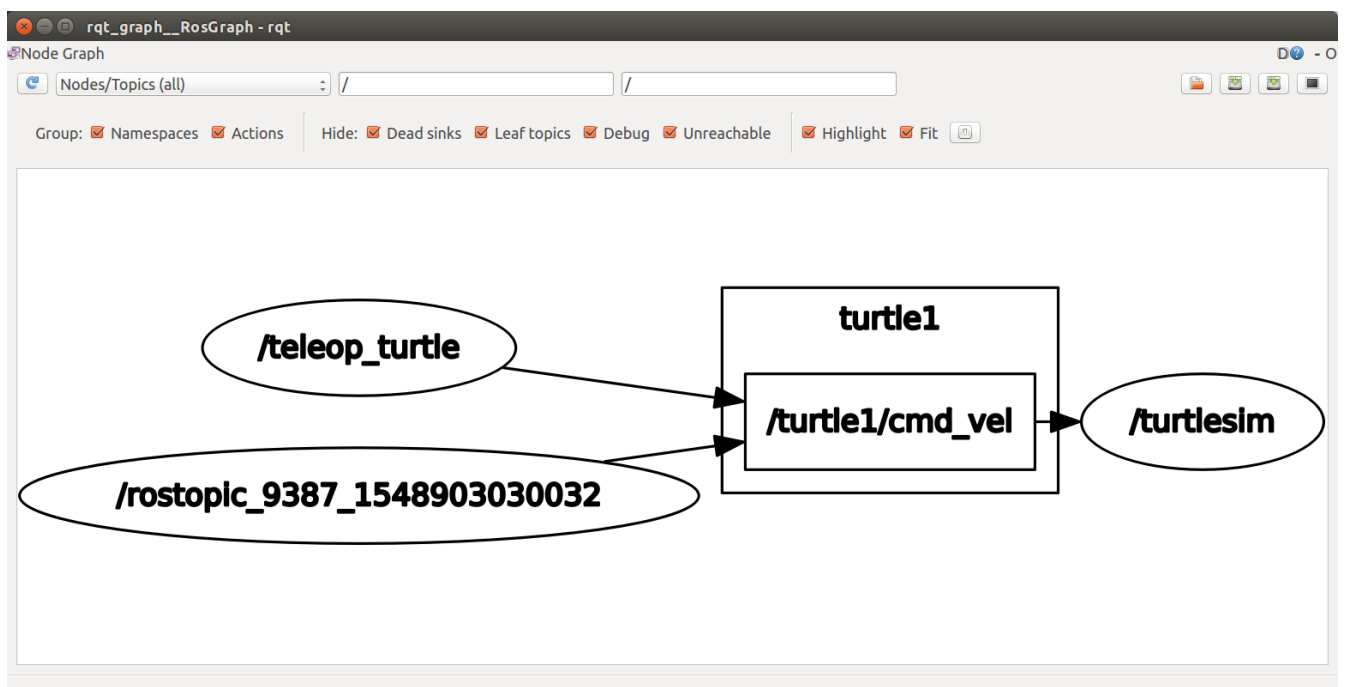
The `rqt_graph` shows that a node called `/teleop_turtle` is publishing to the `/turtle1/cmd_vel` topic, which the `turtlesim` node is subscribing to.

#### 5. rostopic pub

Link to video:

<https://drive.google.com/open?id=1iUvn4PzbReijmPpkvCDxcJCUKXeikCXW>

#### 6. Circle movement graph



The graph shows that the `teleop_turtle` node is publishing to the `/turtle1/cmd_vel` node (because I never terminated that process). The new node `/rostopic_938...` is given an arbitrary identifier because it doesn't belong to a named process and is also publishing to `/turtle1/cmd_vel`. This node is publishing the circular `geometry_msgs/Twist` commands. Finally, the `/turtlesim` node is still subscribed to the `/turtle1/cmd_vel`, thus the visualized turtle is shown moving in a circle.

## 7. rqt\_plot

Link to video:

<https://drive.google.com/open?id=1IBcwL6C2qRjT2s07Ca9KKTE4YudiSQ8r>

These x and y position values make sense because the projection of the turtle's position onto the x and y axis as a function of time should look like two sinusoids (cosine and sine for x and y respectively) oscillating 90 degrees out of phase, which can we see in the plot. The sinusoid's position along the y axis of the plot will be determined by the coordinates of the turtle in its window. It appears that the origin of the world frame for the turtle resides in the lower left corner of the rectangular blue window.