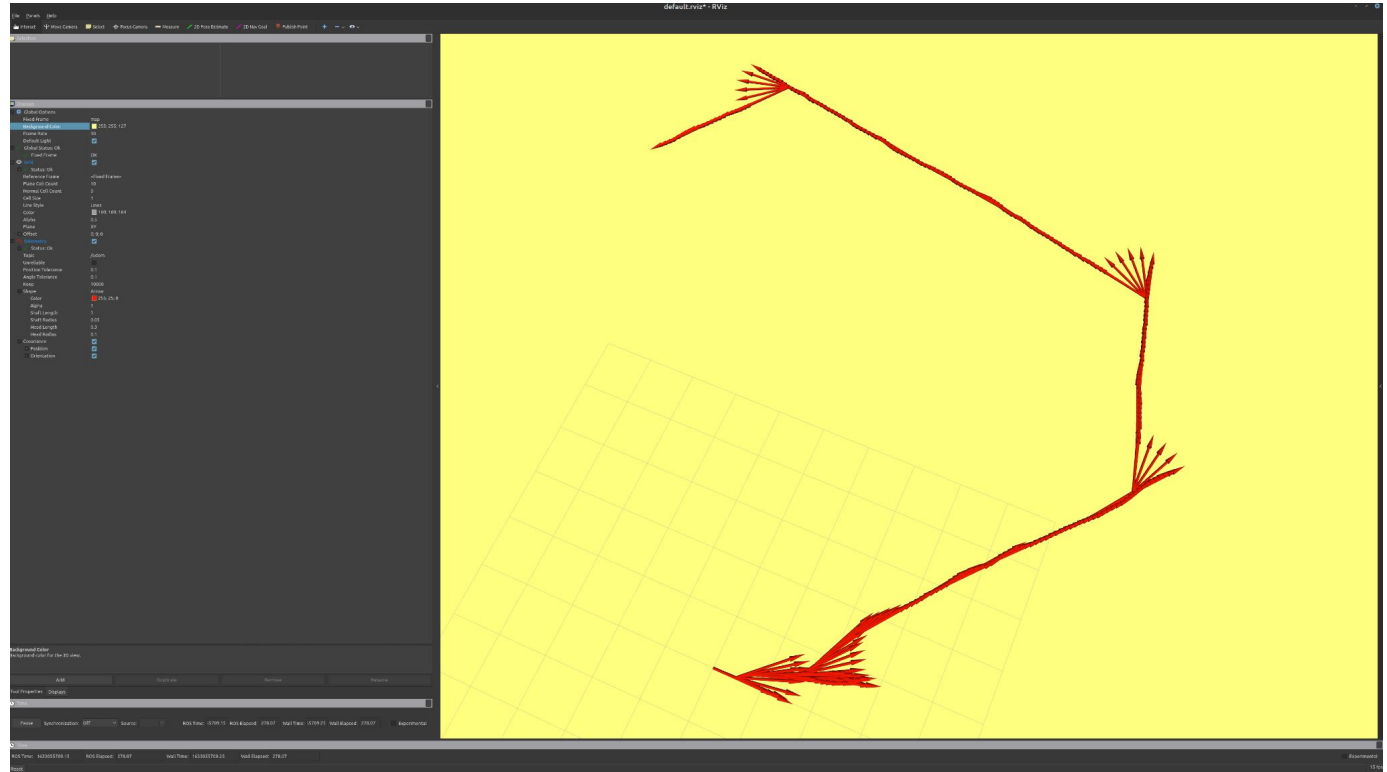# CS 498 Coding assignment 1

Kulbir

Qn 2

ROS node can be seen in the attached .py file.

Odometry ROS message with x,y,z,yaw in quaternion representation, linear and angular velocity is published on /odom:

Qn 2 plot in RViz

Qn 3

ROS node can be seen in the attached .py file.

Odometry ROS message using GPS with x,y,z,yaw in quaternion representation, linear and angular velocity is published on /odom:

```
rostopic echo /odometer_gps
rostopic echo /odometer_gps 104x35
---
header:
  seq: 5143
  stamp:
    secs: 1633131586
    nsecs: 670954942
  frame_id: "/map"
child_frame_id: "/base_link"
pose:
  pose:
    position:
      x: -7.15586909943
      y: -0.223683226854
      z: 0.0
    orientation:
      x: 0.0
      y: 0.0
      z: 0.0
      w: 1.0
  covariance: [0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
  0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]
twist:
  twist:
    linear:
      x: 0.0
      y: 0.0
      z: 0.0
    angular:
      x: 0.0
      y: 0.0
      z: 0.0
  covariance: [0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0,
  0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]
---
```

Qn 3 plot in RViz