Lesson 5 Write A Simple Publisher
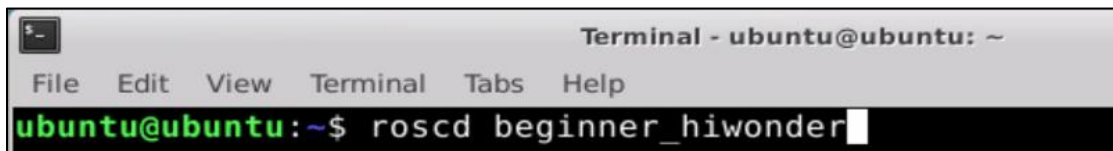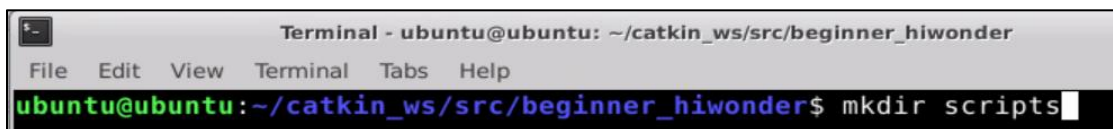
This section takes the creation of a velocity_publisher.py publisher node as an example to explain.

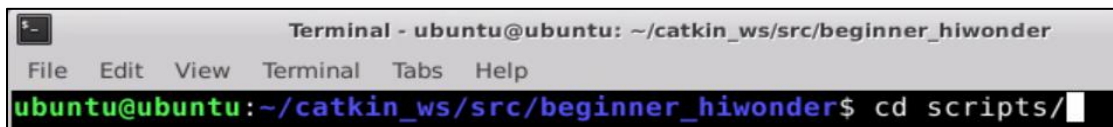1) Input "roscd beginner_hiwonder" command and press "Enter" to enter beginner_hiwonder software package.

2) Input "mkdir scripts" command and press "Enter" to create a new scripts directory to store Python scripts.

3) Input "cd scripts/" command and press "Enter".

4) Input "vi velocity_publisher.py" command to edit program, and then copy the following program. If need to modify, you can press "i" again. After modifying, press "Esc" and input ":wq" to save and exit the file.


```
#!/usr/bin/env python

# -*- coding: utf-8 -*-

#Publish this routine to the topic turtle1/cmd_vel, the type of message geometry_msgs::Twist
```

```python
import rospy

from geometry_msgs.msg import Twist


def velocity_publisher():

    # Initialize ROS node

    rospy.init_node('velocity_publisher', anonymous=True)


    # Create a Publishr and pubish a topic named /turtle1/cmd_vel. The type of message is
geometry_msgs::Twist and the queue size is 10.

    turtle_vel_pub = rospy.Publisher('/turtle1/cmd_vel', Twist, queue_size=10)


    #set the loop rate

    rate = rospy.Rate(10)


    while not rospy.is_shutdown():

        # Initialize the message of geometry_msgs::Twist type

        vel_msg = Twist()

        vel_msg.linear.x = 0.5

        vel_msg.angular.z = 0.2


        # Publish message
```

```
        turtle_vel_pub.publish(vel_msg)

        rospy.loginfo("Publsh turtle velocity command[%0.2f m/s, %0.2f rad/s]",

                    vel_msg.linear.x, vel_msg.angular.z)



        # Delay on the basis of loop rate

        rate.sleep()



if __name__ == '__main__':

    try:

        velocity_publisher()

    except rospy.ROSInterruptException:

        pass
```
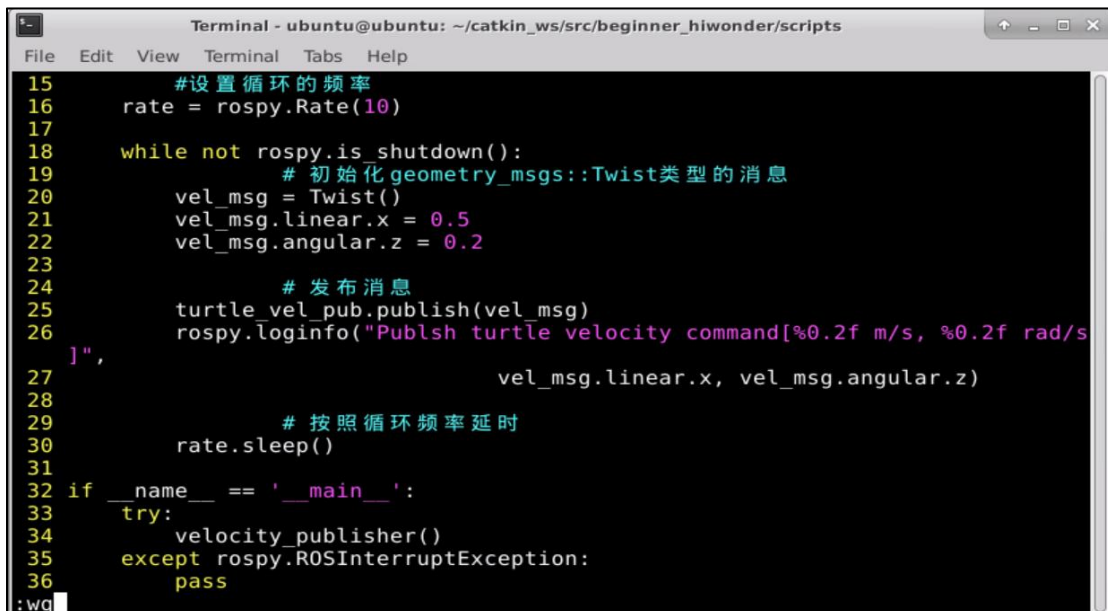

5) Input command **"chmod +x velocity_publisher.py"** to give executable permissions to the saved velocity_publisher.py.

```
Terminal - ubuntu@ubuntu: ~/catkin_ws/src/beginner_hiwonder/scripts
File   Edit   View   Terminal   Tabs   Help
ubuntu@ubuntu:~/catkin_ws/src/beginner_hiwonder/scripts$ chmod +x velocity_publi
sher.py
```

6) The publisher editing is complete.