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Simulation and modelling

LAB 3

Exercise:

Perform the TurtleSIm simulation is ROS and make the circular movement and square movement of the turtle.

Screenshots, Source code and method of execution. Submit either a PDF or Doc or Docx format.

Code for circular motion:

```
#!/usr/bin/env python3
# license removed for brevity
import rospy
from geometry_msgs.msg import Twist

def circular_movement_node():
pub = rospy.Publisher('/turtle1/cmd_vel', Twist, queue_size=10)
rospy.init_node('tbsim_driver', anonymous=True)
rate = rospy.Rate(1)
while not rospy.is_shutdown():

robot_velocity =Twist() robot_velocity.linear.x =2.0
robot_velocity.angular.z=0.9 pub.publish(robot_velocity) rate.sleep()

if __name__ == '__main__': try:

circular_movement_node()
except rospy.ROSInterruptException:

pass
```

Method of Execution:

1.Run $ **roscore** command in terminal.

2. Now, open another terminal and run

$ rosrun turtlesim turtlesim_node

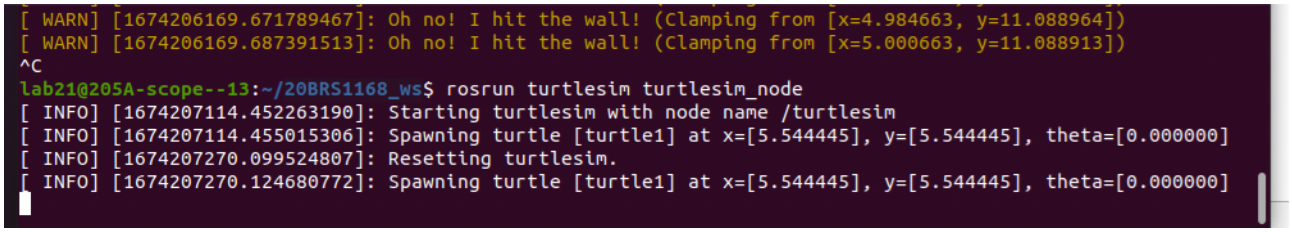
3. In another terminal , go to your workspace

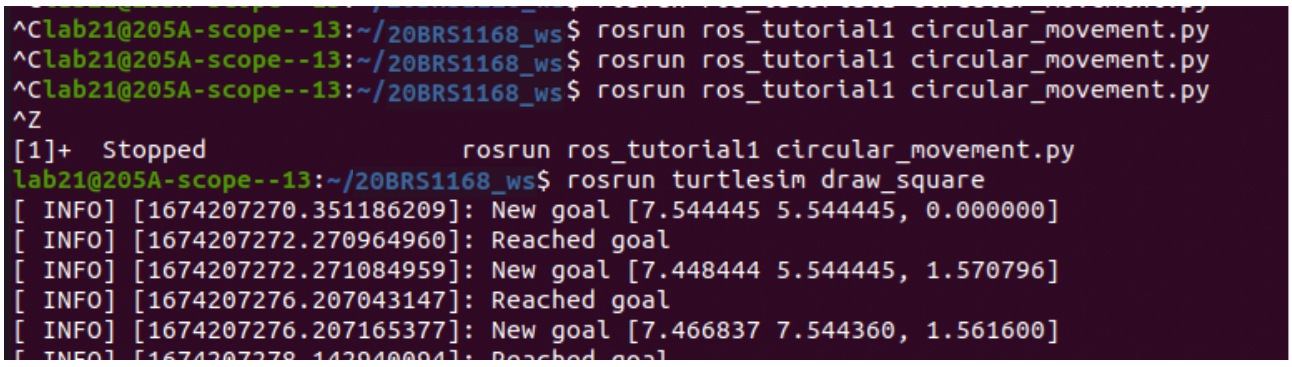
$ cd 20BRS1168_ws/

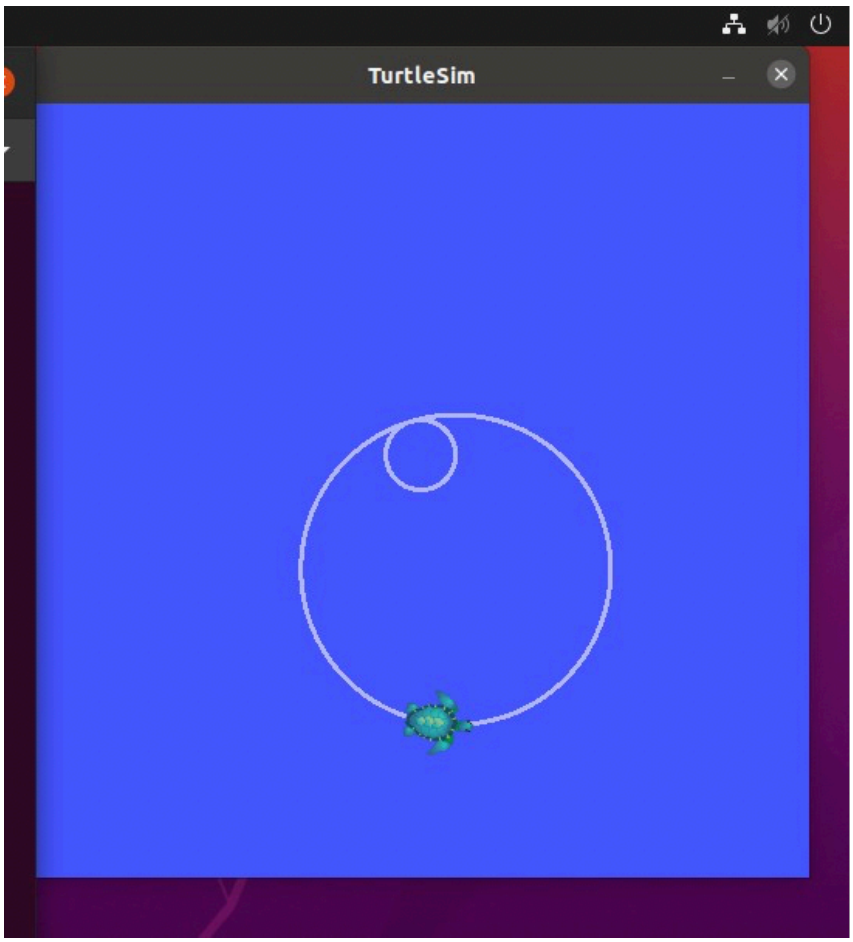
$ source ./devel/setup.bash
$ rosrun ros_tutorial1 circular_movement.py

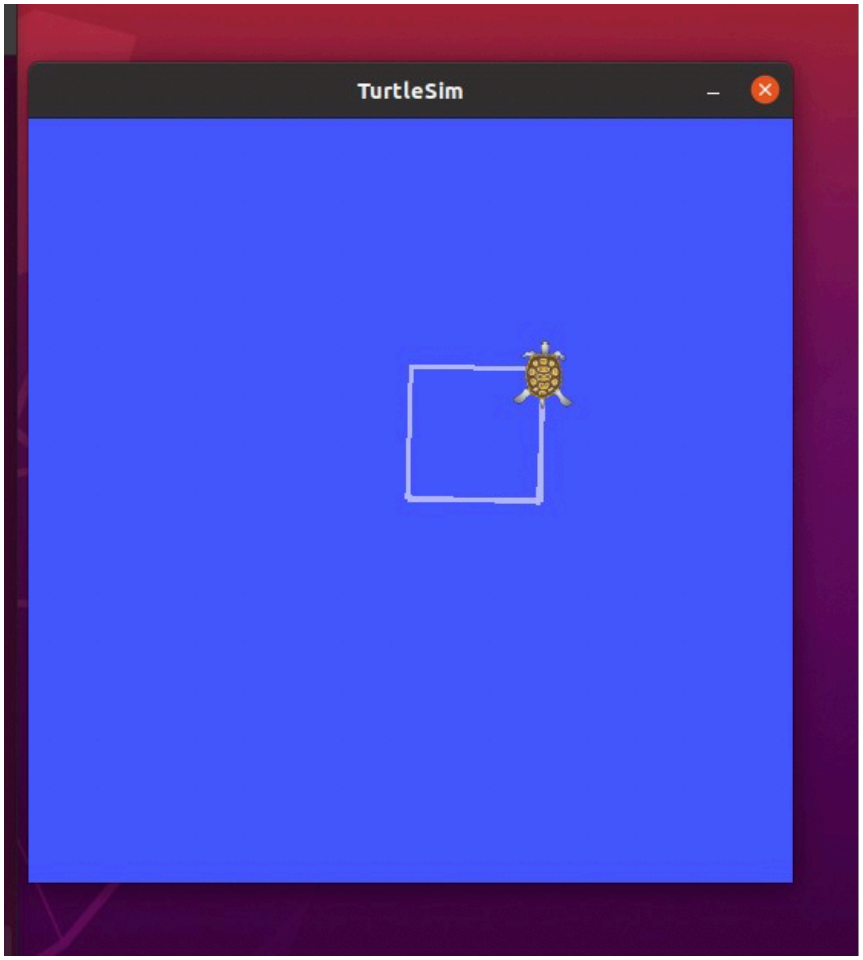
$ rosrun ros_tutorial1 draw_square

Output:






TurtleSim


TurtleSim