Exercise Session 5

Theory

- Service calls

Exercise

Use the node you implemented in Exercise 2 & 3 and add a service server that can start/stop the robot. This functionality could be used as an emergency stop.

1. Implement a service server that can start and stop the robot. Use the `std_srvs/SetBool` service type for this task.

2. Run the simulation and call the service you have implemented from the terminal using `rosservice call` to start and stop the robot.

OPTIONAL

A. Create a separate node that stops the robot if it is *too close to an obstacle* using the laser measurements. Use the service you have implemented above.

B. Create a separate node that stops the robot *after a crash has occurred* with the stop service you have implemented above. For this, plot and analyse the data of the IMU under the topic `/imu/data` with rqt_multiplot and develop a method to detect a crash.

Evaluation

- ❏ Stop Husky using the service call. [50%]
- ❏ Start Husky using the service call. [50%]

OPTIONAL
- ❏ Automatically triggered emergency stop when too close to an obstacle [Bonus 50%]
- ❏ Automatically triggered emergency stop after crashing with an obstacle [Bonus 50%]