Robotics Assignment 1

1 Introduction

In this assignment, you will create your robot simulation workspace. You will learn about what is V-Rep(Now namely Coppeliasim) and what is ROS.

2 Preliminary Installation

1. Install Ubuntu.
2. Install Ros Melodic (see http://wiki.ros.org/melodic/Installation/Ubuntu) make sure you have the "desktop-full" ROS package. Command:

   ```
   sudo apt install ros-melodic-desktop-full
   ```

3. Install CoppeliaSim Edu(http://www.coppeliarobotics.com/ubuntuVersions). Check this page to make sure your simulator is ros compatible. http://www.coppeliarobotics.com/helpFiles/en/ros1Tutorial.htm
4. Setup a ros workspace.

   ```
   mkdir -p ~/catkin_ws/src
   cd ~/catkin_ws/src
   cd ..
   catkin_make
   ```

3 Assignment

1. Pull the following repository to your workspace.

   ```
   cd ~/catkin_ws/src
   git clone https://github.com/colors-lab/colors_assignments
   catkin_make
   ```

2. Open roscore.
3. Open Coppeliasim.
4. Run Assignment1.ttt in Coppeliasim.
5. run teleop given in the repository.

   ```
   roslaunch vrep_teleop teleop_key.launch
   ```

6. Run rviz with command rviz. Add tf to your visualization and follow your robot in rviz.

(note that to be able to send keyboard commands to the simulated robot, terminal should have the focus)

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