Universal Robot Simulation via Gazebo
environment setting up

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1. Prerequisites
   In order to complete this tutorial, you should have access to the following:
   - A computer with ROS installed (using indigo in this tutorial)
   - ROS-Industrial's universal_robot package

2. Installation Steps
   a. Creating a workspace for catkin
      Assumes that you have installed catkin and sourced your environment.
      Create a catkin workspace
      ```
      $ mkdir -p ~/[your-space-name]/src
      $ cd ~/[your-space-name]/src
      $ catkin_init_workspace
      ```
      Build the workplace
      ```
      $ cd ~/[your-space-name]/
      $ catkin_make
      ```

   b. Cloning the ur5sim package from github to /src
      ```
      $ git clone https://github.com/LiujiangYan/universal-robot-rossim
      /[your-space-name]/src
      ```

   c. cd the workspace, sourcing the setup.bash and catkin_make
      ```
      $ source devel/setup.bash
      $ catkin_make
      ```

3. Simulation
   a. cd the workspace, sourcing the setup.bash file
      ```
      $ source devel/setup.bash
      ```

   b. Set up the simulation enviornment
      ```
      $ roslaunch ur5_gazebo ur5_world.launch
      ```
      (You may have to delete the *ground* element at gazebo under *Models*, since it limits the motion of robot)

   c. Using python script to control
      Start a new terminal, sourcing the setup.bash of ur5sim package
      ```
      $ source /[your-space-name]/devel/setup.bash
      $ python /[your-python-script]
      ```

4. Structure and notes about the python script
   You could refer to an example at:
   https://github.com/LiujiangYan/universal-robot-rossim/blob/master/sim.py