3.Moves randomly

Follow the previous steps to install the virtual machine. After decompressing the system files, open the virtual machine and use it.

The environment has been set up and the relevant code has been placed in the Ubuntu system, under the file path /home/dofbot/dofbot_ws/src directory.

1. Start robotic arm simulation

- **Starts Virtual machine simulation**

Start MoveIT (virtual machine side)

```
roslaunch dofbot_config demo.launch
```

Open another terminal and enter the command line. (This program is simulated in rviz, the real machine will not move) (Virtual machine side)

```
rosrun dofbot_moveit 01_set_move.py # python file
```

- **Starts Real machine**

```
roslaunch dofbot_config demo.launch          #Virtual machine side
rosrun dofbot_moveit 00_dofbot_move.py     #Host side
rosrun dofbot_moveit 01_set_move.py # python 文件   #Virtual machine side
```

The corresponding relationship between the robotic arm servo and the joints: from the lowest end of the robotic arm to the end of the gripper.

Close case: [ctrl+c] to close. If it cannot be closed, execute [ctrl+z] again.

Key part of the program code description:

```python
#Import header file
import rospy
from moveit_commander.move_group import MoveGroupCommander

#Initialize node
 rospy.init_node("dofbot_random_move")
#Initialize the robotic arm motion planning group
 dofbot = MoveGroupCommander("dofbot") #Note: The group name here must be
consistent with the group name in the previous MoveIt configuration, otherwise it
will be invalid.
# Set random target points
 dofbot.set_random_target()
# Set pose
 dofbot.set_named_target("up")
 dofbot.set_named_target("down") #Note: The up and down here are the postures
set during MoveIt configuration.

# Start exercising
```

```
    dofbot.go()
    sleep(0.5)
```

Code path: dofbot_ws/src/dofbot_moveit/scripts/01_set_move.py

Experimental phenomenon:

You can see that the robotic arm in rviz will randomly search for target points and move.