Robot and artificial intelligence

Task 1

Install robot arm package

- Steps for installing
- Screenshot of the results

Name:
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- Step for install robot arm package:

1- install ros melodic for Ubuntu using this command:

```
sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb_release -sc) main" > /etc/apt/sources.list.d/ros-latest.list'
curl -s https://raw.githubusercontent.com/ros/rosdistro/master/ros.asc | sudo apt-key add -
sudo apt update
sudo apt install ros-melodic-desktop-full
echo "source /opt/ros/melodic/setup.bash" >> ~/.bashrc
source ~/.bashrc
sudo apt install python-rosdep python-rosinstall python-rosinstall-generator python-wstool build-essential
sudo apt install python-rosdep
sudo rosdep init
rosdep update
```

2- Creating a workspace for catkin using this commands:
A- install catkin:

```
sudo apt-get install ros-melodic-catkin
sudo apt-get install cmake python-catkin-pkg python-empy python-nose python-setuptools libgtest-dev build-essential
mkdir build && cd build && cmake ../ && make && sudo make install
```

B-

```
$ source /opt/ros/melodic/setup.bash
$ mkdir -p ~/catkin_ws/src
$ cd ~/catkin_ws/
$ catkin_make
$ source devel/setup.bash
$ echo $ROS_PACKAGE_PATH
/home/youruser/catkin_ws/src:/opt/ros/kinetic/share
```

3- install robot arm package using this commands :

```
$ cd ~/catkin_ws/src
$ sudo apt install git
$ git clone https://github.com/smart-methods/arduino_robot_arm
$ cd ~/catkin_ws
$ rosdep install --from-paths src --ignore-src -r -y
$ sudo apt-get install ros-melodic-moveit
$ sudo apt-get install ros-melodic-joint-state-publisher ros-melodic-joint-state-publisher-gui
$ sudo apt-get install ros-melodic-gazebo-ros-control joint-state-publisher
$ sudo apt-get install ros-melodic-ros-controllers ros-melodic-ros-control
$sudo nano ~/.bashrc
$source /home/shhad/catkin_ws/devel/setup.bash
```

4- run robot arm package :

$roslaunch robot_arm_pkg check_motors.launch

- Screenshot of the results :