TASK 2

The task is about Installing the robot package arm. To instal the package you will need to have ROS installed already. The steps are the following:

1. After installing ROS go to the Terminal
2. Write the following commands below into the Terminal

Installing the package arduino_robot_arm

- Add the "arduino_robot_arm" package to "src" folder

    $ cd ~/catkin_ws/src

    $ sudo apt install git

    $ git clone https://github.com/smart-methods/arduino_robot_arm

- Install all the dependencies

    $ 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
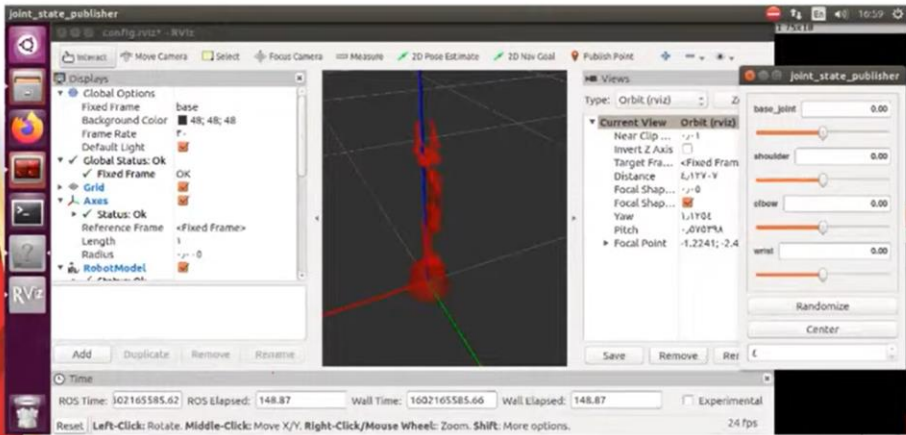
Compile the package

    $ catkin_make

3. To launch the package write the following roslaunch command below into the terminal

Controlling the motors
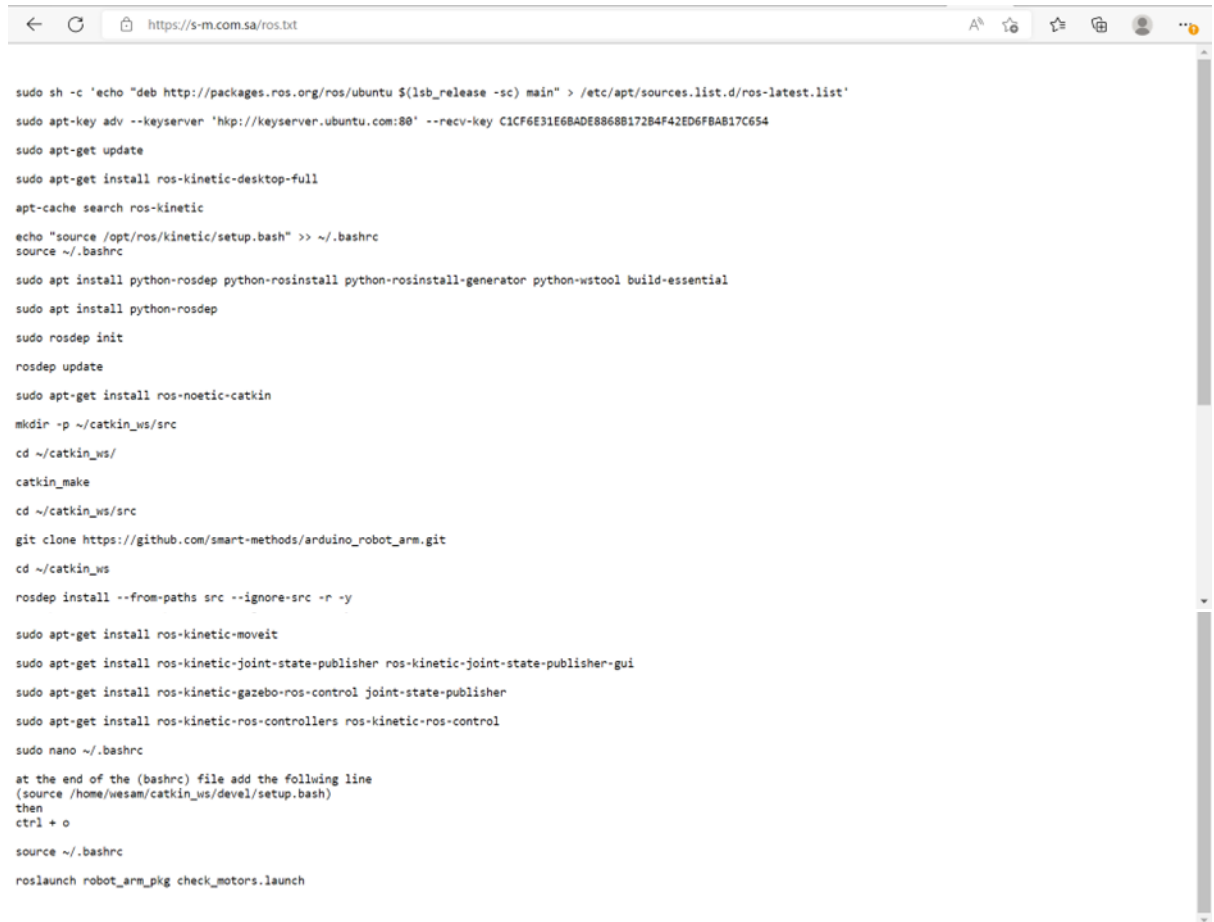
    $ roslaunch robot_arm_pkg check_motors.launch

If you do not have ROS installed already you can follow the following steps:

1. Instal virtualbox from https://www.virtualbox.org/wiki/Downloads
2. Instal ubuntu 20.04 from https://releases.ubuntu.com/20.04/
3. Instal ROS by opening the Terminal and writing the commands from https://s-m.com.sa/ros.txt and paste the commands to download ROS and the arm package

← C 🔒 https://s-m.com.sa/ros.txt

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sudo sh -c 'echo "deb http://packages.ros.org/ros/ubuntu $(lsb_release -sc) main" > /etc/apt/sources.list.d/ros-latest.list'

sudo apt-key adv --keyserver 'hkp://keyserver.ubuntu.com:80' --recv-key C1CF6E31E6BADE8868B172B4F42ED6FBAB17C654

sudo apt-get update

sudo apt-get install ros-kinetic-desktop-full

apt-cache search ros-kinetic

echo "source /opt/ros/kinetic/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

sudo apt-get install ros-noetic-catkin

mkdir -p ~/catkin_ws/src

cd ~/catkin_ws/

catkin_make

cd ~/catkin_ws/src

git clone https://github.com/smart-methods/arduino_robot_arm.git

cd ~/catkin_ws

rosdep install --from-paths src --ignore-src -r -y


sudo apt-get install ros-kinetic-moveit

sudo apt-get install ros-kinetic-joint-state-publisher ros-kinetic-joint-state-publisher-gui

sudo apt-get install ros-kinetic-gazebo-ros-control joint-state-publisher

sudo apt-get install ros-kinetic-ros-controllers ros-kinetic-ros-control

sudo nano ~/.bashrc

at the end of the (bashrc) file add the follwing line
(source /home/wesam/catkin_ws/devel/setup.bash)
then
ctrl + o

source ~/.bashrc

roslaunch robot_arm_pkg check_motors.launch
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