Software specifications

Chapter number	Software required (With version)	Free/Proprietary	If proprietary, can code testing be performed using a trial version	If proprietary, then cost of the software	Download links to the software	**Hardware specifications**	OS required
1	ROS Kinetic Docker Virtualbox	Free			www.ros.org	Beagle Bone Black	Ubuntu 16.04LTS, Ubuntu 16.04 armhf
2	ROS Kinetic	Free					Ubuntu 16.04LTS
3	ROS Kinetic	Free					Ubuntu 16.04LTS
4	ROS Kinetic	Free					Ubuntu 16.04LTS
5	ROS Kinetic	Free					Ubuntu 16.04LTS
6	ROS Kinetic	Free					Ubuntu 16.04LTS
7	ROS Kinetic	Free					Ubuntu 16.04LTS
8	ROS Kinetic, Arduino IDE	Free			www.arduino.cc	Arduino UNO R3, Kinect, serial GPS, Hokuyo, Xsens Mti, 9DOF razor IMU, DC motors, motor controller, Dagu encoders,	Ubuntu 16.04LTS Ubuntu 16.04 armhf

						Raspberry Pi 3	
9	ROS Kinetic	Free					Ubuntu 16.04LTS
10	ROS Kinetic	Free				Kinect	Ubuntu 16.04LTS

Detailed installation steps (software-wise)

The steps should be listed in a way that it prepares the system environment to be able to test the codes of the book.

1. VirtualBox:
    a. Download VirtualBox
    b. Download an Ubuntu 15.10 from OSBOXES http://www.osboxes.org/ubuntu/
    c. Extract the image
    d. Create a virtual machine from an existing hard drive file
    e. Install ROS
2. Docker
    a. Type in a command line:
    $ sudo apt-get install docker.io
    b. Download a ROS container:
    $ docker pull ros
    c. If you see this error:

```
FATA[0000] Post http:///var/run/docker.sock/v1.18/images/create?fromImage=ros%3Alatest: dial unix
/var/run/docker.sock: permission denied. Are you trying to connect to a TLS-enabled daemon without
TLS?
```

You should either update your system or try adding your user to the docker group:

```
$ sudo usermod -a -G docker $(whoami)
```

3. Arduino IDE:
    a. Download the Arduino IDE software from https://www.arduino.cc/en/Main/Software
    b. Extract the package
    c. Run the install script
        - In the folder arduino-1.6.X, right click on install.sh and choose run in a terminal or type in a terminal the command ./install.sh