**Initio Programming: Programs in Files**

**AIM:** After completing this worksheet you should be able to write a Python program using IDLE’s program editor and execute it in IDLE.

**You Need:** To complete this worksheet you need to have an Initio that is connected to a keyboard, mouse and monitor (see WS1) and to understand how to start and stop IDLE from the Linux Command Line (see WS2).

You can control your Initio by writing commands at the Python command line. However, for longer programs, or programs you wish to run several times this can become tedious. To get around this you can write a Python program in a file.

We are going to consider the following Python program

import robohat as initio

initio.init()

initio.forward(10)

initio.setServo(0, -45)

initio.stop()

To write this program we are going to use the editor that comes with IDLE.

Select **File > New File** in IDLE.

Type the program above into this file (make sure you spell everything correctly). You can save the file using the **File** menu. We suggest you create a folder for your Python programs.

You can execute your program by selecting **Run > Run Module**

**Question 1:** Try this now. What happens?

If you are lucky this will have run smoothly. If not, you will have received an error message and will need to check your program for spelling errors.

**Exercise 1:** Modify your program so that it pans the ultrasonic sensor to 45 degrees first and then moves it back to 0 after the Initio has stopped.

**Remember:** When you have finished working with the robot, type initio.cleanup()at the command line, quit IDLE, then select Shutdown from the Raspberry Pi menu item. Once the robot has shut down, switch it off.



 University of Liverpool, 2019

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