**Initio Programming: Simple Programs**

**AIM:** This exercise sheet provides additional simple programs for you to write for your Initio. It assumes familiarity with worksheets 1-6.

**Exercise 1**: Write a program that will spin the robot for 2 seconds, then take a distance sensor reading and print it to the screen and stop. To print the value of the sensor use: print(initio.getDistance())

**Exercise 2**: Write a program which will make the robot tilt its ultrasonic sensor upwards for 5 seconds, then down for 5 seconds and then return it to the centre.

**Exercise 3**: Write a program so that your robot drives around in a circle taking readings from its two infrared distance sensors roughly every quarter circle. Some experimentation will be needed to work out how long a quarter turn takes for your robot.

**Exercise 4:** Write a program where the robot moves forward changing speed every 10 seconds for a total of 30 seconds.

**Exercise 5**: Write a program so that the robot *nods its head* (tilts its ultrasonic sensor up and then down like in exercise 2). Then it moves forward for 10 seconds and nods its head again. Then it spins on the spot for 10 seconds then nods its head again. Then it reverses for 10 seconds and nods its head a final time.

**Exercise 6**: Create a short obstacle course for your robot. For instance, a gap between two books it must move through, then a turn to move between two rows of books.

Write a program that will move your robot from the start position to the end position in your obstacle course. To do this you will need to experiment to find out how long it needs to move forward in each stage and how long it needs to turn for in each stage.



University of Liverpool, 2019

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